

Proceedings of the 1st International Conference on
New Trends in Science, Technology, Management and
Social Sciences in Africa.



In collaboration with



10th & 11th July 2019.
Villanova Polytechnic, Imesi-Ile,
Osun State.

Editors

Kanu, Ikechukwu Anthony OSA
Omojola, Immaculata
Asanbe, Michael
Kanu, Catherine Chiugo

© 2019 Villanova Polytechnic

ISBN: 978-978-979-504-2

Published by: Villanova Polytechnic
Imesi-Ile, Osun State, Nigeria

Cover Design: Emmanuel Uche Kanu

Typesetting & Print Production: Altograde Nigeria Limited, Yola

Contents

Preface	iv
Lead Paper	1
Benjamin Ekundayo Olufemi	
On the Origin and Principles of Igwebuiké Philosophy: Philosophy in Search for a Scientific Basis	10
Kanu, Ikechukwu Anthony, OSA	
Igwebuiké Research Methodology: Towards a New Trend for Scientific and Wholistic Investigation	20
Kanu, Ikechukwu Anthony, OSA	
Variables Related to Administrative Effectiveness in Higher Institutions in Ekiti State, Nigeria	29
Sr. Dr. Omojola, Immaculata Olu, SSMA	
Hybrid Data Security: A Review of Cryptography and Steganography Techniques	37
Asanbe M. O.	
Restructuring Science and Technology Education Towards Achieving 2030 Education Agenda for Industrialization and Sustainable Development in Nigeria	46
Bello, M. A.	
Humanities and other Knowledge Domains: A Developmental Pathway to Excellence	61
Abisola O. Taiwo	
Development of Electronic Time Lock Control for Security System	71
Oni, E. O. and Olawuni, A.	
Amadioha as a Prefiguration of Christ in Igbo Traditional Religion: Towards the management of religious Diversity	77
Kanu, Ikechukwu Anthony, O.S.A.	
Challenges and Way Out of Cyber Security Issues in Nigeria	89
Adenusi Dauda A., Adekunle A. U., Ekuwa J.B., & Ayediran O. R.	
The Igbo-African Kola Nut as a ‘Type’ of Holy Communion: Towards the Management of Cultural Diversity	103
Kanu, Ikechukwu Anthony, O.S.A.	
Nigeria’s Electoral System in Need of Scientific Upgrade for Smooth and Successfully Accepted Outcome	116
Onmoke Sylvester	
Library Reference Service Based on Artificial Intelligence	121
Gyang Catherine Honghai	
Portrayal of Yoruba Traditional Religion in Awari Omo Oduduwa Programme of MITV	128
Oladimeji Simon Pinheiro, Sanyaolu Oluwaseyi & Sunday Ufot Imoh	
Risk Management: A Preventive Measure for National Disaster	148
Abinbola, Esther O.	
Business Ethics as a Tool for Organisational Growth	155
Iorliam Ngunan Helen	
Igwebuikéconomics: The Igbo Apprenticeship System for Wealth Creation	160
Kanu, Ikechukwu Anthony, OSA	
Performance Evaluation of Discrete Cosine Transform (DCT) and Principal Components Analysis (PCA) for Fingerprint Recognition Systems	171
Olagunju, Mary Ponle	
Social Media and Behavioural Changes of Electorates During 2015 Presidential Election in Nigeria	179
Oladimeji Simon Pinheiro, Olosoji Samson Olatunji & Sunday Samson Owolabi	
Imalanyi (Dislike, Envy) the Bane of Idoma Progress and Growth	196
Onmoke Sylvester	
Technology in Entrepreneurship Management	200
Oni, B. O.	

Preface

This proceedings captures a three-day programme of presentations, panel discussions and interactive dialogue at the First International Conference of Villanova on New Trends in Science, Technology, Management and Social Sciences in Africa, which took place from 10th – 11th July 2019 at Oyoyo Multipurpose Hall, Villanova Polytechnic, Imesi-Ile, Osun State. The event was a multidisciplinary conference that brought together some academics, researchers and scholars from various academic institutions from within and outside the state as well as the academic staff of Villanova Polytechnic to review new trends virtually in all fields of learning. It also provided a valuable networking opportunity and set the stage for further cooperation among academics, researchers and scholars in the state and beyond. The First International Conference on was highly competitive, with 27 paper submissions. Of these, 22 were accepted as full papers. This maiden conference featured lead paper presentation by Prof. Benjamin Ekundayo Olufemi, JP, FCVSN of University of Ibadan, Nigeria. We are thankful to the conference committee and regular program committee members and reviewers, without whose expert input this conference would not be possible. Finally, we thank the entire organizing team and all authors who submitted their work. We hope that you will enjoy this collection of high quality papers, research notes and abstracts from a cast of international researchers in the fascinating field of Science, Technology, Management and Social Sciences.

**A LEAD PAPER PRESENTED AT THE FIRST INTERNATIONAL
CONFERENCE OF VILLANOVA POLYTECHNIC IMESI ILE IN
COLLABORATION WITH THE ASSOCIATION FOR PROMOTION OF
AFRICAN STUDIES ON 10TH-11TH JULY 2019.**

BY

**BENJAMIN EKUNDAYO OLUFEMI
DVM (IBADAN), MVSC (LIVERPOOL), Ph.D (STIRLING), CBIOL,
MIBIOL/FRES (LONDON), FNIBIOL, FCVSN, MNIM, JP.**

I would like to thank the management and staff of the Villanova Polytechnic, Imesi Ile and the Association for Promotion of African Studies for giving me the singular honour of presenting the lead paper in their first ever international conference. I imagined that several reasons must have been responsible for this high honour given to me, I deeply appreciate this gesture and as a stake holder, I will continue to give of my best {as always} for the progress of the Villanova Polytechnic and the promotion of the African studies now and in the future. I will now address the theme of this conference, if you ask me what is a new trend? A trend is what one is aware of or informed about or that is popular at a certain point in time. While a trend usually refers to a certain style in fashion or entertainment, there could be towards warmer temperatures if we are following the trends nowadays associated with global warming. What are the new trends in business? Small business trends which we could highlight as follows;

- Financial
- Millennials that would rule the market
- Hyperlocal advertising that will hit this year
- Block chain, bitcosin and more cryptocurrencies
- Continued digitization and live streaming video content which will be the emerging trends

People might also ask, what are the new trends in science?

EMERGING SCIENCE TRENDS IN 2019

A number of science trends have emerged in 2018, and are likely to develop in 2019. Three, in particular, are worth highlighting:

1. The rise of self- diagnosis,
2. Developments in cell and gene therapy, and
3. The future of science funding.

1. Self- Diagnosis

With personalized medicine on the increase, healthcare is becoming increasingly tailored to the individual. Now consumers are taking control of their own diagnosis too. Direct-to-consumer DNA testing kits are on the rise, widely available for less than £100 {N45, 124.00 at the current prevailing rate} and promise to reveal the user's genealogy, ancestry, genetic health, carrier status, and traits, amongst others. Companies such as 23and me, Ancestry DNA and Thriva offer a comprehensive genetic profile whilst DNAfit uses that information to tailor direct

and fitness programmes, even using existing results from other DNA testing providers to do so. DNA home testing kits provide information about the user's genetic profile and history, including early detection of certain disorders. This allows the user to seek medical advice or make decisions regarding their lifestyle, health or even family planning. However, there is a risk that conditions could be misdiagnosed. Even if the diagnosis is correct, this could increase health insurance premiums and could be health implications for the user and even their family. Are direct-to-consumer genetic tests empowering or just worrying patients? Time will tell.

2. Cell and Gene Therapy

What a year it has been for cell and gene therapy! Recently the EC approved Kymriah, a CAR-T leukaemia therapy, and the first patients began treatment at Great Ormond Street Hospital at the end of November 2018, the same month that the EC also approved the use of Luxturna, a gene therapy sight loss treatment. Meanwhile, the first European CRISPR clinical trial for sickle cell anaemia began recruiting in the same month, with a similar trial being given FDA approval to proceed in the US. Public and private investments have flowed into the area with companies like freeline Therapeutics raising £88 million, and the cell and Gene Therapy Catapult receiving >£85 million to the UK's increase manufacturing capacity, skills base and links to clinics. Coupled with the formation of Advanced Therapy Treatment Centres, this makes the UK the most integrated cell and gene therapy ecosystem in the world.

3. Science Funding

UK science funding has hit the headlines this year, as uncertainty regarding Brexit continues. As the EU-funded Horizon2020 scheme comes to an end, it will be replaced by Horizon Europe, a planned 7-year scientific research initiative. The draft plan for this scheme aims to raise EU science spending to €100bn, €3.6bn of which will be earmarked for an umbrella investment fund called invest EU.

UK organizations can still apply for Horizon 2020 projects {with UK Government Guaranteeing funding} and they can take part in Horizon Europe regardless of the outcome of Brexit negotiations. To underpin research and innovation, the UK Government has pledged to commit a further £2.3bn to science from 2021, the aim being to boost spending to 2.4% of GDP by 2027. As part of this investment, another £1.1bn has been added to the Industrial Strategy Challenge Fund.

The 2nd Life Science Sector Deal was also announced in early Dec. the deal confirmed that UCB is investing £1billion in research and development in the UK, including in a new state-of-the-art facility. The deal is backed by £79million of public funding earmarked to study 5million healthy people and develop diagnostic tests using AI. in the area of trends in technology, 2019 is here and with it a flood of lists describing the trends that will define various fields in the year. From among these predictions, those related to new technological standards stand out first and foremost; give that they will end up revolutionizing every industry, in an age when digital transformation plays a major role. After evaluating various consulting firm reports, we conclude that these are the nine major trends that will define technological disruption in the remaining days of 2019.

- i. **5G Networks**
Spain's National 5g plan for 2018-2020 stipulates that throughout 2019, pilot projects based on 5G will be development resulting in the release of the second digital dividend. Hence, the groundwork is being laid so that in 2020 we will be able to browse the Internet on a smartphone at a speed that will reach 10gigabtyes per second. Data from Statista, a provider of market and consumer data, indicates that by 2014, 5G mobile network technology will have reached more than 40 percent of the global population, with close to 1.5 billion users.
- ii. **Artificial Intelligence (AI)**
this trend has appeared in all the lineups for a few years now, but everything indicate that this year will be the year it takes off definitively. This is the year we'll see its democratization, while it is even included in the political agenda. At the beginning of December 2018, the European commission released a communication on AI directing the member states to define a national strategy addressing this topic by mid-2019
- iii. **Autonomous Devices**
In respect to the previous point, robots, drones, and autonomous vehicles are some of the innovations in the category the consulting firm Gartner labels
"autonomous things" defines as the use of artificial intelligence to automate functions that were previously performed by people. This trend goes further than mere automation using rigid programming models, because AI is now being implemented to develop advanced behavior, interacting in a more natural way with the environment and its users.
- iv. **Blockchain**
Blockchain technology is another topic that frequently appears on these end of year lists. It has now broken free from an exclusive association with the world of cryptocurrencies: its usefulness has been proven in other areas. In2019 we will witness many blockchain projects get off the ground as they try to address challenges that still face the technology on different fields like banking and insurance. It will also be a decisive year for the roll-out of decentralized organizations that work with intelligent contracts.
- v. **Augmented Analytics**
This trend represents another stride for big data, by communing it with artificial intelligence. Using machine learning {automated learning}, it will transform the development, sharing, and consumption of data analysis. It is anticipated that the capabilities of augmented analytics will soon be commonly adopted not only to work with data, but also to implement in-house business applications related to customer support-all with the aim to optimized decisions by using deep data analysis.
- vi. **Digital Twins**
A digital twin is a virtual replica of a real-world system or entity. Gartner predicts that there will be more than 20billion sensors connected to end points by 2020, but the consulting firm goes on to point out that there will also be digital twins for thousands upon thousands of these solutions, with

the express purpose of monitoring their behavior. Initially, organizations will implement these replicas, which will continue to be developed over time, improving their ability to compile and visualize the right data, make improvements, and respond effectively to business objectives.

vii. Enhanced Edge computing

Edge computing is a trend that relates most specifically to the internet of things. It consists in placing intermediate points between connected objects. Data can be processed at these intermediate points, thus facilitating take that can be performed closer to where the data has been received, thus reducing traffic and latency when responses are sent. With this approach, processing is kept closer to the end point rather than having the data sent to a centralized server in the cloud computing and edge computing will be developed as complementary models with solutions in the cloud, administered as a centralized service that runs not only on centralized servers but also on distributed servers and in the edge devices themselves.

viii. Immersive Experiences in Smart Spaces

Chat bots integrated into different chat and voice assistance platforms are changing the way people interact with the digital world, just like virtual reality (VR), augmented reality (AR), and mixed reality (MR). the combination of these technologies will dramatically change our perception of the world that surrounds us by creating smart space where more immersive, interactive, and automated experiences can industry cases.

ix. Digital Ethics and Privacy

Digital ethics and privacy are topic that are receiving more and more attention from both private individuals as well as associations and government organizations. For good reason, people are increasingly concerned about how their personal data is being used by public and private sector organizations. Therefore, we conclude that the winning organizations will be those that proactively address these concerns and are able to earn their customer's trust. Technology trends are changing the way we work and interact with others. In fact, with things like machine learning and touch commerce becoming increasingly popular across every industry from banking to healthcare, technology is revolutionizing the way we do business and making high-tech approaches an integral part of our lives.

The following are top five technology trends that one needs to know to work in any industry.

1. Internet of Things (IOT)

One of the biggest tech trends to emerge in recent years is the internet of things. Simply put, the internet of things (abbreviated IOT) is the idea that all technological devices can be connected to the internet and to each other in an attempt to create the perfect marriage between the physical and digital worlds. How will this impact you? It depends on your industry. For example, for those who work in marketing, advertising, media or business management, IOT could provide a wealth of information on how consumers engage with products by tracking their interactions with marketing campaigns and user experiences.

How it's affecting industries: the really cool thing about IOT is that it's not only changing the way we do business but also the business models we use to do it. For example, according to Deloitte, flexible consumption models {also known as pay-per-use models} are becoming increasingly more popular across all industries as new customer data becomes available.

2. Machine Learning

Another exciting emerging technology is machine learning, which is essentially a computer's ability to learn on its own by analyzing data and tracking repeating patterns. For example, Social media platforms use machine learning to get a better understanding of how you're connected with those in your social network. They do this by analyzing your likes, shares and comments and then prioritizing content from your closest connections, serving you that content first.

How it's affecting industries: In addition to shaping your day-to-day interactions with friends on social media, machine learning is also changing the way companies do business with customers. According to Deloitte, companies like Google are using machine learning on mobile devices which can continue learning even when offline. The result? Machine learning is reshaping the way businesses interact with their customers in a big way by helping them anticipate and meet customer needs more easily.

3. Virtual reality {VR}

Remember watching movies about virtual reality and thinking how cool it would be if it was actually like that in real life? Well, it's about to be. Although VR has been around since the 1950s, until recently the technology wasn't able to deliver the fully immersive digital experience users have been craving. That's about to change with recent improvements to both hardware and programming, and the effects are going to be felt across almost every industry from retail to education.

How it's affecting industries: Virtual reality has been a popular component of video games for several years and this trend is continuing to expand. In addition to video games, VR is likely to affect companies across the board as they adopt the technology to help them engage customer more effectively and optimize tool for learning and is increasingly being adopted by educational organizations.

4. Touch commerce

Being able to buy anything you want with the touch of a finger may have seemed like a fantasy a few years ago, but it's now a reality. Merging touch screen technology with one-click shopping, touch commerce allows consumers to buy products easily from their phones. After linking their payment information to general account and clothes to furniture with just a fingerprint.

How it's affecting industries: According to Deloitte, this is one of the biggest things to hit e-commerce in recent years with purchases of this type expected to increase by 150% this year alone and retailers in almost every industry anticipating an increase in sales directly related to this new technology.

5. Cognitive Technology

Cognitive technology is in the same vein as machine learning and virtual reality except that it's a broader concept. For example, the cognitive technology umbrella includes things like natural language processing (NLP) and speech recognition. Combined, these different technologies are able to automate and optimize a lot of

tasks that were previously done by people, including certain aspects of accounting and analytics.

How it's affecting industries: Although cognitive technologies have a broad range of applications, Deloitte predicts that the industry sector most affected by this trend initially will be the software sector with 95% of enterprise software companies projected to adopt these technologies by 2020.

With emerging technologies changing professional industries including banking, e-commerce, healthcare and education, staying up to date on the latest trends will give you a better understanding of your chosen industry and make you a more competitive candidate. Best of all, this knowledge might open up new doors within your field and others.

NEW MANAGEMENT TRENDS TO WATCH FOR IN 2019

1. Remote Workers

A career listing site called flexjobs did a study at the end of 2017 showing that there were approximately 3.9 million workers in the United States who worked remotely at least half time. This was an increase of 115% from the year 2005. Telecommuting is rapidly becoming more common for both small and large business.

This management trend is beneficial to both companies and families as it reduces commuting costs and can have a positive impact on a business's carbon footprint. Evolving technologies, like teamwork's project management software, are also making it easier for these companies to communicate and collaborate with their remote workers.

2. Video Marketing

Gary Vaynerchuk, who has developed multiple online companies and made a name for himself as a social influencer, has said on multiple occasions that the "single most important strategy in content marketing today is video." As far as management trends go, video incorporate in 2019. There are more than 55% of people watching at least one marketing video every day, giving it a higher return on investment than every other form of advertising whether using live video features on your social media channels or sharing promotional videos on your website, these clips boost engagement and attract more traffic.

3. Rising Wages

With the cost of living and healthcare rates on the rise, wages are also being increased to keep up. This means that many employers will need to make some changes to their compensation plans to continually bring in new talent and retain their current workforce. Many states are passing laws to raise the minimum wage standard, making these adjustments mandatory. Even with these requirements, the higher income may still not be enough to entice good workers. These salaries should be complemented by additional benefits like telecommuting options and other bonuses.

4. Artificial Intelligence

AI is being used more and more to improve the overall customer experience. Many call centers are incorporating artificial answering services with the ability to help customers with most of their issues or questions. Some of these technologies are

even able to learn and adapt to specific scenarios without the need for human improvements. These artificial intelligence tools are available now to improve many facets of life for both business and customer.

5. Team Brand Ambassadors

Influencer marketing is becoming more popular and useful every year. While hiring an influencer to promote your brand or product has its benefits, some managers are finding ways to use resources they already have at their disposal: employees. Who is better to boost and advocate for a brand than its own employees? Inviting them to share info and promotional material on their personal social media profiles can be free, but effective, PR for the company.

6. Customer- focused Organizations

“The customer is always right” phrase has been a topic of debate for many years now. Whether you believe this or not, one thing everyone can agree on is that it’s important to determine what the customer truly wants. With a vast array of analytical tools available to determine this, there’s no reason why companies shouldn’t be learning exactly how to meet their customers’ wants and needs. Once this information is reported and available, it’s even more important to take action.

7. Outside Consultants

One of the management trends that may require a bit of humility on a team leader’s part is accepting the fact that they may not have all the answers. This realization can be beneficial to a team’s growth as it opens doors for outside consultants to come in and share their knowledge on certain subjects. Consultants can be hired to improve a team’s communication, collaboration skills, organization, and more. They will typically start by assessing the needs of the group and then develop a plan to achieve a higher level of effectiveness.

8. Work- Life balance

This is beginning to mean something different than it has in years past. Though it does include vacation and other time off, many companies are finding ways to improve their employees’ work-life balance even when they are on the clock. For some this may mean the opportunity to work from home, while others may simply want activities to do during their break while at the office. Whatever this entails for a business, it is important to recognize the need to improve work schedules and find other ways to prevent employee burnout.

9. Continuing Education

Due to many of the management trends above, the need for continuing education is becoming a must for just about every industry. We live in an ever- changing world, meaning that what works today may not work as well tomorrow. As technology like AI and other improvements are integrated into your company’s mainframe, employees will need to learn how to adapt to the changes. This provides opportunities for both internal experts and outside consultants to offer training on these advancements.

10. Training Millennials

The American Society for training and Development estimates that by 2020 about half (46%) of the workers in the United States will be millennials. As the oldest individuals in this group have reached 35years old, more of them are becoming managers and leaders within their organizations. This means it is time to develop

training strategies to ensure these millennials are prepared for the responsibility. As the next generation of employees (GenZ) begin to enter the workforce, millennials will need to be ready and able to manage them. Prepare for these management trends this certainly isn't an exhaustive list of upcoming management trends, but hopefully it will at least prepare you for a few of the big ones to expect in the years beyond. As you do your due diligence to get ready for these changes, you'll be ahead of the curve and stand out as a good leader.

NEW TRENDS IN SOCIAL SCIENCE

Seven main trends have emerged, these are;

1. Technology use and integration: Technology will not only enhance education; it will drive learning of all kinds.
2. Expansion of mobile technology: Technology will become increasingly mobile, meaning that opportunities for learning will and already to- exist everywhere, all the time.
3. Asset- based approaches to evaluation: At the classroom level, at the regional or national scale and on a multinational or international level.
4. Increased creativity: Knowledge will be created and co-created, not simply "imparted" by teachers. Students are not just taking in facts; they are creating new knowledge.
5. Global approaches to learning: Shared interests, curiosity and a hunger for learning are driving as to reach beyond our own borders.
6. Global mobility: Teachers and students are experiencing more of the world, more often, starting from a younger age.
7. Borderless education: The barrier of geography is being transcended by technology, creativity and a desire to "go global".

CONCLUSION:

The effective functioning of families, schools and educational systems is sensitive to the existence of supportive public policies at the community, national and international level. The responsibility for respecting human rights and for setting the framework for the educational reforms needed to actualize a share national vision of education for the 21st century rests first and foremost with government.

REFERENCES

1. Research methodology: methods and techniques. Thirds edition. By Kothari, C.R., & Garg, G (2014). New Delhi: New Age International {P} Limited, Publishers.
2. Research Methodology in the Social and Management Science by U. G Moti, Ed. (2005). Kaduna: Joyce Graphic Printers & Publishers Company.
3. Discovering Facts Using SPSS by Andy Field
4. Building Financial Models with Microsoft Excel: A Guide for Business Professionals, 2nd edn by S. Proctor (2009). Hoboken, NJ: Wiley.
5. Introduction to Linear Regression Analysis, 3rd edition, by Montgomery, Peck & Vining {2003}. Wiley India.

6. Introductory Econometrics for Finance, 2nd edn. By Chris Brooks {2008}. Cambridge University Press. December 21, 2015.
7. Mariyamma Mathew, Teaching Science for biological and physical science.
8. Sivarajan, Trends and developments in modern education practices.

ON THE ORIGIN AND PRINCIPLES OF IGWEBUIKE PHILOSOPHY: PHILOSOPHY IN SEARCH FOR A SCIENTIFIC BASIS

Prof. KANU Ikechukwu Anthony, OSA

Rector

Villanova Polytechnic, Imesi Ile

Osun State, Nigeria

ikee_mario@yahoo.com

Abstract

Every philosophical position has an origin and the principles that guide or gives value to the pattern of thought in question. The origin is usually the result of a reaction to a particular circumstance that is either real or conceptual. This work is a response to the questions of the origin and principles of Igwebuike philosophy, and more so, the question of its peculiarity: is it a philosophy that is common only to the Igbo or is it a philosophy that has a universal relevance? This work has argued that Igwebuike is a philosophy that is described with an Igbo word, however, with a universal relevance and appeal. Reacting to the question of the basic principles on which Igwebuike philosophy stands, this work discussed the four basic principles of Igwebuike philosophy. These principles include: the principle of identity, the principle of contrariety, the principle of hierarchy and the principle of unity. For the purpose of this research, the indigenous wholistic method of inquiry was employed.

Keywords: Igwebuike, Philosophy, Origin, Principles, Identity, Contrariety, Hierarchy, Unity

Introduction

Recent questions that have emerged from the various papers written on Igwebuike philosophy is: "What is the origin of Igwebuike philosophy?" How did it begin as a pattern of thought in African ontology? Is it a philosophy that is exclusive to the Igbo or Africa? My response has always been that although Igwebuike is an Igbo word (Igwe (number), Bu (Is), Ike (strength), literally meaning that there is strength in unity- however, philosophically pointing to the complementary nature of reality. It confronts discontinuity and the compartmentalization of reality (Kanu 2017a,b&c)), Igwebuike is not a philosophy that is limited to the Igbo world, it is a universal philosophy that is the incarnation and confirmation of the universal relevance of solidarity and complementarity. Although, a philosophy captured in an Igbo word, it has a universal taste and obvious in universal experience. Igwebuike emphasis on the complementary nature of reality was at the heart of the discovery of the Ionian philosophers who observed that there was permanence in the midst of change, and also that there was unity in the midst of the plurality of reality. In their wonder, they concluded that there must be a primary element that would explain the unity in diversity and permanence in change. In this, they acknowledged the complementarity of the diverse departments of reality.

When Thales pointed to water as the fundamental unity underlying the diversity of reality, he was expressing the interconnectedness of reality. When Anaximander referred to a neutral element, that is infinite, eternal and indeterminate he expressed

the complementary nature of reality. Anaximander observed that conflict in nature begins as a result of injustice in nature, which has got to do with a being invading the domain of another, thus tampering with the free and joyful existence of the other. In this observation, he expressed the relevance of a fundamental principle of being in Igwebuiké philosophy: *Egbe beru Ugo beru* (Let the kite perch, let the eagle perch). In the work of Empedocles, the ancient philosopher from Akragas, south coast of Sicily, his thought was Igwebuiké in structure. He observed that there are four elements in the universe: earth, air, fire, water; when they come together according to the principle of unification, which is love, something comes into existence, and when they separate according to the principle of division, which is hatred, something goes out of existence (Omoregbe, 1997). In his philosophy, he was pointing out the importance of solidarity and the relevance of a humanity that is bent towards the other. This was Igwebuiké philosophy in operation beyond the walls of the Igbo traditional society. And so to the question, is Igwebuiké a philosophy that is exclusive to the Igbo or African people, the answer is No. Igwebuiké is a universal philosophy, described in Igbo-African language by Igbo traditional African philosophers. Having responded to the question of the peculiarity of Igwebuiké philosophy, another question looming at the horizon of this work is: How did Igwebuiké philosophy come about?

Wonder, the Origin of Igwebuiké Philosophy

Igwebuiké philosophy began with wonder as African traditional thinkers began to wonder at the very nature of their immediate universe. It began from the understanding of their immediate universe which is not detached from the whole universe. As they wondered about the nature of their immediately universe, it began to shape their thoughts, therefore, establishing a connection between philosophy and the cosmos. As these African traditional thinkers began to wonder, their wondering led to the development of their philosophy, which was Igwebuiké in structure. Thus, Aristotle writes that "It is through wonder that men now begin and originally began to philosophize" (p. 10). This wonder was the first step, which was followed by questions as a second step and then the third being proffering answers to these questions. First these African traditional thinkers reflected on their experiences in the world, which arouses the feeling of wonder, as regards why reality is the way it is: its beauties and the negative vicissitudes the human person must face in life. Realities such as the nature of life, its brevity, human suffering, successes, failures, sorrows, joys, death, the after-life, the nature of the human person, disease, decay, etc.

The Traditional African thinker, just like every other human person was by nature curious. He wanted to know everything around him. He wants to know why he is intelligent and yet with many things yet unknown, why he is strong and yet fragile, why he has so much control over the universe but can hardly exercise control over himself, why he is immortal and yet dies, why he came into existence, etc. He asks himself if there is a particular way in which he ought to behave and a way he ought not to behave. He wonders at the origin of the universe, the age of the universe, was it created or is it eternal? If it was created, who created the universe? Is this the only world that there is? If there are other worlds, who lives there and what are these worlds? What laws governs the universe? He wonders at the order in the universe,

why the raining season is succeeded by the dry season, the day, the night, the seasons, the birds of the air, the fish that makes their way through the waters, the animals in the fields; he wonders at how they are sustained. He wonders at the possibility of a Supreme Being, and if He does exist, what is the nature of that Supreme Being? Does He exist in Himself or does He need other beings to exist? The human person raises so many questions within his mind, and yet finds it difficult to respond to them. He, therefore, becomes the source of his own anxiety. They wondered at the system of the universe which is a conflict of opposites: good and evil, life and death, light and darkness, hot and cold, wet and dry, love and hate, fortune and misfortune, male and female, etc. As he continued to reflect and to find answers to these fundamental questions, then he began to philosophize within the structure of his perceived universe.

This, therefore, establishes a very strong link between Igwebuike philosophy and the structure of the African universe. It is a universe of particularities that, however, exist in a thermodynamic system- where every creature as an independent but interacting entity, negotiates another's existential highway for mutual survival (Kanu 2019). Negotiation is very important in the African universe because it is a world that one shares with the other in an atmosphere of inter-subjective relations. This inter-subjective relations only plays out without chaos when the individual is able to skillfully bridge his or her interiority with the individuality of the other.

The idea of wonder is not exclusive to the emergence of Igwebuike philosophy. A cursory glance at the beginning of Western philosophy, precisely, the Ionian or Miletian School of philosophy, reveals how wonder led to the evolution of philosophy. These philosophers, Thales, Anaximander, Anaximenes, etc., had curious minds which impelled them to seek rational explanations for the nature of the universe. They were first filled with wonder and curiosity about the nature of the cosmos. Their wonder led to raising questions about the nature of reality (Omeregbe, 1997). Having raised this question among others, they began to find answers to these fundamental questions. At this level of finding answers to these questions, they began to philosophize.

From the wonder experience of African traditional philosophers, they began to philosophize about the African cosmology, reflecting on its physical and spiritual dimensions. They observed that in the spirit realm, God represents the Chief Being, and sits at the apex of power. In the physical world, human beings dominate, occupying the central position in the scheme of God's creation. The structure of the African universe that came into existence as responses to the questions that emerged from their wonder can be illustrated in three levels: the sky, the earth and the underworld: "the sky is where God *Chukwu* or *Chineke* and angels reside; the earth where human beings, animals, natural resources, some devils and some physical observable realities abide; and the underworld where ancestors and some bad spirits live" (Ijiomah, 2005).

The African traditional thinkers observed that the universe persists because of a healthy inter-subjective relation. The spiritual and physical realms, although they have separate existence, interact. The spiritual worlds of (God), the spirits and the physical world of human beings overlap and, therefore, interact. There is really no

demarcation between the physical and spiritual worlds, between the visible and invisible, the sacred and profane; as there is a cooperate existence of reality in the universe. This is seen in the fact of the possibility of certain elements to move from one structure to another to commune with other elements. In this interaction, human beings commune with God, the divinities, the ancestors and vice versa.

It is from these observations that traditional African thinkers began to develop the oldest forms of African religious and philosophical wisdom. These are proverbs, parables, songs, prayers, etc., which contain the wisdom and experience of the African people of several ages gathered and summed up in one expression. They are the interpretation of their beliefs, principles of life and conduct. It is from these observations that such proverbs began to emerge:

- a. A person is a person because of other people
- b. Sticks in a bundle cannot be broken
- c. When spiders unite, they can tie up a lion
- d. If one finger tries to pick up something from the ground, it cannot
- e. Behind an able man there are always other able men
- f. It takes a village to raise a child
- g. If you want to go fast, go alone, if you want to go far, go together
- h. I am because we are, and since we are, therefore, I am
- i. If a lizard stays off from the foot of a tree, it would be caught
- j. A tree does not make a forest
- k. If two or more people urinate in the same place at the same time, it would produce more foam
- l. When a bird builds its nest, it uses the feathers of other birds
- m. One person is not the whole world
- n. It is by taking a goat around that you are able to sell it

From these observations also emerged mythologies as a response to several questions that emerged from the heart of man. From this emerged African parables and wise sayings.

The Principles of Igwebuike Philosophy

The principles of Igwebuike philosophy refers to the values or framework that shapes Igwebuike philosophy. These principles are the values or frameworks on which the philosophy stands. While these principles guide Igwebuike philosophy, it also justifies Igwebuike philosophy. These principles include: the principle of identity, the principle of contrariety, the principle of hierarchy and the principle of unity.

a. The principle of Identity

The principle of identity is the first principle of Igwebuike philosophy. It states that every being is determined in itself, is one with itself and is consistent in itself. Thus, every being is one with itself and divided from others. The qualities of matter, referred to in traditional metaphysics as accidents, such as size, colour, shape, etc., distinguish one being from the other. If reality does not have an identity, then everything would be everything, giving birth to one thing since nothing can be differentiated from the other. In this case, there would be no subject and object relationship (Kanu 2012 &

2013). This would create a causal traffic in the order of being and knowledge. Writing on identity, Locke 1999 avers that:

When we see anything to be in any place in any instant of time, we are sure that it is that very thing, and not another which at that same time exists in another place, how like and undistinguishable so ever it may be in all other respects: and in this consists identity, when the ideas it is attributed vary not at all from what they were that moment wherein we consider their former existence, and to which we compare the present... when therefore we demand whether anything be the same or not, it refers always to something that existed such a time in such a place, which it was certain, at that instant, was the same with itself, and no other. (p. 311).

On the one hand, a thing's qualitative identity comprises its defining properties: these are properties that one must mention in a full answer to the question "Who am I?" or "What is it?" Some authors refer to this identity as a synchronic identity. On the other hand, the problem of identity is taken to mean a question of numerical identity over time: what makes X at one time the same person as Y at another? Philosophers like Oliver (2011) would also refer to it as diachronic identity: what makes a being the same person across time.

This notwithstanding, the principle of identity is very important in Igwebuike philosophy because, before we can talk about inter-subjectivity, interconnectedness, complementarity, that which interconnects with the other or complements the other must have an identity of its own which distinguishes it from the other to which it connects or complements.

b. The Principle of Hierarchy

Every reality in the universe have a force, however, not all realities have the same force. The variety of the degree of forces is at the base of the categorization of being. In the hierarchy of forces, those with a greater force come first, with God at the apex as the source of all force. In Igbo-African ontology, reality can be subsumed the following categories according to the hierarchy of their force: **Spirit**. Spirit as a force has categories of forces. It includes God, the divinities and spirits. God is at the apex of the Muo category as the source of all force, Tempels (1959) wrote, "Above all force is God... It is he who has force, power, in himself. He gives existence, power of survival and of increase, to other forces. In relation to other forces, he is he who increases force" (p. 29). He wrote further, "He knows all forces, their orderings, their dependence, their potential and their mutual interactions" (p. 34). His existential cause is within himself and sustains resultant forces the subsistence and annihilation of other forces are within his power alone. While other creatures can paralyse, diminish or stop the operation of another being's vital force, they cannot stop it to exist entirely, only God can. After the Supreme Being are divinities. They are intermediaries and share aspects of the divine status. Awolalu and Dopamu (1978) refer to them as the executive heads of various divine departments in the Supreme Being's monarchical government. They are a lesser force compared to the Supreme Being, but generally, they are a great force.

The next on the ladder of forces is the human person. Human beings are a vital force endowed with intelligence and will. Although God is the source of vital force, man is the sovereign vital force in the world, ruling the land and all that abides in it, however,

“his fullness of being consist in his participation to a greater or less extent in the force of God” (p. 47) who possess the supreme force. He also shares an ontological relationship with his patrimony, relations and land. Man is the centre of the universe, including the world of the dead. Tempels wrote that “man is the supreme force, the most powerful among created beings” (p. 46). He can renew his vital force by tapping the strength of other creatures. He wrote, “Each being has been endowed by God with a certain force, capable of strengthening the vital energy of the strongest being of all creation: man” (p. 22). After human beings are lower animals. This category of being comprises forces not endowed with reason. They are ruled by instincts. They are all under the force of man and exist for man. According to Tempels, “In fact even inferior beings, such as inanimate beings and minerals, are forces which by reason of their nature have been put at the disposal of men, of living human forces, or of men’s vital forces” (p. 31). In another text, he wrote, “These lower beings exist, by Divine decree, only for the assistance of the higher created being” (p. 46). They are used feed human beings and also for offering sacrifices to God, divinities and the ancestors.

The next on the hierarchy are things. These refer to a happening, an event, an occurrence. *It can also be affixed to any adjective to mean specific things*” (p. 95). For instance, *ife obuna* (anything), *ife ebube* (thing of wonder), *ife ojoo* (bad thing), *ife oma* (good thing). Ife as a force cannot act for itself, and thus can only become active when a greater force like God, divinities, spirits and man act on them. They have no will of their own and thus depend on the will of a greater force. The next in the hierarchy is space (Ebe). Space talks about place. It is the relation of distance between any two bodies or points. It responds to the question of where. The next is Time. Time responds to questions such as: when did you see Emeka? When did you pick-up Nnamdi? When was the sacrifice offered? The last on the hierarchy is Modality, manner or style. Modality of being talks about the manner of being (Kanu 2012 & 2014). Thus, in relation to Igwebuiké, the degree of forces determines the level or degree of complementarity or connectedness between beings.

c. The Principle of Contrariety

The principle of contrariety speaks of the otherness of reality. The word contrariety is from the word contrary. Aristotle defines contrariety thus: “For contrariety is a kind of difference, and difference is a kind of otherness” (p.681-926). Aristotle writes that:

The term contrary is applied to those attributes differing in genus, which cannot belong at the same time to the same subject, to the most different of the things in the same genus, to the most different of the attributes in the same recipient subject, to the most different of things that fall under the same faculty, to the things whose difference is greatest either absolutely or in genus or in species. The other things that are called contrary are so called, some because they possess of the above kind, some because they are receptive of such, some because they are productive of or susceptible to such, or are producing or suffering them, or are losses or acquisitions, or possessions of privations of such (p. 763).

Aristotle writes further:

And nearly all thinkers agree that being and substance are composed of contraries; at least all name contraries as their first principle; some name odd and even, some hot and cold, some limit and the unlimited, some love and strife. And all the others as well are evidently reducible to unity and plurality (this reduction we must take for granted), and the principle stated by their thinkers fall entirely under these as their genera... For all things are either contraries or composed of contraries, and unity and plurality are the starting points of all contraries (p. 735).

Igwebuike accepts contrariety as part of the natural universe. For instance, in the same universe, we find both good and evil, life and death, light and darkness, hot and cold, wet and dry, love and hate, unity and diversity, short and long, substance and accidents, act and potency, fortune and misfortune, male and female. These are contraries to each other, and are indispensable realities of the universe. When the relationships between these contraries are well managed, reality is enhanced and stronger. The world is a world of contraries, and to imagine a universe without contraries is to live in a fool's paradise. The responsibility of the human person is to daily seek ways to negotiate his path in the midst of these contraries of nature.

The question of the 'Other' is a term with a rich and lengthy philosophical history dating at least from the Sophists through Socrates' dialogues to Hegel's dialectics, in which the 'stranger' participates in a dialogue on the ontological problems of being and non-being, of the 'one' and the 'other'. Otherness points to the state of being different, shifting emphasis from Descartes philosophical concerns with the other which was struck in abstraction to a concrete other that is located in social and cultural institutions. The question of the otherness of reality has continued to emerge in the various epochs of the history of philosophy fascinating philosophy and giving rise to questions such as: What does it mean to be other than the self? How do I and must I relate to the other? (Kanu 2018)

d. The Principle of Unity

In spite of the contrariety of reality, in spite of the singular identity of each reality, there is something common to everything. Igwebuike understands every individual reality as part of and the completion of the whole, and thus there is a unity in the midst of diversity. Igwebuike presents being as that which possesses a relational character of mutual relations. Thus, 'to be' is to live in solidarity and complementarity, and to live outside the parameters of solidarity and complementarity is to suffer alienation. 'To be' is 'to be with the other', in a community of beings. Mbiti (1970) classically proverbializes this relationship thus: "I am because we are and since we are, therefore I am" (p. 108). The African worldview, therefore, is governed by the principle of complementarity, which seeks the conglomeration, the unification, the summation of fragmented thoughts, opinions and other individualized and fragmented thoughts and ideas.

Igwebuike strongly holds that the whole is greater than the corresponding parts. It is also a view that maintains that by the coming together of the individual or parts, a viable and sustainable whole will emerge, and by this, the parts will get to the brim purpose of their existence (Asouzu 2004). This sense of unity, harmony, community, Complementarity and solidarity among the community of beings finds expression in the philosophy of Tempels (1959):

‘Beings forces’ of the universe are not a multiple of independent forces placed in juxtaposition from being to being. All creatures are found in relationship according to the law of hierarchy... Nothing moves in this universe of forces without influencing other forces by its movement. The world of forces is held like a spider’s web of which no single thread can be caused to vibrate without shaking the whole network. (p. 29).

Mbiti (1970) in his work on African religion and philosophy also speaks of African ontology in terms of unity, solidarity and complementary:

The anthropocentric ontology is a complete unity or solidarity which nothing can break up or destroy. To destroy or remove one of these categories is to destroy the whole existence including the destruction of the creator, which is impossible. One mode of existence presupposes all the others, and a balance must be maintained so that these modes neither drift too far apart from one another nor get too close to one another. (p. 16).

Edeh (1983) reflecting on Igbo Metaphysics emphasizes that the African universe emphasizes the closeness of reality through which reality attains its fulfillment in existence.

Accordingly, the Igbo way of life emphasizes ‘closeness’ but not closed-ness’. There is a closeness in living because each person ‘belongs to’ others and in turn, ‘is belonged to’ by others. By adopting this life of ‘closeness’ or ‘belongingness’, an Igbo becomes immersed in the culture’s spiritual substance, love; and by love, he acquires a fulfillment as a person beyond mere individuality. (p. 105).

The idea of the unity of reality is not unique to Igwebuiké philosophy. It is evident in western thought. Heraclitus avers that there is one from everything, there is everything from one. According to Anaxagoras, there is a part of all in everything. Parmenides taught that the space and human being are isomorphic structures, diametrically reflecting each other. Plato avers that the single is not the being, it is the superbeing. In the contention of Aristotle, the single is uninterrupted, the whole having a certain form, general and solitary. Plotin taught that the single is the supreme origin of the essential, higher than the reason and knowledge, incomprehensible. Pseudo-Dionysius the Areopagite observed that the single is an apophatical subject of Theology, the super-essential, the being itself. Augustine believed that the single is God as the highest being; the Trinity is the logical completion of the single. In the contention of Boethius, what is not single, in general, can’t exist because the being and the single are opposite and everything, that is single, exists. Thomas Aquinas taught that the single is the indivisibility of the essential and its being, the pre-condition of the thought. Nicolaus Cusanus opined that the single and the unfinished are identical, the single is everything, nothing is opposite to the single. Rene Descartes observed that the unity is the high perfection, characteristic of God. Descartes distinguishes the two types of the unity: physical and spiritual. Spinoza held that God is the single in the nature of things, only one substance exists and this substance is absolutely unfinished. According to Kant, the Unity is “Me” of the transcendental apperception.

Conclusion

In response to the fundamental questions that have arisen as a result of the wider reading of Igwebuike philosophy, this work has been written to address the issue of the origin of Igwebuike philosophy, and more so, the question of its peculiarity: is it a philosophy that is common only to the Igbo or is it a philosophy that has a universal relevance? To these questions, the answer has been simple. Igwebuike is a philosophy that is described with an Igbo word, however, with a universal relevance an appeal. There has also been the question of the basic principle on which Igwebuike philosophy stands. In response to this, this work discussed the four basic principles of Igwebuike philosophy. These principles include: the principle of identity, the principle of contrariety, the principle of hierarchy and the principle of unity. These principles are very important for the purity and clarity of interconnectedness or complementarity.

References

- Aristotle (1941). *Metaphysics*. In R. McKeon (Ed.). *The Basic works of Aristotle* (pp. 535-606). New York: Random House.
- Asouzu, I. I. (2004). *The methods and principles of complementary reflection in and beyond African philosophy*. Calabar: University of Calabar Press.
- Awolalu, J. O. and Dopamu, P. O. (1979). *West African traditional religion*. Ibadan: Onibonjo Press and Book Industry.
- Edeh, E. M. P. (1985). *Towards an Igbo Metaphysics*. Loyola University Press, Chicago.
- Ekwealor, C. C. (1990) The Igbo world-view: A general survey. E. Oguegbu (Ed.). *The humanities and all of us* (pp.29-33). Onitsha: Waterside.
- Ijiomah, C. (2005). African philosophy's contribution to the dialogue on reality issues. *Sankofa: Journal of the Humanities*.3. 1. 81 – 90.
- Kanu, I. A. (2012). "The Problem of Being in Metaphysics". *African Research Review: An International Multi-Disciplinary Journal*. Vol.6. No.2. April. pp. 113-122.
- Kanu, I. A. (2012). "The Problem of Personal Identity in Metaphysics". Published in the *International Journal of Arts and Humanities (AFRREV IJAH)*, May 2012, Vol.1. No.2. pp.1-13.
- Kanu, I. A. (2012). Being qua belongingness: The provenance and implications of Pantaleon's concept of being. *Lwati: A Journal of Contemporary Research*. 9, 3. 227-234.
- Kanu, I. A. (2012). From 'Onye' to 'Ife' hypothesis: The contribution of Edeh to the development of the concept of being. *Lwati: A Journal of Contemporary Research*. 9, 4. 218-223.
- Kanu, I. A. (2013). "African Identity and the Emergence of Globalization". Published in the *American International Journal of Contemporary Research*. Vol. 3. No. 6. pp. 34-42.
- Kanu, I. A. (2014). "Being and the Categories of Being in Igbo Philosophy". *African Journal of Humanities*. Volume 1. Issue 1. pp. 144-159.

- Kanu, I. A. (2017a). Igwebuike As A Hermeneutic Of Personal Autonomy In African Ontology. *Journal of African Traditional Religion and Philosophy Scholars*. Vol. 2. No. 1. pp. 14-22.
- Kanu, I. A. (2017b). Igwebuike and and Logic (NKA) of African Philosophy". *Igwebuike: An African Journal of Arts and Humanities*. Vol.3 No1 January 2017.
- Kanu, I. A. (2017c). Igwebuike and Question of Superiority in the Scientific Community of Knowledge. *Igwebuike: An African Journal of Arts and Humanities*. Vol.3 No1 2017.
- Kanu, I. A. (2018). "African Philosophy, Globalization and the Priority of 'Otherness'". *Journal of African Studies and Sustainable Development*. Vol. 1. No. 1. pp. 40-57.
- Kanu, I. A. (2019). "Collaboration within the Ecology of Mission: An African Cultural Perspective". *The Catholic Voyage*. Vol. 15. pp. 125-149.
- Locke, J. (1999). *An essay concerning human understanding*. Pennsylvania: Pennsylvania University Press.
- Mbiti, J. (1970). *African religions and philosophy*. Nairobi: East African Educational.
- Oliver, B. (2011). *Personal identity, numerical and qualitative*. 18/11/2011.
<http://sammelpunkt.philo.at:8080/1356/>.
- Omogegbe, J. I. (1997). *A simplified history of Western philosophy: Ancient and Medieval Philosophy*. Joja Educational Research and Publishers Limited
- Plato (1941). *The republic*. In F. M. Cornford (Trans.). Oxford. Oxford University Press
- Tempels, P. (1959). *Bantu Philosophy*. Paris: Presence Africaine.

IGWEBUIKE RESEARCH METHODOLOGY: TOWARDS A NEW TREND FOR SCIENTIFIC AND WHOLISTIC INVESTIGATION

Prof. KANU, Ikechukwu Anthony, OSA

Rector

Villanova Polytechnic, Imesi Ile

Osun State, Nigeria

ikee_mario@yahoo.com

Abstract

The organic and departmental nature of reality calls for a method of research that both respects the organicness and departmentalness of reality. It is in this regard that this work introduces the Igwebuike research methodology, in an attempt at widening the scope of research methodologies. It is an indigenous, first because it has its origin in an African word- Igwebuike which literally means "there is strength in number" but speaks more of the philosophy of complementarity. Second, because it appeals to the African spirit while not limiting its use to the African environment or problems. It is a universal principle from a unique world. It puts into consideration not just the universally accepted research conditions but also the local categories that peculiarizes a people. The present work is, therefore, an attempt at developing an indigenous method of research that can help in the search for knowledge in a wholistic and exhaustive way with a view of developing valid knowledge which would be applied in addressing peculiar and universal problems. It has, therefore, discussed research as a basic feature of our humanness; meaning that 'to be' is to want to know and to find solutions to the problems of the human society. The major dimensions of Igwebuike research method is that it is wholistic, begins from the known to the unknown, it is interdisciplinary, complementary and non-dominant. This research method does not in any way see itself as the most important research method, but emphasizes the necessity of a synthesis of methodologies if wholistic solutions to fundamental problems wrecking society are to be found. The complementary method of investigation was adopted for the purpose of this research.

Keywords: Igwebuike, Research Method, New Trend, Wholistic, Complementary, Interdisciplinary

Introduction

Research stems from the English word- 'to search', which means 'to look for'. The prefix 're' emphasizes the need 'to look for again', more carefully, more exhaustively (Anaekwe 2007). It implies going beyond the periphery, going beyond what is common knowledge to discover something profound and fundamental. To research is a crucial aspect of our human reality. This is because in a general sense all of us research- we all develop the keen interest of observing certain situations in life, such as the nature of the universe, the nature of the vegetation around us, the character of human beings, the behavior of animals. These are experiences that are observable by every human person. From these observations, we raise questions about the phenomenon and situations that we have observed. By raising these questions, efforts follow in some circumstances to improve on the state of things.

Going beyond the general sense of research, there is a systematic sense in which the word 'research' can be used. This concept of research goes beyond the ordinary daily

involvements of everyone to a more organized, diligent and systematic search for knowledge with the hope of solving a particular problem. In the systematic sense of the word, Osuala (2005) defines research as:

The process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. Research is a most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purpose, and to resolve his conflicts. (p. 1).

This systematic concept of research is engaged in with a goal or a purpose, suggesting that it is something that someone does consciously and conscientiously. Osuala (2005) focusing on the purpose of research, writes that:

Research is oriented towards the discovery of relationships that exist among the phenomena of the world in which we live. Research is devoted to finding conditions under which a certain phenomenon occurs and the conditions under which it does not occur in what might appear to be similar circumstances. (p. 1).

However, with the peculiarities of societies, questions have arisen as to the need for diverse or indigenous research methods that may be unique to particular issues. The present work attempts at widening the scope of research methodology by introducing Igwebuike research methodology as an indigenous research method. It is referred to as indigenous, first because it has its origin in an African word- Igwebuike, which literally means “there is strength in number” but speaks more of the philosophy of complementarity. Second, because it appeals to the African spirit while not limiting its relevance to the African environment or situations. It is a universal principle from a unique world. The present work is, therefore, an attempt at developing an indigenous method of research that can help in the search for knowledge in a wholistic and exhaustive way with a view of developing valid knowledge which would be applied in improving situations.

Igwebuike as an Indigenous Research Method

The concept *Igwebuike* is a combination of three words. Thus, it can be understood as a word and as a sentence: as a word, it is written thus *Igwebuike*, and as a sentence, it could be written as *Igwe bu ike*, with the component words enjoying some independence in terms of space. The first word *Igwe* is a noun which means number or population, usually a huge number or population. *Bu* is a verb, which means *is*. *Ike* is another verb, which means *strength* or *power*. Thus put together, it means ‘number is strength’ or ‘number is power’, that is, that when human beings come together in solidarity and complementarity, they are powerful or can constitute an insurmountable force or strength; and at this level, no task is beyond their collective capability (Kanu 2017a,b&c).

This understanding, in terms of complementarity, provides an ontological horizon that presents being as that which possesses a relational character of mutual relations. As an ideology, *Igwebuike* holds that ‘to be’ is to live in solidarity and complementarity, and to live outside the parameters of solidarity and complementarity is to suffer alienation. ‘To be’ is ‘to be with the other’, in a community of beings. This is based on the African sense of community, which is the

underlying principle and unity of African philosophy (Kanu 2016a&b). *Igwebuike* is, therefore, anchored on the African worldview, which Iroegbu (1994) describes as being characterized by a common origin, common world-view, common language, shared culture, shared race, colour and habits, common historical experience and a common destiny.

The Anthropological Dimension of Igwebuike Research Method- 'To be' is to Research

'To be' in *Igwebuike* philosophy is to be in relation to the other, including the environment. Life is a relationship, and it is only within this relationship that knowledge and life itself is possible. To be a human being, you must relate to your environment- and know the things around you. To be and not know is not to be. Every human being wants to know, meaning that every human being cannot but research. This aspect of our humanity shows itself in the curiosity of a child who is always asking questions, becoming completely absorbed in the search for the truth, trying to make sense out of our complex world, making guesses and testing them, trying to understand his or her limits and the limits of the situations surrounding the child. Since to be is to know, once this liberality to know is restricted, the child loses something of its humanness, and begins to die intellectually and emotionally. If the child is allowed to ask questions without limit, the child takes progressive essential steps in the process of becoming human.

This search for knowledge in the human person is not satisfied with quick, easy and superficial answers to the questions that come up in the mind. To accept just simplified answers, choose mediocrity, give up the desire for excellence and forgo interrogating difficult questions has consequences on the humanity of a person- at that point the person begins to lose something of his humanity. However, whenever a person keeps digging, attempting to know and attain excellence he deepens the realization of his humanity. Thus, parents and teachers who are respectful of the questions students ask, original ideas and suggestions also contribute to the building of the humanity of the students. Torrance (1970) writes that:

Whenever the child learns only to follow the familiar and safe way, whenever the adventure is taken out of learning, whenever a child learns to ask only those questions to which the teacher knows the answer, whenever he learns never to upset existing organizational patterns and procedures, whenever he learns never to see defect in the existing order- he sacrifices some of his humanness. He progresses whenever he dares take the next step from where he is to a new level of functioning. (pp. 6-7).

This is the uniqueness which *Igwebuike* philosophy adds to the concept of research. Research is not just an attempt to find solutions to problems that surround us as human beings; research is an attempt to reach the full potentials of our humanity.

Dimensions of Igwebuike Research Method

There are basic dimensions of *Igwebuike* research method. These dimensions include wholisticness, beginning from the known to the unknown, interdisciplinarity, sympathy or respect for other perspectives and complementarity. These dimensions will thus be discussed in details.

a. Wholistic

Igwebuike approach to the search for knowledge is wholistic. Its wholisticness is anchored on the Igwebuike perspective that all parts of reality are interconnected and that they find Identity, meaning and purpose through connections to the other. This wholisticness is the basis for Igwebuike emphasis on multidimensionality in research. Thus, an investigation of a particular situation or reality should imply the several viewpoints or perspectives so as to arrive at a global and balanced perspective. The result of a wholistic method of research is an integrated education that serves the interest of the physical, psychological and spiritual dimensions of the human person. It is not enough to deal with the psychological dimension while leaving out the spiritual and physical, or the spiritual while leaving out the psychological and physical. To deal with only the physical and leave out the spiritual and psychological is only to scratch the problem of the human person.

A wholistic research would, therefore, bring together, in one combined process, more than one element, subject, method or stream in the research process. For instance, with the recent prevalence of suicide in the society, a person who would like to research on it but focuses only on the psychological dimension of the problem, leaving out the spiritual and the physical realities that could contribute to it, would only present a result that is limited and not integrated. The problem with such a limited result in research is that while it solves the problem from the psychological perspective, it creates another problem. A problem created as a result of ignorance.

b. From the Known to the Unknown

Igwebuike research method begins from the known reality to the unknown. It uses the known as a stepping stone to get to the object of its research, which is the unknown. This method of research is based on the very nature of learning itself. The first step of learning is observation. And a person observes not only with the eyes but the other senses like listening, feeling/touching, smelling, and tasting. These senses are the means by which we experience the external world. Even before a child is born, it already begins to observe. They hear the sound and know the smell of their parents.

What children observe become “known” to them, and it is by comparing what they already know with some other thing unknown to them that they learn new realities. Thus, children learn by comparison, for instance, by comparing a new voice with the voice of the mother. Babies always like to taste and feel things with their mouths, and in this tasting, they are comparing two different realities, and often relate to one based on the taste of the other. Thus, they are moving from the known to the unknown. As children continue to make more comparisons, more information moves into the “known” category.

Saint Paul uses this same principle of moving from the known to the unknown while speaking to the Athenian philosophers at the Areopagus in Acts of the Apostles chapter 17. As he observed the city of Athens, he conversed with philosophers, no wonder, when it was time to begin his sermon, he started by stating the known, “I perceive that in every way you are very religious.” He then uses the known to introduce the unknown, “For as I passed along and

observed the objects of your worship, I found also an altar with this inscription, 'To the unknown God.'" Paul continued by explaining to them who God is by giving them examples of what God has done.

c. Interdisciplinary

Igwebuike research strongly advocates for an interdisciplinary kind of investigation. This is based on the interconnectivity of reality. By interdisciplinary research it means combining of two or more established or traditional academic disciplines in a process of research. Nisani (1997) defines interdisciplinary as:

Interdisciplinarity is best seen as bringing together distinctive components of two or more disciplines. In academic discourse, interdisciplinarity typically applies to four realms: knowledge, research, education, and theory. Interdisciplinary knowledge involves familiarity with components of two or more disciplines. Interdisciplinary research combines components of two or more disciplines in the search or creation of new knowledge, operations, or artistic expressions. Interdisciplinary education merges components of two or more disciplines in a single program of instruction. Interdisciplinary theory takes interdisciplinary knowledge, research, or education as its main objects of study. (n.p).

Thus, an interdisciplinary research synthesizes perspectives, knowledge, skills, interconnections, epistemologies, etc., thus drawing knowledge from several other professions, technologies and fields like sociology, anthropology, psychology, economics, religion, culture, science, etc. It is about creating new knowledge by thinking across boundaries.

The interdisciplinary method of research is indispensable if complex problems must be solved in society. This, may, therefore, involve two or more researchers from different disciplines pooling their experiences, approaches and modifying them so that they are better suited to the problem at hand. The advantages of interdisciplinary method of research include:

- i. It promotes meaningful, purposeful and deeper result in learning experiences.
- ii. It covers areas in more depth because they are considering the many and varied perspectives from which a problem can be solved.
- iii. Critical thinking skills are used and developed as researchers look across disciplinary boundaries to consider other viewpoints and also begin to compare and contrast concepts across subject areas.
- iv. It motivates researchers to pursue new knowledge in different subject areas.
- v. It can lead to greater creativity.
- vi. It allows for synthesis of ideas and the synthesis of characteristics from many disciplines.

- vii. It addresses researchers' individual differences and helps to develop important, transferable skills.
 - viii. It expands the room for creativity
 - ix. It reduces the possibility of errors which could have been best detected by people familiar with two or more disciplines.
 - x. It serves to remind us of the unity-of-knowledge ideal.
 - xi. It allows for greater flexibility in research.
- d. Sympathetic and Non-Derogatory**
- The sympathetic, non-derogatory or non-dominant model of Igwebuikere research method has great focus on the encounter between the African culture and religion with the west. The encounter was non-sympathetic, dominant and derogatory to the African culture and religion. With particular reference to the Igbo experience of western missionaries, Jordan (1949) and Okonkwo (2002) observe that they referred to the Igboland they had come to evangelize as the citadel of Paganism and the domain of the Lord of Hell. Isichei (1970) noted that the missionary Priest Rev. Fr. Lutz advised his colleagues during this early missionary ventures to note that this portion of 'Dark Continent (Africa)' was cursed and engulfed by the power of the devil. According to Okonkwo (1998ab&c), such missionary postures created more damaging effect on the Igbo surface and depth grammar which has until the present age, made the message of the Gospel to a large extent in Igbo land 'tongue-independent' as an 'Engli-Igbo-Church'. Uzukwu (1988) described this missionary frame of mind as oppressive and dominant and confirms such frame of mind that portrayed the Igbo religious language, culture and worldview as inferior and as such was due for replacement. They identified everything "good to be white" and everything "bad to be black" (Nkrumah, 1981).
- The sympathetic and non-derogatory method of research connects with the Pauline method of getting to the Athenians. Although he was so exasperated at the sight of Athens, an idol-ridden pantheistic city and people, he –Paul the missionary *per excellence*, did not *prima facie*, condemn neither the idols nor the people as in the cases cited in the above Igbo missionary missing links. Paul's sympathetic, non-dominant and non-derogatory approach created a free and natural ground for his mission. He went further with a secular wisdom and intellection and called the 'idol-ridden-pantheistic Athenians-a God-fearing and extremely scrupulous people in religious matters (Act, 17:23). Paul did not gloss-over their religious and cultural values but rather showered understanding to them in their freedom and accord with their lives and the laws of nature which he perfectly signed off with the Greek concept-*kata physin*. St. Paul after his polite and humane method of meeting with foreigners – the gentiles, he still was vehement and firm in his solemn proclamations (Okonkwo 2019).
- e. Complementarity**
- Igwebuikere research method understands the search for knowledge as a project carried out by a community of inquiry. This is done in relation to the other

person. The other person's perspective sharpens your own perspective and thus complements what is lacking in your own perspective. Every researcher must maintain connection with the resources that are outside of him. The support and stimulation of the group has a way of improving on the quality of knowledge that is arrived at. Torrance (1970) writes that:

One becomes human by making use of the energy available from outer sources to become a better integrated personality, to interact at a deeper level with the environment, and to achieve greater fulfillment of his potentialities. One loses his humanness when he is estranged, isolated, rejected, and cut off from the sources of information, inspiration and spiritual strength. (10).

To keep away from the complementary power of other persons and the other sources of knowledge is to limit one's research. This is very important, for as Golden (1970) points out: "No one earns a perfect grade on the test of humanity. The human index merely registers differences of degree, and always involves something lacking" (p. 15). He writes further: "We become human to a degree but never absolutely. This is always an incomplete process. It always involves something lacking" (p. 15). Through complementarity, that which is lacking is completed and every missing link in knowledge is bridged.

Conclusion

Ancient studies explained reality in terms of an organic reality as is seen in the writings of the Greeks, however, modern research is beginning to see reality in terms of compartments and departments, without necessarily rejecting the interconnectedness of reality. This, therefore, calls for a method of research that respects both the departmental and organic nature of reality. It is in this regard that this piece studies the implications of Igwebuiké philosophy for academic research. Thus, the foregoing began by discussing Igwebuiké as an indigenous research methodology that understands research as a basic feature of our humanness. To be is to want to know and to find solutions to the problems of the human person. The major dimensions of the Igwebuiké research method is that it is wholistic, begins from the known to the unknown, it is interdisciplinary, complementary and non-dominant. This research method does not in any way see itself as the most important research method, but emphasizes the necessity of a synthesis of methodologies if wholistic solutions to fundamental problems reeking society is to be found. This synthesis of methodologies is also indispensable if research must arrive at the development of generalizations, principles or theories that would be helpful in making predictions about future occurrences. If the researcher's observations and descriptions must be accurate, a wholistic approach is indispensable.

References

- Anaekwe M. C. (2007). Basic research methods and statistics in education and social sciences. Sophie Printry and Publicity Ltd, Onitsha.
- Isichei, E. (1970). Seven Varieties of Ambiguity: Some Patterns of Igbo Response to Christian Mission, In *Journal of Religion in Africa*.

- Iroegbu, P. (1994). *Metaphysics: The Kpim of Philosophy*. Owerri: International Universities Press.
- Jordan, P. (1949). *Bishop Shanahan of Southern Nigerian*, Dublin.
- Kanu, Ikechukwu Anthony, Igwebuike and Logic (NKA) of African Philosophy". *Igwebuike: An African Journal of Arts and Humanities*. Vol.3 No1 January 2017.
- Kanu, Ikechukwu Anthony, Igwebuike and Question of Superiority in the Scientific Community of Knowledge. *Igwebuike: An African Journal of Arts and Humanities*. Vol.3 No1 2017.
- Kanu, Ikechukwu Anthony, Igwebuike as a wholistic Response to the Problem of Evil and Human Suffering. *Igwebuike: An African Journal of Arts and Humanities*. Vol. 3 No 2, March 2017.
- Kanu, Ikechukwu Anthony, Igwebuike as an Igbo-African Ethic of Reciprocity. *Igwebuike: An African Journal of Arts and Humanities*. Vol. 3 No 2, March 2017.
- Kanu, Ikechukwu Anthony, Igwebuike as an Igbo-African Modality Of Peace And Conflict Resolution. *Journal of African Traditional Religion and Philosophy scholars*. Vol. 1. No. 1. pp. 35-44. 2016.
- Kanu, Ikechukwu Anthony, Igwebuike as the consummate foundation of African Bioethical principles. *An African journal of Arts and Humanities* Vol.2 No1 June 2016.
- Kanu, Ikechukwu Anthony, On the Sources of Igwebuike Philosophy: Towards a Socio-Cultural Foundation. *International Journal of Religion and Human Relations*. Vol. 9. No. 1. pp. 1-23. 2018
- Kwame, N. (1981). *The struggle continues*. London: Panaf.
- Nissani, M. (1997). "Ten cheers for interdisciplinarity: The Case for Interdisciplinary Knowledge and Research". *Social Science Journal*. **34** (2): 201–216.
- Okonkwo, J. (1998). Folks-Media and the New Era of Evangelisation: The Igbo Perspective, In: *Communication Socialis: International Zeitschrift fur Kommunikation in Religion, Kirche und Gesselschaft*, Salzburg.
- Okonkwo, J. (1998). Oramedia-Traditions and the Igbo Question in Nigeria: A Philosophy of Identity, In Gehlaar, S. (Ed.), *Prima Philosophia*, Cuxhaven-Dartford.
- Okonkwo, J. (2000). Language and Evangelisation: The Challenges of the Igbo Pastor, In Okonkwo, J. (Ed). *Pastoral Language and Evangelisation 2000*, Enugu, Fourth Dimension Publishers.
- Okonkwo, J. (2002). *Onugaotu Ahiajoku Lecture Colloquium*, 2002, Owerri.
- Okonkwo, J. (2002). Religious Language and Igbo Folks-Media: The Crisis- Situation of Modern Trend of Evangelisation, In Okonkwo, J. *et.al* (Eds.) *Onugaotu Ahiajoku Lecture Colloquium*, 2002, Owerri.

- Okonkwo, J. I. (2019). *Chi and Christ: The search for the universal essence of God in Igbo and Christian thoughts*. Unpublished paper.
- Osuala, E. C. (2005). *Introduction to research methodology*. African First Publishers Limited, Ibadan.
- Torrance E. P. (1970). What it means to become human. In Scoby M and Graham G. (Eds.). *to nurture humanness* (pp. 3-13). Washington, Association for Supervision and Curriculum Development.
- Uzukwu, E. (1988). *Missiology Today: The African Situation*, In *Religion and African Culture-Inculturation: A Nigerian Perspective*, SNAAP, Enugu.

VARIABLES RELATED TO ADMINISTRATIVE EFFECTIVENESS IN HIGHER INSTITUTIONS IN EKITI STATE, NIGERIA

Sr Dr OMOJOLA Immaculata Olu, SSMA
Department of Business Administration
Villanova Polytechnic, Imesi Ile
Osun State, Nigeria
omojolassma@yahoo.co.uk

ABSTRACT

The study examined Variables Related to Administrative Effectiveness in Higher Institutions in Ekiti State, Nigeria. The relationship between planning and administrative effectiveness, procrastination and administrative effectiveness were discussed. The sample for the study was 150 administrators and 300 academic and non-academic staff, who rated the administrators. They were selected using simple random and purposive random sampling techniques. An instrument tagged 'Questionnaire on Variables Related to Administrative Effectiveness in Higher Institutions in Ekiti State, Nigeria (QVR) (For Administrators)' and 'Questionnaire on Administrative Effectiveness in Higher Institutions in Ekiti State, Nigeria (For Academic and Non - Academic staff)' (QAE) was used. The data collected were analyzed using percentage, mean, standard deviation and Pearson's product moment correlation analysis. All the hypotheses were tested at 0.05 level of significance. Face and content were used to establish the validity of the Instrument. To ascertain the reliability of the instruments, the split half method was used. They were found to be 0.84 and 0.87 for (QVR) and (QAE) respectively. The findings revealed that there were relationships planning and procrastination were greatly related to administrative effectiveness. Based on the findings of the study, it was recommended that administrators of higher institutions like Vice Chancellors, Rectors, Provosts, Registrars, Bursars, Librarians, Directors of Programme, Assistant Director of Programme and Heads of departments should be more conscious of deadlines to avoid piling up of administrative work.

Keywords: Planning, Procrastination, Higher Institutions and Administrative Effectiveness.

Introduction

Administrative effectiveness has a lot to do with achieving a set of goals. Roland (2010) defines administrative effectiveness as a way of monitoring the performance of academic deans and directors for the purpose of promotion, salary augmentation, contract renewal or dismissal. However, Adeniyi (2001) discusses administration in relation to difficulties that prevent educational effectiveness as poor management and control of teacher education programmes, teacher training and retraining, the selection and organisation of curriculum implementation and evaluation. The development, distribution and use of teaching materials, also the relevance of the curriculum to the needs of the society were analysed. To Adeniyi, administrative effectiveness means that teachers should be properly attended to so that through them, students would be impacted positively with the society without wasting time. For an administrator to be effective, Ukeje, Okorie and Nwagbara (1992) say they must have the following characteristics: Capacity, Emotional Capacity, Spirituality,

Behaviours, and Sequence. Capacity: Administrator must be physically, intellectually, emotionally and spiritually capable for the office. His physical fitness will enable him to possess good health and enough energy to cope with strains of the work. This is a reasonable assertion to the mind of the researcher because without this effectiveness will sag. These days, leaders are accustomed to having peptic ulcers, hypertension and heart failure due to stress of administrative job. Intellectually, an administrator must be superior. They added that evidence has shown that academic achievement has often been used as a yardstick in choosing administrators which to them is not enough. The researcher supports this view as intelligence will be used to attend to the day- to- day activities apart from academic work.

Planning and Administrative effectiveness

Planning is greatly needed in administration. It makes execution easy as Greenwait (2007) observes that “every moment spent planning saves three or four in execution” Heller and Hindle (1998) describe planning as a way to improve the use of time. This idea in the mind of the researcher stresses the importance of time management to planning which involves every aspect of human life, not only educational planning. The study conducted by Wang (2009) to provide recommendations on information technology in school system showed that it is by true planning that administrators will improve the quality of school education.

Another way of working towards effectiveness in education is what Akinlua (2002) calls curriculum planning. Educational planning includes curriculum planning (preparation of curricula, time table and norms for assessment), technical planning (formulating quantitative targets for the educational system) and manpower planning (determining the need for qualified manpower). To him, all the educational objectives are clearly specified through the curriculum and the means, procedure and methods of achieving education objectives are provided through the curriculum. He added that curriculum gives direction, spells out day to day activities of a school and makes the school to be organised and properly managed, time wise. Also, all the important cultural aspects of a society are passed on through the curriculum. Therefore, the researcher feels that educational curricula have to be planned by administrators as one of their primary assignments. This is not only to save time, but because, “education is not sure of occurring as wanted” as he said. This indicates that education must not be left to chances but adequately planned within the space of time for effectiveness.

Ajayi and Ayodele (2002) describe planning as one of the elements of management and it is seen as a process of deciding in advance what to be done in such a manner that programmes are executed at minimum risk of failure or problem. To them, it deals with Men, Money, Machine, Material and Methods. It entails that if the five “Ms” are carefully considered with much forecasting; administrators have a high chance of succeeding. Edem (1987) quoting Henri Fayol buttresses this idea as he affirms that planning is a process of studying the future and preparing it for action. He sees planning as important part of administration especially in education where a number of pupils, number of teachers and classrooms should be focused on. From this assertion, one can infer that Edem is also interested in educational projects and

others that will enhance beneficial learning style. But good planning is usually difficult to reach in education, because of the problem like knowing the correct number of pupils. Therefore, educational planning will be excellent if accurate data of student population census and forecast are made available to the planners. If not, it results in dissipated effort, wasted resources, poor results and inadequate administrative effectiveness.

The need for qualified manpower for proper planning in any organisation is a pressing issue in the mind of Graham (1974) because this is a resource that should be utilised to its fullest to produce the uttermost benefit. This claim is very general and directed to all organisations according to the mind of the researcher. Notwithstanding, educational sector as well, will use qualified personnel as its brain for achieving effectiveness. Cole (2002) argues this view by defining human resource planning as a strategy for the acquisition, utilisation, improvement and retention of any enterprise. One can figure out from this that organisations should not only employ workers but make maximum use of them and find means of improving their competence in order to improve the productivity and efficiency of the organisation. To this, the researcher is of the opinion that training and re-training of lecturers through seminars, workshops, study leave and in-service training should be more emphasized.

Bickerstaff (1977) relates evaluation to educational effectiveness. He is of the opinion that achievement of aims can promote good evaluation and that if objectives are not fulfilled in education, there may be problem with either the curriculum, and there may even be poor organisation or wrong methods and approaches being used. It may also be that the aims have been badly thought out, either they do not lead on to what is intended or they are too large and cannot possibly be achieved with the resources available. This view holds merit only that evaluation can still be done without the objectives being fulfilled in education to aid better planning. Also, since the policy of Nigeria education has the aims like 'education for living, education for self-development, education for nation building, and education for self-realization, there may be a need to evaluate education beyond a number of people passing examination but also with the kind of person being produced which will become obvious through the lives and conduct of the pupils/students in the years after school (Ayeni 2001). By then, effectiveness of administrators will be visible to all in what they produce for the society in terms of refined manpower.

Procrastination and Administrative effectiveness

The influence of procrastination on administrative effectiveness is highlighted as Quek (2001) in his reflection proposes that procrastination is probably the single most common time management problem of administrators. To him, some students battle with procrastination due to lack of time management, especially when they cannot meet the deadline. Contesting this idea is Ferrari (1995) who insists that procrastination is not a problem to administrative effectiveness, that procrastinators are not different in their ability to estimate time and they are more optimistic than others. To the researcher, it appears that procrastination puts pressure on time management greatly or rather; they are overlapping even though Ferrari disagrees

to some extent but his conclusion suggests that procrastinators plan and anticipate the best outcome with little action, which may be the influence of lack of proper time management.

Aaron in Knaus (1986) who claims to be a procrastinator says that everybody procrastinates, especially when people hit some mental wall which prevents them from doing a task. Some people work on a task that does not require a lot of creativity or they work on them with someone else. Similarly, Breznits (1986) says that procrastination is a universal problem and Dryden (1999) gives his consent to it that procrastination plagues people of all occupations and that we all procrastinate at one time or another in our life. He raised a question that: 'how many of us have not put off paying a bill until the very last moment when it would have been better for us to pay it earlier'? These authors contend that procrastination is everybody's problem which implies that, everybody delay in one way or the other. Dryden went further by giving a description of a procrastinator as a person lying in a hammock, repeatedly drinking a beer instead of mowing the lawn, having a desk so clustered that one can hardly see it beneath the rubble; imagining the faces of old friends meaning to write for years, having memories of school days that turned into distractions. The researcher notices that this type of experience may vary from one person to another. The truth is that everybody has a way of day - dreaming but some do it to the extent of abandoning official/urgent work. In the description of Pavlina (2001) a poster picture depicting a huge polar bear lying prone on a flue of ice was used. The caption under it reads "when I get the feeling to do something, I lie down until the feeling goes away." The researcher views that such a procrastinator will be broken by frustration, unable to catch up, chained by depression and sustained by the simple apathetic response, "I don't care anymore." Also, this type of procrastinator can be considered as lazy and undetermined. If administrators fall into this category, they will surely struggle with effectiveness.

Educational procrastinators are focused on as Aaron in Knaus (1986) argues that procrastination is very common among lecturers and students. In the same vein Ferrari (1995) is emphatic about this view that students are reputed for not tackling their assignments until the jaws of deadlines are closing on them. The researcher is of the same mind with this view since it is common among university and polytechnic students and this affects the effectiveness of administrators since they may not be able to plan much until students are ready with their assignments and term papers. Likewise, Lay in Eric (2005) supports this position by saying that students are directly involved in academic procrastination since at the beginning of a semester, one in five students miss the first class, some sign up early but never show; while others attend sporadically. Not all students are conscious that academic procrastination raises students' anxiety and sinks their self-esteem in view of the fact that time wasted can hardly be regained.

Notwithstanding, Ferrari identifies the distinction between delaying as an act and as a lifestyle by saying that, 'not every student who ignores assignments until the last minutes is an across-the-board offender, they are known to psychologists as a "trait procrastinator"'. Many students who drag their feet on term papers might never delay other tasks, such as meeting friends for dinner, showing up for work, or going to the dentist. By implication, studying is very tasking for students while they

prefer leisure/pleasure to it. No wonder Dada in Vaswani (2008) feels the same way when he says "Sit with a pretty girl for an hour, and it seems like a minute". This weakness may also affect such people in future when they are working; they may prefer pleasure to administrative work, which may affect effectiveness since as the saying goes "morning shows the day". Dryden (1999) subscribes to these ideas by saying that under the constant pressure of grades and other evaluations, a student puts off writing papers, studying for examinations, only to cram for days when time has finally run out. Cramming to the researcher is not the best way of studying.

Knaus (1986) in his view puts grading on procrastination as he asserts that 90% of college students procrastinate, 25% are chronic procrastinators and they are usually the ones who end up dropping out of college. This may imply that 90% of students waste time. Tuckman in Eric (2005) is in support as he observes that those who attended classes among lecturers and students have consistently outperformed those who did not. The researcher agrees but it is not always the case as, some lecturers may rush over their classes and still finish up. While some students may be smart, at the same time, some may engage in examination malpractices and still have higher marks than those who prepare. There is a great link between lecturers and students that procrastinate in the school system. Eventually, the influence is on both parties as it can cause anxiety to students, it will also affect the effectiveness of lecturers and administrators.

Purpose of the Study

The purpose of this study was to investigate the relationship between planning, procrastination, and administrative effectiveness in higher institutions in Ekiti State universities. Besides the study made recommendations based on the findings.

Research Questions

- 1) Is there any relationship between administrators' planning and administrative effectiveness in higher institutions?
- 2) Is there any relationship between how administrators' procrastinate and administrative effectiveness in higher institutions?

Research Hypotheses

- 1) There is no relationship between administrators' time planning and administrative effectiveness in higher institutions.
- 2) There is no relationship between how administrators' procrastinate and administrative effectiveness in higher institutions.

Methodology

The study adopted descriptive research of correlational type. The population consists of 260 Administrators and 595 staff working directly with them. The sample of this study was 450 respondents which comprised 150 administrators and 300 staff that rated the administrators from higher institutions in Ekiti State. The sample for the study was selected using simple sampling and purposive sampling techniques. A self-designed questionnaire titled 'Questionnaire on variables related to Administrative Effectiveness in Higher Institutions in Ekiti State, Nigeria (For Administrators)' (QVRAE) and 'Questionnaire on Administrative effectiveness in Higher Institutions in Ekiti State, Nigeria (For Academic and Non Academic staff)'

(QAE) was used as instruments. Content validity of the instruments was ascertained through the corrections and comments of the experts in Educational Management and Tests and Measurement. It was certified that the instruments could be used for the study. To ascertain the reliability of the instrument, the split half method was used. The instrument was administered once to the respondents who were outside the sampled institutions. The set of even numbered items were correlated with the set of the odd numbered items to get the reliability of half of the length of the test. Speerman Brown prophesy formula was applied to obtain the full length reliability co-efficient of the instrument. They were found to be 0.84 and 0.87 for QVRAE and QAE respectively. The data collected were analysed using multiple regression and Pearson Product Moment Correlation. All the hypotheses were tested at 0.05 level of significance.

Results

Hypothesis 1

There is no relationship between administrators' planning and administrative effectiveness in higher institutions.

Table 1: Pearson correlation of administrators' time planning and administrative effectiveness in higher institutions

Variable	N	r-cal	r-table
Planning	116	0.883*	0.195
Administrative effectiveness	116		

$p < 0.05$

Table 1 shows that r-cal is 0.883* and r-table 0.195 at 0.05 level of significance. This reflects that r-cal is greater than r-table. Then the, null hypothesis is rejected. It implies that there is significant relationship between planning and administrative effectiveness.

Hypothesis 2

There is no relationship between how administrators' procrastinate and administrative effectiveness in higher institutions.

Table 2: Pearson correlation of how administrators' procrastinate and administrative effectiveness in higher institutions

Variable	N	r-cal	r-table
Procrastination	116	0.698*	0.195
Administrative effectiveness	116		

$p < 0.05$

Table 2 reveals that r-cal is 0.698* and r-table is 0.195. It implies that r-cal is greater than r-table at 0.05 level of significance. The null hypothesis is rejected. Therefore, there is significant relationship between procrastination and administrative effectiveness.

Discussion

The study proved that, there was a relationship between planning and administrative effectiveness. This shows that planning is pertinent to administrative effectiveness as proper planning and forecasting of educational activities bring a lot of fulfillment and achievement to the administrators. Most times however, the fruits it yields in terms of personnel development for the nation are numerous. This finding may be due to the fact that administrators do not make solid plans ahead but do it when the work to be performed is near. In view of this, Edem (1987), Hendle and Hindle (1998) describe planning as a way to improve the use of time. Ajayi and Ayodele (2001) observed that "failure to plan gives rise to in- effectiveness, undirected action and waste of resources." The finding equally reflects the minds of Stoner, Freeman and Gulbert (2002), Lay (2005), Fiore (2006) they are of the opinion that planning is highly relevant to administrative effectiveness.

The study revealed that there was significant relationship between procrastination and administrative effectiveness. This implies that administrators must be wary of regular postponement of actions or events that can make their work difficult since this can affect their effectiveness. The result may be due to the fact that some administrators do not meet the deadline in administration because of the feelings that time is always available for their use, not keeping in mind some issues that can suddenly come up. The findings contradict the views of Brezitz (1986), Knaus (1986), Ferarri (1995), and Dryden (1999) which may not be far from the fact that they have common minds that everybody procrastinates and it is not only common to administrators and also it is not only a problem of time management. The study supports the contributions of Quek (2001) that procrastination plagues people of all occupations.

Recommendations

Based on the findings of this study, the following recommendations were made: Educational stakeholders, especially those in higher institutions like Vice Chancellors, Rectors, Provosts, Registrars, Bursars, Librarians, Directors of Programme, Assistant director of Programme and Heads of departments need to know the importance of planning and procrastination to their effectiveness. They have to be conscious of deadline to avoid piling up of administrative work.

Conclusion

Based on the findings of this study, the following conclusions are drawn: Lack of proper planning and regular procrastination of Administrators can have serious effect on Administrative effectiveness of Administrators.

References

- Ajayi, I. A & Ayodele J. B (2001). *Introduction to educational, administration and supervision*. Lagos: YPPS.
- Akinlua, A. A (2002). *Fundamentals of curriculum studies for beginners*. Ado Ekiti: Yemi Prints and Services.

- Bickerstaffe, D. (1977).** *A practical course in education and development*. Ibadan: Macmillan Nigeria Publishers.
- Cole, G.A (2002).** *Personnel and human resources management*. London: T.J International Ltd.
- Dryden, W. (1999).** *Overcoming procrastination*. London Press.
- Eric, H. (2005 Dec, 9th).** *New insights into chronic dawdling. The chronicle of higher education* Vol 52, (16) pgs 12-15.
- Ferrari, J. R (1995).** *Procrastination and time avoidance research treatment*. Plenum Publication. USA:
- Graham, H.T (1974).** *Human resources management*. London: Macdonald and Evans Ltd.
- Greewait, J.F. (2007).** *Managing your time, energy and talent in ministry*. New York: Fathers and Brothers of St Paul.
- Heller, R. & Hindle T. (1998).** *Essentials manager's manual*. Slovakia, TBB.
- Knaus, W. J (1996).** *Procrastination*. New York: Institute for Rational Therapy.
- Quek, T. (2001).** *Procrastination*. C. E. O. Desterity software.
- Ronald H. (2010).** *Research articles in higher education*. Published by: Springer. Stable URL: [//www.jstor.org/stable/40196410](http://www.jstor.org/stable/40196410)
- Ukeje B.O., Okorie N.C.& Nwagbara U.A. (1992).** *Educational administration, theory and practice*. Lagos: Totan.
- Vaswani J.P. (2008).** *Management moment by moment*. New Delhi: Sterling publishers pvt Ltd.
- Wang, M.S. (2009).** *Community for learning: Questions and answers*. Paper Presented at ICSEI, San Antonio

HYBRID DATA SECURITY: A REVIEW OF CRYPTOGRAPHY AND STEGANOGRAPHY TECHNIQUES

ASANBE M.O

Department of Computer Science

Villanova Polytechnic, Imesi-Ile,

Osun State, Nigeria

moasanbe@gmail.com

Abstract

As the use of computer networks and internet is ubiquitous, information security has become sizzling area of research in recent times. Data security is very crucial in exchange of information over computer networks because it secures the information from intruders. Although cryptography and steganography are two popular security mechanisms that could be used to provide data security, each of them has drawbacks. Cryptography encrypts the content of the message thereby making it difficult for intruders to fathom. Steganography on the other hand makes communication invisible, that is, message is embedded in a cover media in such a way that intruders cannot detect its existence. Cryptography problem is that, the cypher text looks meaningless, so the intruder can interrupt the transmission and use cryptanalysis to reveal the meaning of the message. Steganography problem is that once the presence of hidden information is revealed or even suspected, the message has become known. Therefore, effort in this paper was directed at reviewing various types of cryptography and steganography techniques. Also, a hybrid data security model was proposed by combining cryptography and steganography to improve information security leveraging on the strengths of the two techniques. In the proposed model, plain message was first encrypted using Data Encryption Standard (DES) making it cypher text. Secondly, the encrypted message (cypher text) was hidden in an image using Least Significant Bit (LSB) technique. The proposed model provided an enhanced data security scheme as attacker will not be able to detect the existence of the message hidden in the image and if per chance the message is discovered, the attacker will still not be able to make meaning of the content because the message was encrypted.

Keywords: Data Security, Encryption, Decryption, Cryptography, Steganography, Cryptanalysis, DES.

1. INTRODUCTION

During the last few decades there is a tremendous development in information and communication technology. Nowadays, information is rapidly available through the internet. Companies, individuals and businesses have the ability to communicate seamlessly with a worldwide audience through the internet and local networks. The transmission of information through internet may include sensitive personal data which may be intercepted by intruders, attackers or eavesdroppers. Also, there are many applications on the internet and many web sites which require the users to fill forms which may include sensitive and personal data. According to [1] Data security helps keep private data private. So, confidentiality and data integrity are required to protect the information against unauthorized access and use [2]. Data and Network security problem can be classified into four parts: Confidentiality, Authentication, Non-repudiation and Integrity Control. Confidentiality or secrecy is concerned with keeping information away from unauthorized users. That means unauthorized users should not be able to read and understand the information. Authentication means any

party which may be sender or receiver can verify that the other party is who they claim to be. In other words, authentication is concerned with validating the identity of the other party. Non-repudiation means the sender cannot deny having sent a given message. If a transaction has occurred between two parties, the non-repudiation service can prove that for any party, they really perform the transaction themselves and not by any other person. Integrity means the receiver can confirm that a message has not been altered during transmission. In other words, integrity control protects the information from tampering [3]. The focus of this paper is on confidentiality which include cryptography and steganography. Cryptography and Steganography are cousins in the spy craft family: the former scrambles a message so it cannot be understood while the latter hides the message so it cannot be seen. This paper reviewed various cryptography and steganography techniques and since neither of the two methods can alone make data secure efficiently, so a proposed hybrid model is presented which integrate cryptography and steganography for enhanced data security.

2. SECURITY REQUIREMENTS FOR DATA TRANSMISSION

- (a) **Confidentiality:** Information should be readable only by the intended receiver. Data in transit should be protected against eavesdropping. Confidentiality ensures secured transmission of data over public channels. In computer science, secure transmission refers to the transfer of data over a secure channel. Many secure transmission methods require a type of encryption. There are two main techniques to achieve this: Cryptography and Steganography. Cryptography is the science of secret writing of information. It has two components: Encryption and Decryption. Cryptography algorithms are of two types: symmetric (private) key and asymmetric (public) key. Steganography is a technique for covert communication in which the intruder cannot suspect the existence of communication [4].
- (b) **Authentication:** Authentication is the process of verifying the identity of your communication partner. It ensures the communication partner is who they are supposed to be and not an intruder. Authentication is quite different from authorization. Authentication ascertains whether you are communicating with an intended party while authorization determines whether you are permitted to do so. Authentication ensures that an individual is who they claim to be, but says nothing about their right (authorization) [3]. The most well-known authentication techniques are: (i) authentication based on shared secret key, (ii) establishing a shared secret key: Diffie-hellman key exchange, (iii) authentication using a key distribution center, (iv) authentication using Kerberos, (v) authentication using public key cryptography [4].
- (c) **Non-repudiation:** Non-repudiation in network security is the ability to prevent a denial in an electronic message or transaction. Non-repudiation requires that neither the sender nor the receiver of a message will be able to deny the transmission. Digital signatures (combined with other measures) can offer non-repudiation when it comes to online transactions, where it is crucial to ensure that a party to a contract or a communication can't deny the authenticity of their signature on a document or sending the communication

in the first place. In some transactions, non-repudiation is put into practice in one of the following ways:

- By sending mail through a *certified* option, which requires the recipient to acknowledge receipt through their physical presence and signature.
- Through the use of a witness or *notary public*, whose job is to verify identity and affix their name to the contract or transaction.
- By requesting a *read receipt* when sending an email, which shows you that the document was opened and read by the recipient.

(d) **Integrity Control:** Data integrity, in the context of networking, refers to the overall completeness, accuracy and consistency of data. Integrity control ensures that only authorized parties are able to modify computer system assets and transmitted information. Modification includes writing, changing status, deleting, creating and delaying or replaying of transmitted messages. This can be achieved by using error checking and correction protocols [3].

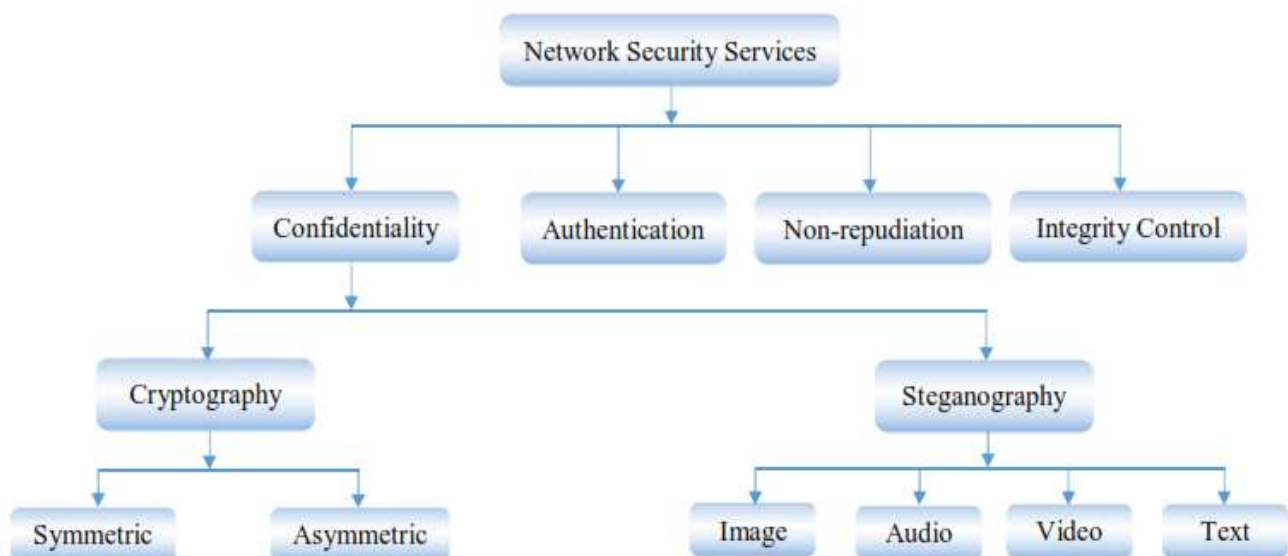


Figure 1: Classification of Network Security Techniques

3. CRYPTOGRAPHY

Cryptography is the art and science of transforming and transmitting confidential information securely against potential third-party adversaries [5]. In other words, cryptography is the art and science of achieving security by encoding messages to make them non-readable (unintelligible) [6]. It has its origin in Greek words “crypto” meaning hidden and “graphy” meaning writing. In cryptography the original message (plain text) is transformed into non-readable form (cipher text) by applying some mathematical operations. The cypher text is transmitted over the transmission medium and finally at receiver side, cipher text is converted back to the original message. Two basic terms used in cryptography are **encryption** and **decryption**.

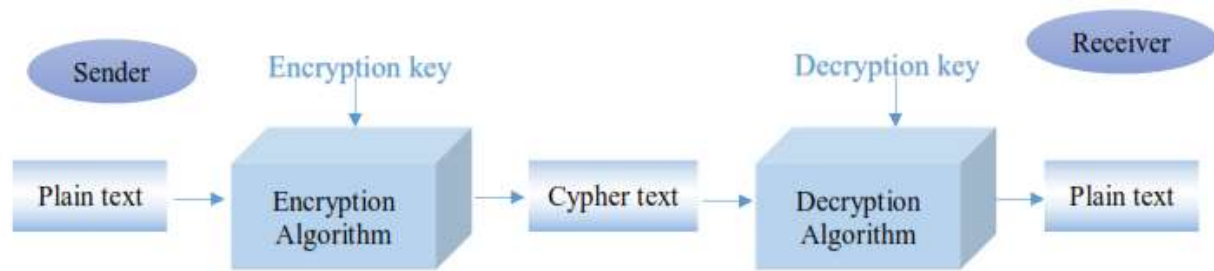


Figure 2: Cryptographic System

3.1 COMPONENTS OF CRYPTOGRAPHY

3.1.1 Plain Text: It is the confidential data to be transmitted over public transmission channels.

3.1.2 Cipher Text: It is an encoded (encrypted) resultant text after applying encryption algorithm with an encryption key to a plain text. It is a transformed plain text which is not understandable to an intruder.

3.1.3 Encryption Algorithm: It is a mathematical process used for converting plain text into cipher text based on some encryption key. Different examples of such algorithms are DES (Data Encryption Standard), AES (Advanced Encryption Standard), Blowfish, RSA, Diffie-Hellman, DSA (Digital Signature Algorithm), ElGamal etc. It is used at sender's side.

3.1.4 Decryption Algorithm: It is exactly the reverse mathematical process of encryption algorithm. It takes cipher text and produces the original plain text using decryption key. It is used at receiver's side.

3.1.5 Encryption Key: This key is a value that is applied within encryption algorithm to generate cipher text. It is very germane to cryptographic system. It may be known by both the sender and the receiver or only the sender. Safe guarding this key is of utmost importance for making cryptographic system successful.

3.1.6 Decryption Key: This key is the value that is applied within the decryption algorithm to generate the plain text back from received cipher text. It may or may not be identical to encryption key depending on the type of encryption used.

3.1.7 Cryptanalysis: It is the process of defeating the work of cryptography. It is used to intrude and breach the cryptographic system with or without knowing the secret key of the process [6].

3.1.7 Cryptology: It is the study of cryptography and cryptanalysis together.

3.2 TYPES OF CRYPTOGRAPHY

Cryptographic systems can be divided into two basic types [6].

3.2.1 Symmetric Cryptography: It is also known as Secret Key Encryption. It is the type of encryption in which both sender and receiver use the same key (shared key) to encrypt and decrypt message. It could be implemented either using block cipher technique or stream cipher technique. Block cipher performs encryption block-by-block of plain text whereas stream cipher performs encoding character-by-character. Some examples of symmetric key encryption algorithms are DES, AES, Blowfish, IDEA.

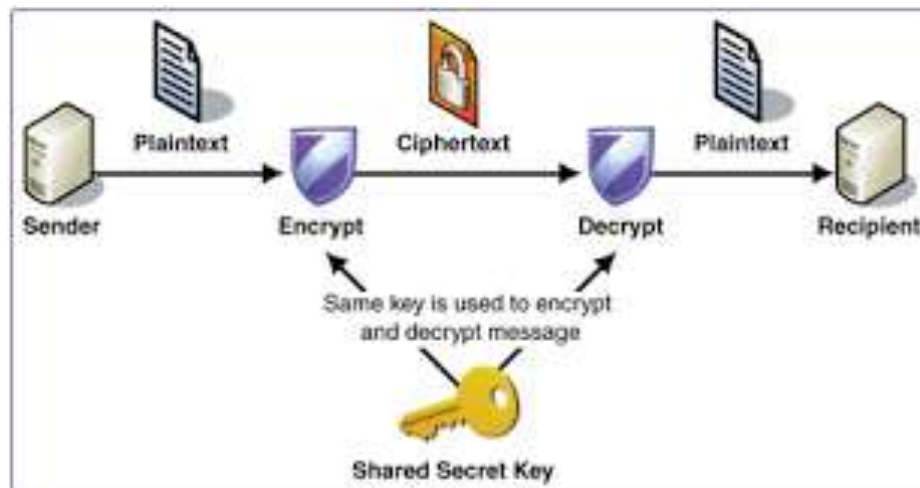


Figure 3: Symmetric Key Encryption

3.2.2 Asymmetric Cryptography: It is also known as Public Key Encryption, in which each user generates two keys. One is a Public Key used by anyone for encrypting messages to be sent to the user and a Private Key which the user needs to decrypt the message. The private is only known to the user while the Public Key is distributed to the general public. Figure 4 is the diagrammatical representation of Asymmetric cryptography. Examples of Public Key Encryption algorithms include Deffie-Hellman, RSA, DSA etc.

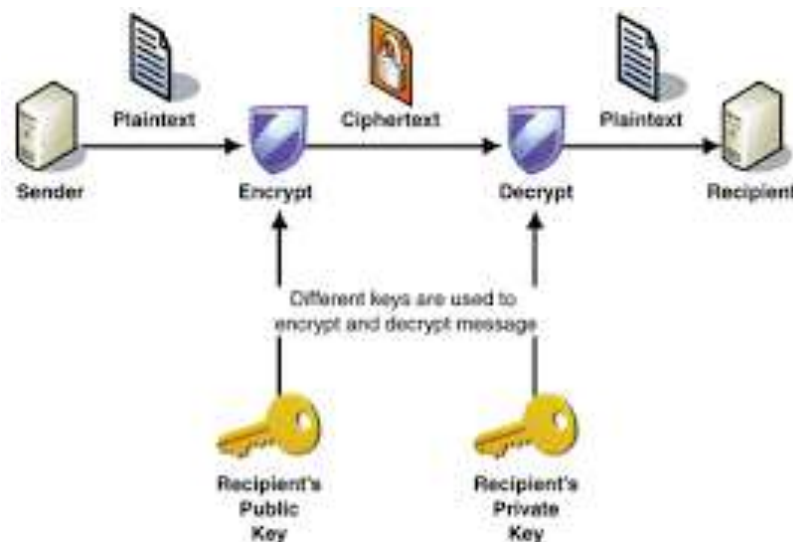


Figure 4: Asymmetric Key Encryption

4. STEGANOGRAPHY

Steganography is art and science of communicating in a way that hides the existence of the communication. Thus, it embeds hidden content in unremarkable cover media so not to arouse eavesdropper's suspicion [7]. In contrast to cryptography, which scramble the message and make it unreadable to an intruder, steganography on the other hand, exploit human awareness by hiding the existence of the message thereby an intruder will not be aware of the ongoing communication.

The word steganography is derived from the Greek words “*stegos*” meaning “cover” and “*grafia*” meaning “writing”. The idea and practice of hiding information has a long history. In Greece kings used to send information to their friends by writing the message on the head of a trusted soldier. During World War II steganography was used as a method of invisible communication. In modern steganography image, audio and video files are used as carriers [4].

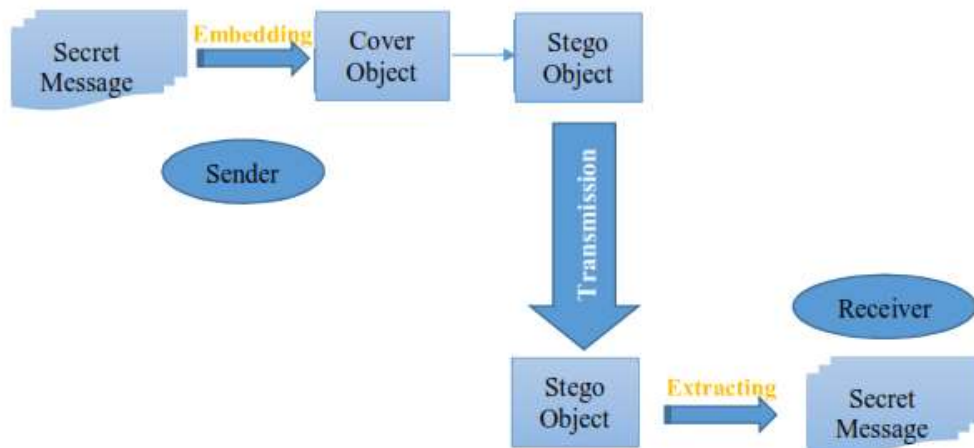


Figure 5: Basic Model of Steganography

4.1 COMPONENTS OF STEGANOGRAPHY

The carrier image: The carrier image is also called cover object that will carry the message/ data which is used to be hidden.

The Message: A message can be anything like data, file or image etc.

The key: A key is used to decode/decipher the hidden message

4.2 STEGANOGRAPHY TECHNIQUES

4.2.1 Image Steganography: In this method, images are used as cover object. Steganography is a two-step process: 1) create a stego image which is the combination of message and carrier. 2) extract the message image from the stego image [4]. Image steganography can be classified into four categories:

- Spatial domain
- Frequency domain
- Masking
- Filtering

4.2.2 Audio Steganography: When secret data is embedded into sound which act as cover media, the technique is known as audio steganography. This method embeds the secret message in WAV, AU and MP3 sound files [8]. Audio steganography employs different methods:

- Low Bit Encoding
- Phase Coding
- Spread Spectrum
- Echo hiding

4.2.3 Video Steganography: This technique is the combination of image and audio steganography. The great advantage of video is the large amount of data that can be hidden inside. There are different techniques of embedding secret data in video:

- Least Significant Bit
- Spread Spectrum
- Discrete Cosine Transform
- Non-uniform Rectangular Partition
- Masking and Filtering

4.2.4 Text Steganography: It uses text media to hide data. It hides the text behind other text file [9]. Since almost everyone can read, encoding text in neutral sentences is doubtfully effective. There are many techniques of embedding secret data in text:

- Format Based Method
- Random and Statistical Method
- Linguistics Method

5. CRYPTOGRAPHY VS STEGANOGRAPHY

The difference between steganography and cryptography is that in cryptography, one can tell that a message has been encrypted, but the message cannot be decoded without knowing the encryption key. In steganography, the message itself may not be difficult to decode, but most people would not detect the presence of the message [10].

6. THE PROPOSED MODEL

For better and efficient data security, either cryptography or steganography may not be enough, hence in the proposed model we combined steganography and cryptography to provide two levels of security. This type of hybrid technique is called crypto-stego technique, a model shown in figure 6. At the sender side the message is encrypted by using DES algorithm, the cipher text is embedded into a chosen image using LSB method and the stego file is generated which is sent to the receiver. The receiver extracts the cipher text, then decrypt it to get back the message. DES algorithm is used for the encryption because it is a symmetric key block cipher which takes 64-bit plaintext and 56-bit key as an input and produces 64-bit cipher text as output. A brute force attack on such key is impractical. The LSB method is a simple and flexible approach for embedding information in a cover image that results in very little changes in the stego image. These changes cannot be perceived by human eye.

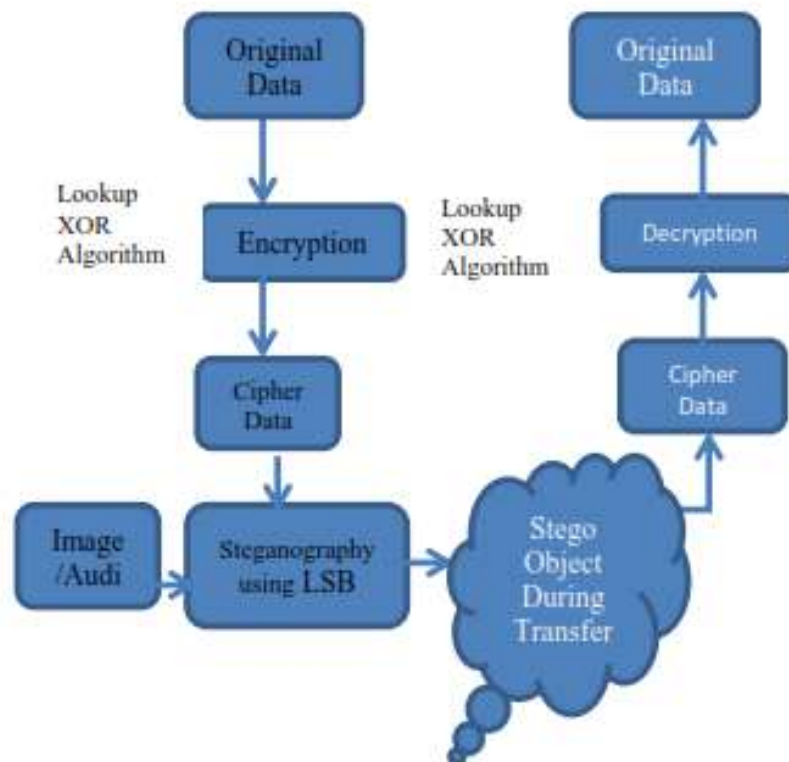


Figure 6: Hybrid data security model

7. CONCLUSION

Data security is an essential component of an organization in order to keep information safe from various competitors. It helps ensure the privacy of user's personal information from attackers. This paper reviewed various cryptography and steganography techniques. Steganography is the science that deals with how communication can be disguised while cryptography is the science of transforming the content of the communication and making it obscure. Both techniques on their own cannot guarantee absolute data security. Consequently, a hybrid data security model was proposed, which combine the two techniques thereby making data communication double secure. We can conclude that the proposed model is more effective for secret communication over the network channel.

REFERENCES

- [1] Pallavi H. Dixit, Kamalesh B. Waskar, and Uttam L. Bombale (2015). Multilevel Network Security Combining Cryptography and Steganography on ARM Platform. *Journal of Embedded Systems*, 3, 1, 11 – 15. Doi: 10.12691/jes-3-1-2.
- [2] Marwa E. Saleh, Abdelmgeid A. Aly, Egypt Fatma A. Omara (2016). Data Security Using Cryptography and Steganography Techniques. *International Journal of Advanced Computer Science and Applications (IJACSA)*. 7, 6.
- [3] Er. Babita and Er. Gurjeet Kaur (2017). A Review: Network Security Based on Cryptography & Steganography Techniques. *International Journal of Advanced Research in Computer Science*. 8, 4.

- [4] Gandharba Swain and Saroj Kumar Lankar (2011). A Quick Review of Network Security and Steganography. *International Journal of Electronics and Computer Science Engineering* ISBN:2277-1956.
- [5] Arati Appaso Pujari and Sunita Sunil Shinde (2016). Data Security using Cryptography and Steganography. *IOSR Journal of Computer Engineering (IOSR-JCE)*. 18 (4), 130 - 139
- [6] Divya Shree and Seema Ahlawat (2017). A review on Cryptography, Attacks and Cyber Security. *International Journal of Advanced Research in Computer Science*. 8,5.
- [7] Johnson, Neil F. and Sushil Jajodia (1998). Exploring steganography: seeing the unseen. *IEEE Computer*, 32,2. 26-34
- [8] HilalAlmara'beh (2016). Steganography Techniques - Data Security Using Audio and Video, *International Journal of Advanced Research in Computer Science and Software Engineering*. 6(2).
- [9] Rakhil, Suresh Gawande (2013). A Review on Steganography Methods. *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*. 2(10)
- [10]<https://www.clear.rice.edu/elec301/Projects01/steganosaurus/background.html>

RESTRUCTURING SCIENCE AND TECHNOLOGY EDUCATION TOWARDS ACHIEVING 2030 EDUCATION AGENDA FOR INDUSTRIALIZATION AND SUSTAINABLE DEVELOPMENT IN NIGERIA

BELLO, M.A

DEPARTMENT OF TECHNICAL EDUCATION,
SCHOOL OF VOCATIONAL AND TECHNICAL EDUCATION
OSUN STATE COLLEGE OF EDUCATION, ILA-ORANGUN

E-mail: engrbellomoruff@gmail.com

Abstract

It has been observed that science and technology (S&T) policies have not been a critical determinant of national development performance in Nigeria. Also, that Nigeria has not fully realized its national objectives of S&T-driven rapid industrialization and development. It is in recognition of this fact that this paper is intended to stimulate discussion and recommendations related to why have science and technology education failed in its industrialization cum economic development objectives? Through extensive review of literatures, the paper recognizes that all is not well within science and technology education and that there are concerns related to its vision, its philosophy, its research, its approach, its teaching methodology and most definitely its way of meeting needs. It therefore recognizes that science and technology education must do more than simply pay 'lip service' to industrialization for sustainable development and must focus learning on issues of relevance facing society. In order to reduce poverty and to achieve equitable and sustainable development, we have to develop industries that provide increased employment opportunities for all citizens. Therefore, the development of labor- intensive industries ought to be a central theme of development economics and a central focus of development policies. As a result of this, the paper identified some strategies for restructuring science and technology education in achieving 2030 education agenda for industrialization and sustainable development.

Keywords: 2030 education agenda, restructuring, science and technology education, industrialization and sustainable development.

Introduction

Education is the greatest force that can be used to bring about change. It is also the greatest investment that a nation can make for the quick development of its economic, political, sociological and human resources. It was in this regard that a National Policy on Education was formulated for the country. The policy seeks the inculcation of national consciousness and national unity; the inculcation of the right type of values and attitudes for the survival of the individual and the Nigerian society; the training of the mind in understanding of the world around; and the acquisition of appropriate skills, abilities and competence both mental and physical as equipment for the individual to live in and contribute to the development of his society (FRN, 2004).

As a part of educational curriculum, Science and technology is an all-embracing concept that is applied to boost sustainable development and create wealth through industrialization for everyone especially as globalization has brought about a more competitive environment. Innocent, (2016) is of the view that training in

science and technology has been used by countries (e.g., Japan, France, Germany, Norway, China, Finland, UK, USA.) to set up unique educational oriented outfit programs, inculcating discovery and innovating spirit, deliberately targeted at youths. Because science and technology played these critical roles in the success of today's advanced and emerging economies, developing countries are also encouraged to find ways of building their capacity in science and technology education. There has been a widespread belief among educational economists that educational development would lead to accelerated economic growth, more wealth and income distribution, greater equality of opportunity, availability of skilled human power, a decline in population growth, long life, better health outcomes, low crime rates, national unity and political stability (Peter, 2009). Therefore, developing countries could consider making capacity-building in science and technology education a priority for national socio-economic development, as part of a wider framework of the enabling environment.

The evidence to above assertion is clearly seen in the adoption of the 2030 education agenda for sustainable development which articulates a much broader vision of the role of education in societal development. While reaffirming the right to basic education and focus areas articulated within Education for All (EFA), the 2030 Agenda also introduces new features that reflect an ambitious and holistic approach to education and learning in the twenty-first century. Among these, is a renewed focus on the learning of youth and adults in a lifelong perspective essential for the realization of most sustainable development goals for 2030.

However, according to Bello, (2015), educational growth and social development in developing countries are hindered by a number of factors ranging from inadequate teaching and learning facilities to inefficient delivery of quality sustainable education particularly science and technology. Some of these factors he continued could be as a result of certain challenges that curriculum issues faced in schools. The curriculum issues have suffered so much neglect at the same time inextricably linked to matters on educational concerns and reforms around the world. In a sense, experiences of educational reform strategies almost all over the world have shown that curriculum is at the same time a policy and a technical issue, a process and a product, involving a wide range of institutions and actors.

Whereas the 2030 Agenda accepts industrialization as being associated with economic growth and potential for reduced poverty, science and technology education is still no doubt a road map to achieve reliable industrialization for sustainable development. Industrialization, infrastructure and innovation are driving forces behind social and economic development, and are critical to ensuring low-carbon development and environmental sustainability. Increased productivity through environmentally sustainable industrialization can support job creation, access to decent work, income generation and the promotion of micro, small and medium-sized enterprises (United Nations, 2016). Knowledge and skills development are therefore essential to enable Nigeria develop her capacity in formulating and implementing dependable policies and plans to enhance industrialization with a skilled workforce, and to achieve sustainable development. Quality infrastructure is essential for sustainable development, and includes supporting access to clean and

affordable energy, basic sanitation facilities, drinking water, telecommunications, health, education and financial services.

Nigeria must therefore redefine its economy whereby import substitution industries will turn out goods with local raw materials for the local market while export substitution industries will replace traditional exports particularly crude oil, solid minerals and agricultural resources; a situation where dependency on importation of foreign goods and services will be remarkably reduced (Damian, 2016). Thus, effectiveness in science and technology education will meet these industrial and infrastructure requirements for sustainable and inclusive economic growth, influencing capacity for innovation, and laying a foundation for economic diversification and uptake and dissemination of technology.

The 2030 Agenda for Sustainable Development has become a globally-shared ambition and a truly collective endeavour. It is an inter-governmental commitment comprised of seventeen aspirational goals that address shared challenges at the global and local levels (Heribert et al., 2016). It was on First January 2016, that the world officially began implementation of the 2030 Agenda for Sustainable Development, a transformative plan of action based on its Sustainable Development Goals (SDGs). This body was put in place to address urgent global challenges over the next 15 years (Ban, 2016) cited in (Emmanuel, *et al*, 2017). This agenda is a road map for people and the planet that will build on the success of Millennium Development Goal (MDGs) and ensure sustainable social and economic progress world-wide. The (SDGs) according to Beisheim (2015) are:

1. *End poverty in all its forms everywhere.*
2. *End hunger, achieve food security and improve nutrition and promote sustainable agriculture.*
3. *Ensure inclusive and equitable quality education and promote lifelong learning opportunity for all.*
4. *Ensure healthy lives and promote well-being for all ages.*
5. *Achieve gender equality and empower all women and girls.*
6. *Ensure availability and sustainable management of water sanitation for all.*
7. *Ensure access to of affordable, reliable, sustainable and modern energy for all*
8. *Promote sustainable inclusive and sustainable economic growth, full and productive employment and decent work for all.*
9. *Build resilient infrastructure, promote inclusive and sustainable industrialization foster innovation.*
10. *Reduces inequality within and among countries.*
11. *Make cities and human settlements inclusive, safe resilient and sustainable.*
12. *Ensure sustainable consumption and production patterns.*
13. *Take urgent action to combat change and its impact.*
14. *Conserved and sustainably use the oceans, seas and marine resources for sustainable development.*
15. *Protect, restore and promote sustainable use of tangential ecosystems, manage forests, combat desertification, and halt and reserve land degradation and halt biodiversity lose.*
16. *Promote peaceful and inclusive societies for sustainable development provide access to justice for all and build effective, accountable and inclusive institutions at all levels and*

17. Strengthen the means of implementation and revitalized the global partnerships for sustainable development.

As a means of implementing the agenda, the body during declaration stated “we recognize that these will include the mobilization of financial resources as well as capacity building and the transfer of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed. Public finance, both domestic and international, will play a vital role in providing essential services and public goods and in catalyzing other sources of finance. We acknowledge the role of the diverse private sector, ranging from micro enterprises to cooperatives to multinationals, and that of civil society organizations and philanthropic organizations in the implementation of the new” (United Nations, 2016).

This paper, therefore seeks to identify strategies for restructuring science and technology education as the pivot between improved industrialization and other sectors in order to achieve economic diversification and sustainable growth and development in Nigeria.

Science and Technology Education: What is it and why is it needed?

Education has been defined as a process by which individuals are assisted formally through proper direction and guidance to develop their capacities for their own benefit and that of the society (Okeke, 2003 cited in Orikpe, 2013). Mbajiorgu (2003) cited in Okoli et al; (2013) viewed science as an act of doing and is more concerned with various investigative processes and activities with regards to developing, acquiring and controlling knowledge, skills, capacity and attitude about the natural factors of the environment. Technology is also seen as the application of scientific knowledge and research to solve problems of life in the society, thereby making life more comfortable for human beings (Bello, 2015). Hence, through the enquiry process, students will develop scientific knowledge and skills to help them evaluate the impacts of scientific and technological development.

Science and Technology education as defined in the National Policy on Education (Federal Republic of Nigeria - FRN, 2004) is an aspect of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economy and social life. Science and technology are related in the sense that science is the input while technology is the output (Kennedy, 2011 cited in Bello, 2015). Science and technology education is therefore a kind of education that aims at producing scientifically literate citizens and potentially scientific and technology manpower while technology education leads to the acquisition of practical, applied skills, as well as the basic scientific knowledge (Okonkwo, 1996 cited in Ige, 2013). Without a proper foundation in the basic scientific knowledge, it is very difficult if not impossible to achieve a sustainable scientific development (Linda, 2000).

The scientific enterprise is one that is challenging and innovative. It blends with technology which focuses on inventions and problem solving. Consequently, the harmonious interplay of science, technology and society is the springboard for sustainable development. It equally facilitates and enhances industrial and

technological progress among the people and within a nation. This consciousness according to Linda, (2000), stems into global agitations for literacy in science and technology to: ensure that young people entering the Nigerian workforce have the knowledge and skills necessary to promote economic, scientific and technological development; and also give the future citizens of Nigeria an understanding of scientific and technological approaches and evidence, so that they will be able to make informed decisions on scientific and technological issues. Clearly, these two purposes are linked together and indicate the importance of ensuring that all young people have a good education so that as citizens and members of the workforce they can engage critically and creatively with opportunities and issues relating to science, technology and engineering for industrialization and sustainable development. This is very essential because industrialization drives economic growth and job creation, thereby reducing income inequality, innovation as fundamental for human development because it expands the technological capabilities of industrial sectors and leads to the development of new skills (Ajiboye, 2011) cited in Emmanuel *et al.*, (2017).

Science and Technology Education, Industrialization and Sustainable Development: Conceptual Clarification and Relationship

Anyanwu *et al.*, (1997) cited in Mandara *et al.*, (2018), describes industrialization as the process of building up a nation's capacity to convert raw materials and other inputs to finished goods and to manufacture goods for other production or for final consumption. Industrialization enhances the utilization of productive inputs (labour, capital and raw materials), given the country's technology, to produce non-durable and durable consumer goods, intermediate goods and capital goods for domestic consumption, export or further production. Industrialization is said to be the process of building up a nation's capacity to convert raw materials and other inputs to finished goods for other production or for final consumption (Anyanwu, *et al.*, 1997). It brings about an increased volume and varieties of manufactured goods resulting in increased employment and improved standard of living of the citizens. Industrialization is also regarded as a veritable channel of attaining the lofty and desirable national goals and quality of life for the citizenry (Adeoye 2005) cited in Mandara *et al.*, (2018). It forms the central object of economic policy in most developing economies and is seen as a crucial and powerful integral part of overall development and structural process of an economy (Uniamikogpo 1996) cited in Mandara *et al.*, (2018). In defining the industrial sector, it is seen to be a section of the economy which consists of the manufacturing that provides goods and services and the structure of any economy should be one which has industry playing a dominant role in its composition. Attaining and sustaining full industrialization is therefore the goal and aspiration of every sovereign nation like Nigeria.

Development, *per se*, is the process of enhancing the economic, socio-cultural, political legal and technological living standards of a people through the exploitation of natural resources (Meier, 1986). It becomes sustainable when it meets the needs of the people not only now but also for the future generations (Damian, 2016). Development is sustainable when a country is committed to a national policy on environment that ensures proper management of natural resources in a manner which

meets the needs of the present and future generations (Emaviwe, 2016). Therefore, the term sustainable development means the development that can be sustained over a period of time. The Report of the World Commission on Environment and Development (1987) sheds more lights on this. It describes it as the development that meets the needs of present generation without compromising the ability of the future generations to meet their own needs. Taking into cognizance these definitions, sustainable development can also be described as the development that builds on the present and provides enabling environment for future generations to develop and meet their needs.

Since science and technology are part of the national strategy for development, its literacy is elemental in Nigerian economic sector. Part of what is needed to enhance that process is public pressure to encourage more Nigerians to study science and technology. Hence, there is no doubt that these are vital tools for national development of any country including Nigeria. Due to its utilitarian value to national development, every effort should, therefore, be made to promote its development by any state that wants development. Nigeria as a state yearning for development can, therefore, not shy away from it in its developmental agenda (Igbaji, 2017).

The relationship between science and technology and industrialization is such that the dividing line between them is very thin. While industrial development of any nation depends very highly on the level of advanced science and technology that the nation had achieved, it is worthwhile to note that science and technology are prime instruments in the exploitation of resources for human use. The present stage of technology advancement in Nigeria has been possible through science and technology education. Water resources, for example, has been utilized and transformed into hydro-electric power on River Niger at Kainji Dam. Specialized human resources, sophisticated equipment and geological surveys are essential tools for locating and exploiting minerals. Some technicalities like prospecting (geological survey of potential mineral locations), drilling, refining and transportation are required in exploitation and development of natural resources. Many natural resources that have been exploited and developed for technological progress and economic development such as petroleum, forest (for fuel, pulp and paper, timber and ply-wood at Sapele), iron ore (for production of steel at Aladja and Ajaokuta) and limestone (for production of cement at Sokoto, Abeokuta and Nkalagu) are attained through advances in science and technology. These are modern industries employing higher level of science and technology than traditional industries yet using mainly local agricultural raw materials for processing activities. However, more is needed for an improved developing economy like Nigeria. Therefore, there is a need to educate citizens who are aware of the problems in the world and could make critical decisions for the environment and society (Choi et al., 2011 cited in Güliz, et al., 2016). Whereas technological development propels industrialization and promotes the development of the capacity to manufacture goods, particularly capital goods, industrial development in turn provides the impetus for technological development and innovation (Gapanski, 1996). A major prerequisite for this transformation is the acquisition of technological capacity – that is, the ability to select, diffuse, develop or adapt technology and build on imported technology. The point here is that

technological progress is a vital requirement for industrialization and sustainable development.

At the same time, as Carter (2008) stated, the purpose of science and technology in the 21st century has been set as to help students make critical judgments about science and increase their engagement to work for a more socially just, equitable and sustainable world. Therefore, we could interpret that the content and the purpose of science and technology in the 2030 agenda coincide with those of Education for Sustainable Development (ESD). ESD has gained importance in science and technology together with UNESCO (2005)'s declaration that is related to reorienting education to promote public understanding, critical analysis and support for sustainable development. This declaration was supported all around the world and it is concluded that ESD is important and essential to succeed sustainable development (UNESCO, 2006). Further, UNESCO (2009) described a rich and holistic perception of ESD that is related to principles for supporting sustainable living, democracy, protection of environment and human well-being, sustainable use of natural resources, emphasizing on sustainable production and consumption and maintaining peace in the societies.

Presently, it is suggested that in the 2030 education agenda, Science Education should hold a wider perspective to prepare citizens who could explore components of sustainability (social, environmental and economic) and who could make social, political, environmental decisions for themselves and for the community (Choi et al., 2011; Feldman & Nation, 2015) cited in Güliz et al., 2016). Therefore, we are in a position to appreciate the relationship between SE, industrialization and sustainable development and we agree that ESD shall be integrated into SE program so that the cooperation between SE and ESD supports and encourages young people to be globally responsive and environmentally sustainable future citizens (Güliz *et al.*, 2016).

National Policies on Science and Technology Education and Industrialization

According to Igbaji et al., (2017), Nigerian government like all other governments in the world realizes the role of science and its by product-technology in issues of national development. In Section 39 of National Policy on Education (2004), the National Policies on Science and Technology Education stated that science education shall encompass the teaching and learning of science process and principles which will lead to fundamental and applied research in sciences at all levels of education in Nigeria. Its goals shall be to:

- *Cultivate inquiry, knowing and rational mind for the conduct of a good life and democracy;*
- *Produce scientists for national development;*
- *Service studies in technology and the cause of technological development; and*
- *Provide knowledge and understanding of the complexity of the physical world, the forms and the conduct of life.*

As also indicated in Section 40, technical and vocational education shall:

- *Provide trained manpower in the applied sciences, technology and business particularly in craft, advanced craft and technical levels;*
- *Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development; and*
- *Give training and impart the necessary skills to individual who shall be self-reliant economically.*

In order to make the goals of science and technology education a realistic, special provisions and incentives shall be made for the study of sciences at each level of the national education system and for this purpose, the functions of all agencies involved in the promotion of the study of sciences shall be adequately supported by government while government shall popularize the study of sciences and production of adequate number of scientists to inspire and support national development.

Earlier before the National Policy on Education (2004), the national Science and Technology (S&T) policy was formulated and launched in 1986 with its objectives as captured in the fourth development plan include among others, the achievement of self-reliance through:

- ✓ acquiring enough technical know-how, skills and materials to defend the integrity and security of the nation;
- ✓ being technically self-reliant in the production of capital and consumer goods and raw materials, and
- ✓ maintaining a flourishing national export capability of goods and services.

The S&T policy marked the beginning of the recognition of S&T efforts as a vehicle for successful industrial development in Nigeria. To facilitate the achievement of the 'self-reliance' aspiration of the S&T policy, the Raw Materials Research and Development Council (RMRDC), was established by Decree No. 39 in 1987. The Standards Organization of Nigeria (SON) was also established for the purpose of ensuring standardization and adequate quality control in industrial production. The S&T policy emphasized the transfer of foreign technology to local firms, via the licensing and registration of patents, trademarks, technical assistance arrangements, research and development, training, and operations. Among such other industrialization policies include the export promotion industrialization strategy embedded in the structural adjustment programme of 1986, which emphasized domestic production of manufactured goods for export in order to generate more foreign exchange particularly from non-oil sources to meet the country's rising import bills, mounting external debt obligations, rising fiscal responsibilities of the government, and to attend to socio economic responsibilities (Obioma and Ozughalu, 2005 cited in Jonathan *et al.*, 2018); the foreign private investment led industrialization strategy adopted since 1999 after years of military dictatorship and targeted at restoring investor's confidence in the Nigerian economy in order to attract massive inflow of foreign capital in the industrial sector; the small and medium enterprises development agency of Nigeria established in order to cater for the development of SMEs in Nigeria; and the national economic empowerment and development strategy, which in the main was aimed at growing the private sector as the engine of growth for wealth creation, employment generation and poverty reduction (Okereka, 2015; Ekpo, 2014; Nyor and Chinge, 2014 cited in Jonathan *et al.*, 2018).

Why Does Science and Technology Education Fail in its Industrialization Cum Economic Development Objectives?

However, despite the implementation of above industrialization policies, there is little or no evidence that the S&T policy was successful because in view of Nyor and Chinge, (2014) cited in Jonathan et al., (2018), Nigeria is still far from being industrialized. In fact, it seems as if the more Nigeria stresses on its Science and technology education and industrialization policies, the more the country moves away from being industrialized. These facts according to Jonathan et al., (2018) indicate that the country has faced several challenges in its journey to industrialization. As a result of this, extensive review of literatures was made to ascertain the factors militating against Nigeria's industrial development.

- 1. Poor Policy Conceptualization and Implementation:** Beautiful policies are put forward on paper but they fail at the level of implementation (Abraham, 2004 cited in Innocent, 2016). Successive governments in Nigeria most of the time are insensitive to the plight of the people even when there are means for improvement and development. Bad policy or poor policy implementation has adverse effect on national development.
- 2. Inadequate Information and Communication Technology (ICT) Technologies:** Despite that the world is now said to be a global village due to the discovery of computer and ICT and other related technologies, many Nigerian science students in both secondary and tertiary institutions are faced with various problems in their attempts to computerize science and technology activities.
- 3. Lack of Technological Capability:** Lack of adequate **technological capability** to boost new ICT technologies and limited resources in developing nations, has been identified as problems militating against schools to fully participate in international activities arising from ICT induced globalization.
- 4. Insufficient Funding for the S&T Sector:** Lack of finance for research and development in Science and Technology for industrial development activities is a menace to science and technology education to realize its industrialization cum economic development objectives.
- 5. Concentration on Light Consumer Goods instead of Capital Goods which Sustain industrialization;** This is as a result of weak raw material base since more attention is being channeled into mining following the discovery of oil.
- 6. Inadequate infrastructure:** Infrastructure like transportation system, water supply, electricity supply and telecommunications, which are crucial enablers of industrialization are not sufficient to encourage foreign investors in Nigeria. Provision of solar energy to schools and other institutions of technology should be encouraged instead of relying on public power.
- 7. Poorly Developed Human Capital:** Such as lack of entrepreneurship skills.

Restructuring Science and Technology Education in Achieving 2030 Education Agenda for Industrialization and Sustainable Development: Strategies

It has been observed that science and technology (S&T) has not been a critical determinant of national development performance in Nigeria as expected. Also, that

the country has not fully realized its national objectives of S&T-driven rapid industrialization and development. It is in recognition of these observations that it becomes imperative to suggest the following strategies for improving quality of science and technology education towards achieving 2030 education agenda for industrialization and sustainable development.

1. **Effective Implementation and Application of Information and Communication Technology (ICT):** According to Ogunsola, (2008), the real tasks facing the institutions, among others include repositioning the policy initiatives and priorities of key players to map out a practical and achievable developmental agenda for the implementation and application of ICT in these institutions. Inadequate external and internal training programs, absence of systematized plans for integrating technology into teaching and learning, inadequate human resources base for implementation or technical projects especially in the rapid and progressing technology field.
2. **Consistent and Regular Review of Science and Technology Curriculum:** There is urgent need to re-examine the curriculum content and delivery methods in Nigerian schools, shifting the emphasis from textbook-oriented learning to competence-related learning that can guarantee relevance, practicality and values for sustaining the future of our children. Such an orientation is imperative given the demands of 2030 education agenda for industrialization and sustainable development. This orientation according to Akinjide *et al.*, (2018) involves a conscious acceptance that education is a preparation for life, hence educating people to question, criticize, and analyze issues bordering on the environment, and society and economy is a desirable exercise to do.
3. **Improving Teaching Methodology of Science and Technology:** Science and technology teaching methods should be modernized to bring life back into it. To do this, a policy on standards of professional development of teachers should be implemented, requiring teachers to maintain a reasonable level of pedagogical content knowledge and skills.

Under goal 8 towards realizing Curriculum Framework for Enabling the Sustainable Development Goals, Amina *et al.*, (2017), further explains that education content should be adapted to life and job market requirements in terms of skills and focusing on easing the school-to-work transition and preventing labour market mismatches. However, for restructuring to be effective, creativity and innovation are highly required in science and technology education.

4. **Adequate Funding:** For effective implementation of science and & technology programmes, there should be improved funding of education to meet the 26% of GDP standard already set by UNESCO (Ige, 2013). Both private sector and non-governmental organization (NGO) should assist government in the funding of science education, particularly through the provision of facilities, libraries, laboratories, and workshop for science and technology education.
5. **Recruitment and Training of Science and Technology Teachers:** In view of the role of teacher in science and technology education provision and the shortage that characterized this in schools, experts in the areas of science and technology should be recruited for courses; science and technology teachers should be committed to the job and be motivated through improved conditions of service.

6. **Motivation of Science and Technology Teachers and Other Staff:** Government as well as parents through the Parent Teacher Association (PTA) should encourage teachers in the area of science and technology particularly from the basic levels to be able to perform expectedly.
7. **Admission of Science and Technology Students by Merit:** In view of the negative effect of the implementation of this policy, particularly on the quality of graduates, tertiary institutions backed by governments should make it a standing policy that only qualified students should be admitted to tertiary institutions.
8. **Equipping and Maintaining of Science and Technology Laboratory and Workshop in Schools and Other Related Institutions of Learning:** The elemental contribution of laboratory equipment and materials to effective teaching and learning of Science and Technology cannot be overemphasized. In view of this, government should equip the laboratories and provide or employ laboratory assistants who would have the knowledge of laboratory work.
9. **Improved Commitment of Science and Technology Teachers:** It has been established in various literatures that education is the central theme in our lives which prepares the young generation for life that lies ahead, and it informs adults of the world about them. A transformation in what we teach, how we teach it and the manner in which it is assessed is crucial to the major knowledge and attitude changes which are essential if sustainable development is to be a focus, especially in science and technology curricula. Hence, the commitment of Science and Technology Teachers are sine qua non to improvement of Science and Technology education.
10. **Recruitment of Guidance-Counselors:** Government should recruit and post Guidance-Counselors who are expert in Science and Technology education, particularly to those schools that are urgently in need of them. The guidance-counselors in schools should however be alive to their responsibilities and ensure effective guidance of students in the choice of career.
11. **Adequate Training of Pupils from Basic Schools to Imbibe Science and Technology Culture:** There is no doubt that the background of a child plays influential role in the academic performance at other levels of the educational system. Thus, it is imperative for parents and teachers to adequately inform their children of the benefits of science and technology education to the development of nation as well as themselves. Basic education focuses on helping pupils gain knowledge, skills, values and perspectives that encourage sustainable livelihoods and on supporting citizens to live sustainable lives.
12. **Removing Gender Disparity in Science and Technology Education:** Gender equality should be put into consideration when planning and implementing educational curricula. Increasing investment in tertiary science education and adopting concrete measures to increase the enrolment of girls and women is one of the best strategies to stimulate girls who want to enter S&T programmes.

Conclusion

From the critically reviewed literature, it has been established that science and technology education is a central component of any nation's developmental process

and for it to facilitate this function the process should be: clearly defined, legislatively protected from any political dictates, owned by relevant stakeholders, adequately financed and constantly subjected to periodic technical consultations and reviews to ensure that it is in harmony with both local and global needs.

It was also ascertained that a nation that has science and technology deficiency will find it difficult to industrialize and grow economically. Subsequently science and technology education is the answer to national dreams and thereby need to be properly guided, managed and funded for effective implementation for economic growth in Nigeria.

Recommendations

Science and technology education have suffered enormous setback in Nigeria due to the low status accorded to it in general. Some of the problems emanate from the various interpretations of science and technology education by policy makers as well as by the implementers of policies on science and technology education. New policies are needed to clarify the importance, the role of science and technology education, and to address the requirements in various sectors of society. In view of these, the following recommendations are made:

- (1) Creation of More Favorable and Conducive Environment for Science and Technology Education.** Public discourse in science and popular science activities will provide an active science-learning environment for students and thus, in the end, promote public understanding of science.
- (2) Real Application of Information and Communication Technology (ICT).** These include cyberspace, computer-aided education and distant education to reach more pupils at the grassroots.
- (3) Fully Exploitation of the Potential of Mass Media, Particularly Films, Video, Radio and Television.**
- (4) Improving Access and Retention in Quality Basic Science Education.** Enrolling and retaining both boys and girls in quality basic education is important to their well-being throughout their lives and to the society in which they live.
- (5) Reorienting Existing Educational Programmes to Address Sustainability:** Reorienting education requires revising education from early childhood care and up through higher education. It requires rethinking what is taught, how it is taught, and what is assessed, with sustainability as the central theme.
- (6) Increasing Public Understanding and Awareness of Sustainability:** There should be awareness for better understanding that will transform individuals and Nigeria as an entity from the world of yesterday to present world characterized by increasing discoveries, inventions and innovations. Public debate on scientific issues, lectures by eminent scientists and science exhibitions will encourage students to continue learning in science.

References

- Akinjide, A. and Olusegun, O. O. (2018). Repositioning Education to Achieve Sustainable Development Goals in Nigeria. *International Journal of Advanced Research in Public Policy, Social Development and Enterprise Studies*. 3(1), 2536-6556.
- Anyanwu, J. C, Oyefusi A, Oaikhenan, H. and Dimowo, F (1997); *The Structure of the Nigerian Economy (1960-1997)*, Onitsha, Joanae Educational Publishers.
- Amina, O., Sultana, L., Emma, F. and Veronica, M. (2017). Curriculum Framework for the Sustainable Development Goals. First Edition, Commonwealth Secretariat.
- Beisheim, M. (2015). Reviving the post 2015 sustainable Development Goals and Partnerships a proposal for a multi-level review at the high-level political forum. Swp Research paper 2015/RPI.
- Bello, M. A. (2015). Fostering Innovative Teaching and Creative Learning in Science and Technology Education: The Vision for National Development. *The knowledge resort: a biannual journal of School of Education, Federal College of Education (Special), Oyo, Oyo State* 1(22) 201 – 209.
- Damian, M. (2016). An Industrialization Strategy for Economic Diversification and Sustainable Development of Nigeria. *International Journal of Advanced Studies in Business Strategies and Management*. (4) 2, 25-38. 25-38.
- Emeka E. O. (2013). Corruption and implications for industrial development in Nigeria University of Ibadan, Ibadan, Nigeria.
- Emmanuel, E. O., Grace P. K. and Ayeni A. I. (2017). Achieving Sustainable Development Goals through Science Education in Nigeria *Benue State University, Makurdi, Benue State*.
- Emaviwe, C.U (2016). Taking a pound of flesh without spilling blood: The purification of the environment in the Niger Delta through law. *Twelfth Inaugural Lecture Igbinedion University, Okada. Benin: AMBIK Press*.
- Eurydice. (2002). Key Competencies: A developing concept in general compulsory education. Brussels: Eurydice.
- Federal Republic of Nigeria (2004). *National policy on education*. Apapa, Lagos: NERDC Press.
- Federal Republic of Nigeria (1986). *National Policy on Science and Technology*. Abuja, Nigeria; Federal Ministry of Education.
- Garuba, M. A., Agweda, F. E., Abumere, D. I. (2012). The Contribution of Science and Technology Education to National Development: The Nigerian Experience. *Journal of Education and Practice*. 3(1), 16-22.
- Güliz K, and Gaye, T. (2016). Integrating Sustainable Development Concept into Science Education Program is not enough; We Need Competent Science Teachers for Education for Sustainable Development-Turkish Experience. *International Journal of Environmental & Science Education*. 11(15), 8403-8424.

- Heribert, H. and Sylvia, S. (2016). Agenda 2030 – Education and Lifelong Learning in the Sustainable Development Goals. IPE International Perspectives in Adult Education 75.
- Igbaji, C., Miswaru, B. and Sadiyya, A. S. (2017). Science Education and Nigeria National Development Effort: The Missing Link. *International Journal of Education and Evaluation*. (3) 5, 46-56.
- Ige A. M. (2013). Repositioning Science and Technology Education for Sustainable Development in the 21st Century: Nigeria's Case. *Journal of Sustainable Development in Africa*. (15), 154-172.
- Innocent. O. (2016). Managing the Role of Science and Technology Education Programs in Promoting Enterprises for National Development in Nigeria. *International Journal of Scientific Research in Education*. 9(2), 97-104
- Jack, H. (2009). Meeting Challenges to Sustainable Development through Science and Technology Education. *International Council of Association for Science Education. Science Education International*. 20(1/2), 44-59.
- Jonathan, E. O., Anthony, O., Charles, N. A., Josaphat, U. O. and Charles, O. M. (2018). Quest for Industrialization in Nigeria: The Role of the Development Bank of Nigeria. *International Journal of Economics and Financial Issues*. 8(3), 23-28.
- Linda C. (2000). Participation in Science, Engineering and Technology at School and in Higher Education. Report to Scottish Executive Enterprise and Lifelong Learning Department. Centre for Educational Sociology University of Edinburgh St John's Land Holyrood Road Edinburgh. EH88AQ.
- Mandara, B. and Ali, M. B. (2018). Appraisal of the Impact of Industrialization on Economic Growth in Nigeria. *Journal of Business and Management*. (20), 01-10.
- Maryam, A. and Bassey E. A. (2018). Nigerian Industrial Sector and Economic Growth in the Face of Sustainable Development Goals. *International Journal of Advanced Research in Public Policy, Social Development and Enterprise Studies*. (3)1, 132-148.
- Meier, G.M (1986). *Leading issues in economic development*. New York: Oxford University Press.
- Obioma, E. C and Ozugahalu, U. M (2005); Industrialization and Economic Development; A Review of Major Conceptual and Theoretical Issues in the Challenges of Industrialization, A Pathway of Nigerian becoming a High Industrialized Country in the year 2015, Nigerian Economic Society, Ibadan. Pp 63 – 97.
- Ogunsola, L. A. (2008). Developing Countries and the Need for Knowledge-Based Economy: The Problems and Challenges Ahead. *Ozean Journal of Social Sciences*, 1(1), 1-11.
- Okafor, N. (2004). Science Education for National Development and Self Reliance in a Deregulated Economy. *Journal of the Nigerian Academy of Education (NAE)* 1 (2) November, pp 76-87.

- Okoli, S. O., Obiajulu, A. N. and Ella, F. A. (2013). Science Education for Sustainable Development in Nigeria: Challenges and Prospects. *Academic Journal of Interdisciplinary Studies. Published by MCSER-CEMAS-Sapienza University of Rome.* 2 (6)159-165.
- Orikpe, E. A. (2013). Education and National Security: Challenges and the Way Forward. *Journal of Educational and Social Research MCSER Publishing, Rome-Italy.* (3)10, 53-65.
- Peter, C. and Otiato O. (2009). Quality of Education and its Role in National Development: A Case study of Kenya's Educational Reforms. *Kenya Studies Review:* 1, (1), 133-149.
- United Nations, (2016). Transforming Our World: The 2030 Agenda for Sustainable Development.
- World Commission on Environment and Development (1987). *Our common future.* Oxford, Oxford University Press.

HUMANITIES AND OTHER KNOWLEDGE DOMAINS: A DEVELOPMENTAL PATHWAY TO EXCELLENCE

Abisola O. Taiwo
General Studies Department
Villanova Polytechnic, Imesi- Ile.
abisolataiwo89@gmail.com

Abstract

The success of any discipline depends on one or two fields in the humanities, as it covers every part of the society from the past, present to the future for efficiency and development. In fact, humanities itself is life, as it revolves around the world and people therein. The paper aimed at finding out the synergy that exists between humanities and other fields (Science, Engineering, Technology and Social Sciences), so as to demonstrate the importance of humanities as a passage to other discipline's excellence which can be illustrated as 'The oesophagus that carries the food to its destination; the stomach.' It is evident that in one way or the other, language has been a tool for transmitting knowledge to other domains. More so, history and critical reasoning play a foremost role in any experiment, innovation, or research as these will act as the chain to be connected for the sustainability and development of the result aimed at. Therefore, for a machine to be built, an ailment to get a cure, an application to be designed and implemented, or an account to be calculated, one must understand the origin, do a critical thinking and correctly interpret every detail, to avoid disaster and futility of efforts. SPSS was used to analyse the data gotten from 60 respondents, where six variables (Communication Skills, Critical Thinking, Personal and Spiritual Development, Cultural Heritage, Social Values and Virtues, Aesthetic Appreciation) were listed to be arranged in hierarchy of importance to their field. The result showed that Communication Skills has the highest value followed by Critical Thinking. This paper has made known that humanities are the backbone of other discipline. Consequently, other domains should be serious with the infusion of humanities courses to their curricula for better output.

Keywords: Humanities, Communication Skills, Language, Critical and Creative Thinking, Society.

Introduction

Humanities originated from the Latin word *Humanitas* to describe good people i.e. 'Civilised' human beings, and it was first used by writer Cicero. It later gained entry into English in the 14th Century. The field of humanities include ancient and modern languages, literature, philosophy, history, human geography, law, politics, religion, art, anthropology, rhetoric, global studies etc. These subjects are based on the study of human culture and ideas. It is pertinent to note that from this field, we study and learn about people and their way of life and how this way of life shapes their being and existence. It is crucial to add that humanities is credited to the acquisition of the literary skill (writing and speaking correctly, appropriately, clearly and properly). In which most employers of labour look out for i.e. fluency and right usage of means of communication.

Furthermore, it provides an insightful understanding into moral, ethical, political and ideological forces, in which a successful society depends upon such as selflessness,

charity, courtesy, compassion, and generosity, and these are what humanities evaluates and emphasize, that is, the importance of these aforementioned features. Through humanities, values, norms and cultures of different ethnic groups have been understood, preserved and learnt from through reading, hearing and researching human experiences from which we are motivated, guided and directed on our knowledge in and about the world. Thereby, guiding and helping us to understand the world we inhabit as a fundamental foundation for exploring and understanding the world and the people living in it. It covers all aspects of the society from past events and achievements, to human behavior and relationships among people. It also exposes us to different people and how to live amicably with them and be humane and good to everyone we come across.

The below lines of Michelle Obama capture humanities in a concise statement;

The arts and humanities define who we are as a people.
That is their power- to remind us of what we each have to offer, and what we all have in common. To help us understand our history and imagine our future. To give us hope in the moments of struggle and to bring us together when nothing else will.

Do you Know? You Need to Know

- Even as a qualified candidate or applicant, you may not get that job for non-mastery of the company's historical background?
- A promotion may elude a person because of bad usage of language?
- That deal/contract may not be successful due to poor human relation?
- There may be a miscalculation for poor or lack of critical reasoning which can result to wrong interpretation?
- If you fail to study that particular person's autobiography or biography, you may lose their relationship/friendship for life because you do not understand his/her human nature and psychology?
- Your negligence of language learning and acquisition may result into earning a meager pay and losing opportunities either in the country you reside or in a foreign land?
- "Just to let you know that it is not all about your skills or field of study but humanities is the compass that leads to a successful attainment in any area of study and a peaceful co-existence among people in the society."

Importance of some Courses in the Humanities

- i. Philosophy- It will get you thinking about ethical question and a thorough critical thinking.
- ii. Language learning and acquisition- learning another language will help in gaining appreciation for the similarities in different cultures and open different opportunities and expand friendship coast.
- iii. Going through a book (Literature) from another region of the universe helps think about colonization, slave trades, apartheid, independence, democracy etc.

- iv. History opens you to the past, in relation to the present and with a picture of a clearer future and how it will look like.

Table 1: Humanities courses and their Importance

S/N	Subjects	Importance/ Usage
1.	Language	It helps with the literary/ communication skills
2.	Literature	It reflects and teaches human about life
3.	Philosophy	It arouses critical reasoning/ thinking
4.	Religious Studies	It helps with morals and virtues
5.	Civic Education	It teaches us civic duties
6.	History	It records the past, present and future experiences/ references

Sequel to this is a rhetorical question thus: “which knowledge domains do not need one, two or all of these factors for its development and direction?” Before giving an answer, remember that the first thing needed by any knowledge domain before exploring its field proper is language; the medium/tool of communication for dissemination of information; which is a sub of humanities. Through the exploration of the humanities we all learn how to think afresh, creatively and critically, to reason, express and ask questions because these skills allow us to gain insight into everything around us.

Why you Need to Take Humanities Seriously:

Dalbert (2011) highlighted ten reasons why we study humanities and why students pursuing other careers should augment their education with a strong foundation in the humanities as follow:

- i. Humanities prepare us to fulfil our civic and cultural responsibilities.
- ii. It helps to get familiar with and use the creative ideas from great minds outside of science through biography, literature and history which serve as window into life.
- iii. Mastering the humanities provide tools such as tool of communication for scientific knowledge and techniques learnt in college.
- iv. It strengthens ability to communicate and work with others.
- v. You will gain knowledge of foreign languages and cultures.
- vi. The walls that exist among disciplines have been lowered and students can move across disciplines more freely.
- vii. Students can benefit from advice on which courses to take.
- viii. It helps to understand the impact that science, technology and medicine have had on society and understand the future scientific needs of society.
- ix. Interdisciplinary learning adds value to one’s degree.
- x. It teaches that the supposedly sharp dichotomies that separate science from humanities do not exist. Scientists believe they deal with fact while humanities deal with values.

In order to add to these points of his are the implant of humanities identified within other field of study as listed below;

- Science traces **history** of a disease/ailment in order to get a way out i.e. the cure/solution.
- Engineering must study, **understand and do a critical reasoning** of a system/machine before carrying out a design and implementation on it.
- Social Sciences such as Economics must use **Language** for their analyses and derivations.

The rhetorical question now is which domain can succeed without the input of the humanities?

Humanities necessity and desirability in other fields are evident in our colleges and tertiary institutions where general courses in the humanities especially English Language is compulsory for all students to offer and a must pass at both secondary and tertiary levels. Failure to be effective and efficient in this language is detrimental to the progress of the individual and the society at large. No wonder it was stated by Nicholas Kristof that "... the humanities should be part of our repertory. They may not enrich our wallets, but they do enrich our lives. They civilize us. They provide context."

Relationship of Humanities with Other Knowledge Domains

Humanities Scientific Committee Opinion Paper (2015: 9-10) describes that the interdisciplinary collaborations of humanities with the field of sciences give birth to courses such as Archaeology (i.e. History plus the use of natural resources), Botany, Geology, Agronomy, Hydrology, Ethnology, Medicine etc. The cordial relationship which exists between medicine and literature is evident in the birth of department in the literature which is referred to as medicine literature where we have the infusion of both medicine and literature as a therapy to medical situations such as depression. Humanities together with the social sciences produce Geography, Urban Studies, Psychiatry, Sociology, Political Sciences etc.

The importance of humanities was reinforced by Humanities Scientific Committee Opinion Paper (2015: 15) where it was posited that:

Europe is now being overtaken by other nations who seek to transform their cultures of reproduction through innovation-driven progress. They are doing this by bringing the humanities to the centre of technological and scientific developments.

This is an astute move and decision by these other nations because nothing and no country moves or works without humanities in place as emphasised by Lyndon B. Johnson that 'Art is a nation's most precious heritage. For it is in our works of art that we reveal to ourselves and to others the inner vision which guides us as a nation. And where there is no vision, the people perish.'

Have you ever wondered how some protocols were being broken for your sake? – I will simply say the answer is in the humanities. How?- What I know is that those with the knowledge of the humanities and who can as well apply it into their way of life are being helped by the field of humanities because it opens door of opportunities before your field does as buttresses by Ellen Ullman, "Humanities break into the closed society where code gets written: invade it." Why and how you may ask? The answer cannot be far-fetched, let us consider this simple analogy, where protocols can be exempted and you simply hear responses such as 'I cannot really explain why, but

I just naturally like you that was why you were being hired (I have heard this a couple of times).’ I can boldly say it is the power of humanities at work due to **virtues, good command of language usage** and **confidence** as a result of the outward implementation of critical reasoning all which are credited to the field of humanities.

In sum, good exploration of humanities can single one for favour and success and its negligence can lead to failure and rejection because the calling of the humanities is to makes us truly human in the best sense of the word (Irwin Miller) and as we cannot do anything correctly without wisdom that is why Jean Bodin connection of wisdom, learning and history has been encompassed into this simple statement, ‘The study of history is the beginning of wisdom’.

Findings and Result

In regards to Holm *et al* (2015:12-13), the impacts of humanities have been summarized into six;

1. Communication/ Literary Skill - Languages
2. Critical thinking/ innovation - Philosophy
3. Personal and Spiritual Development - Religious Studies
4. Cultural Heritage - History
5. Social Values and Virtues (Ethics, civic duties, social cohesion, morals) - Religious Studies, Civic Education etc
6. Aesthetic Appreciation - Music, Theatre Arts, History, Arts etc

60 respondents, which include students and workers from other fields other than the humanities such as sciences (17), engineering (14), social sciences (25), and technology (4) were interviewed on how effective they perceive humanities on the progress of their career. Their responses are being summarized below;

Summary of Result

SCIENCE :

	CS	CT	PSD	CH	SVV	AA		TOTAL
1 -	10	7	0	0	0	0	=	17
2 -	6	9	0	0	1	1	=	17
3 -	0	1	3	5	5	3	=	17
4 -	0	0	7	2	3	5	=	17
5 -	0	0	4	4	6	3	=	17
6 -	1	0	3	6	2	5	=	17

ENGINEERING:

	CS	CT	PSD	CH	SVV	AA		TOTAL
1 -	3	4	2	5	0	0	=	14
2 -	6	2	5	1	0	0	=	14
3 -	2	3	0	1	4	4	=	14
4 -	2	2	3	3	3	1	=	14
5 -	0	3	1	3	3	4	=	14
6 -	1	0	3	1	4	5	=	14

SOCIAL SCIENCE:

	CS	CT	PSD	CH	SVV	AA		TOTAL
1 -	14	6	2	1	0	2	=	25
2 -	8	4	9	1	2	1	=	25
3 -	0	6	8	6	4	1	=	25
4 -	2	2	4	5	9	3	=	25
5 -	1	5	1	6	6	6	=	25
6 -	0	2	1	6	4	12	=	25

TECHNOLOGY:

	CS	CT	PSD	CH	SVV	AA		TOTAL
1 -	4	0	0	0	0	0	=	04
2 -	0	1	1	1	1	0	=	04
3 -	0	0	1	1	1	1	=	04
4 -	0	3	0	0	1	0	=	04
5 -	0	1	0	1	1	1	=	04
6 -	0	0	0	2	0	2	=	04

CS – Communication Skill

CT – Critical Thinking

PSD – Personal and Spiritual Development

CH – Cultural Heritage

SVV – Social Value and Virtues

AA – Aesthetic Appreciation

Representation of Results on Statistical Package for Social Science (SPSS) 23

Table 2 Statistics for Sciences

Values	No	Minimum	Maximum	Mean	Std. Deviation
Cultural Heritage	17	1.00	4.00	2.3529	1.27187
Aesthetic Appreciation	17	1.00	5.00	2.5294	1.28051
Personal and Spiritual Development	17	1.00	4.00	2.5882	1.00367
Social Values and Virtues	17	1.00	5.00	2.8235	1.18508
Critical Thinking	17	4.00	6.00	5.3529	.60634
Communication Skills	17	1.00	6.00	5.3529	1.22174

Table 3 Statistics for Engineering

	CSrev	CTrev	PSDrev	CHrev	SVVrev	AArev
N (Valid)	14	14	14	14	14	14
(Missing)	0	0	0	0	0	0
Mean	4.5000	4.1429	3.6429	3.9286	2.5000	2.2857
Std. Error of Mean	.37431	.41744	.49843	.49685	.32733	.33853
Std. Deviation	1.40055	1.56191	1.86495	1.85904	1.22474	1.26665
Minimum	1.00	2.00	1.00	1.00	1.00	1.00
Maximum	6.00	6.00	6.00	6.00	4.00	4.00

Table 4: Statistics for Social Sciences

	Communication Skills	Critical Thinking	Personal and Spiritual Development	Cultural Heritage	Social Values and Virtues	Aesthetic Appreciation
N (Valid)	25	25	25	25	25	25
(Missing)	0	0	0	0	0	0
Mean	5.2800	3.9200	4.1600	2.7200	2.7600	2.1600
Std. Error of Mean	.22000	.33625	.23580	.28000	.23295	.31454
Std. Deviation	1.10000	1.68127	1.17898	1.40000	1.16476	1.57268
Minimum	2.00	1.00	1.00	1.00	1.00	1.00
Maximum	6.00	6.00	6.00	6.00	5.00	6.00

Table 5 **Statistics for Technology**

		Communica tion Skills	Critical Thinking	Personal and Spiritual Developm ent	Cultural Heritage	Social Values and Virtues	Aesthetic Appreciati on
N	(Valid)	4	4	4	4	4	4
	(Missi ng)	0	0	0	0	0	0
Mean		6.0000	3.2500	3.5000	2.7500	3.5000	2.0000
Std. Error of Mean		.00000	.62915	.64550	1.03078	.64550	.70711
Std. Deviation		.00000	1.25831	1.29099	2.06155	1.29099	1.41421
Minimum		6.00	2.00	2.00	1.00	2.00	1.00
Maximum		6.00	5.00	5.00	5.00	5.00	4.00

Discussion

In order to get the average point for these values, the Likert Scale which is based on degree and variation has been considered as follows; Number of values + 1 = 7 (i.e. 7-6=1 and 7-1=6).

$$\frac{6+1(7)}{2} = 3.5$$

This implies that any value greater than 3.5 will be seen to be relevant and crucial, while any value lesser than the average grade is not important to the field of study under consideration.

Sciences - It has been concluded from this result that CT and CS were perceived to be the most important values for this field, with the mean result of 5.3529 for each value.

Engineering - CS, CT, PSD and CH were chosen to be useful in this field with the mean of 4.5000, 4.1429, 3.6429 and 3.9286 respectively. With CS being the most useful, followed by CT, CH and PSD.

Social Science - In this field, CS (5.2800), CT (3.9200) and PSD (4.1600) were concluded to be valuable to them. Whereby, CS has the highest value, then PSD and CT.

Technology - The technologists on their part believed that CS, PSD and SVV are considered in their field. Such that the most relevant is CS with 6.0000 and then PSD and SVV with 3.5000 each.

The SPSS shows that CS is perceived to be the most preferred to CT, before CH, PSD and SVV and this also buttresses one of my tutors point as he once asked his students this question, 'In which language do we think?' That means a language must be in place before engaging in our thoughts. Therefore, CS has been assigned the work of "a vehicle transporting a passenger to its destination". That is, a means of information delivery and attainment of goal and the end result of any field of study, as well as a device or tool for thought.

Generally, humanities add value to other career and all facets of life as evident from the observation about people's way of life and the interview that was conducted. It was deduced from the conducted interview where the respondents approved that communication skill is the most important in this scale of preference, followed by critical thinking. No wonder most curriculum vitae do start with humanities qualities an applicant possesses, as an appraisal and introduction, which is why most do carry description such as; "I have excellent communication skills, good interpersonal relation and a good team player". All these are attributed to humanities and mostly being used by all applicants no matter their field of study, because they know the effect these aforementioned features can produce on an employer of labour. This shows that humanities is fundamental to all forms of education.

Conclusion and Recommendation

The importance of humanities to other field can be alluded to the biblical verse of John 15:4-5 where it was stated that '.... As the branch cannot bear fruit of itself, except it abide in the vine; ...without me ye can do nothing.' These verses capture the essence of this paper as humanities is the conveyor to other disciplines' destination.

Therefore, other fields of study are encouraged to take any of the humanities courses being offered seriously as these courses are not solely for the humanities but for the usefulness of an individual and the general public.

More so, every school and institution are to reinforce the importance of offering these general courses especially those pertaining to the humanities to their students, in order to disregard any negative feelings and nonchalant attitude expressed by students of other fields of study.

Conclusively, all the aforementioned values of the humanities were said to be important to other fields of study as evident from the respondents. Although, with different degrees and views, thereby showing the essential features of the humanities as not only noble but useful in all facets of life.

References

- Allen, D et al (2016). *Understanding the Contributions of the Humanities to Human Development: A Methodological White Paper*. The Hula Research Team Project Zero: Harvard University.
- Arthur, M. (2002). Knowledge and Language: History, the Humanities, the Science, JSTOR, 87 (285): 3-17. Retrieved from <https://www.jstor.org/stable/24425700>.
- Atoyebi, S.A. and Ogunniyi, O.J. (2014). History, Science and the Social Sciences: The Relationship of Humanities to Other Knowledge Domain. *Global Journal of Interdisciplinary Social Sciences*. 3(5):34-36.
- Dumitru, D. (2019). Proceedings of INTCESS 2019 - 6th Arts and Humanities as a Source of Critical Thinking Development. *International Conference on Education and Social Sciences*. Dubai, U.A.E. February 2010.
- Lomas, E. (2017). Defining R and D for the arts and cultural knowledge domains- Arts and Humanities Research Council (AHRC). 1-86. University College London, USA.

Holm, P. et al (2015). *Humanities World Report*. "The Value of the Humanities."12-41. Retrieved from <http://creativecommons.org/licenses/by/3.0/>

Holy Bible, The King James Version.

Science Europe Scientific Committee for the Humanities (2015). *Humanities Scientific Committee Opinion Paper*. 'Radical Innovation: Humanities Research Crossing Knowledge Boundaries and Fostering Deep Change'. Science Europe: Belgium.

Zascerinska, J. (2010). Language Acquisition and Language Learning: Developing the System of External and Internal Perspectives. 52nd International Scientific Conference of Daugavpils University, Daugavpils, Lavita. April 2010.

Arts and Humanities Quotes. Retrieved from <https://www.goodnews.com>

AZ QUOTES Arts and Humanities Quotes. Retrieved from <https://www.azquotes.com>

Humanities Scientific Committee Opinion Paper. Retrieved from <https://www.scienceeurope.org>

Humanities Quotes. Retrieved from <https://www.brainyquotes.com>

'What are Humanities all about?' (2018). Retrieved from <https://www.stydyMalasia.com>

DEVELOPMENT OF ELECTRONIC TIME LOCK CONTROL FOR SECURITY SYSTEM

¹Oni, E. O., and ²Olawuni, A.

¹Department of Electrical and Electronics Engineering, Villanova Polytechnic Imesi-Ile, Osun State Nigeria

²Department of Electrical and Electronics Engineering, Osun State Polytechnic Iree, Osun State Nigeria

Corresponding Author Email & Phone No: opson2k5@gmail.com, 08034815068

ABSTRACT

The problems associated with production of electronic devices without corresponding locking system has been a serious concern in the security system. This paper looked into the development of electronic time lock control system in security system. Due to the fact that lives and property may be at stake, it is important to always have a reliable lock system, putting into consideration the high rate of crime and insecurity. The design is made of a keypad unit for entering the access time, a LCD that displays different messages at specific time, a door controller section made up of an H-bridge driver IC that controls the movement of the motor attached to the door and an alarm system that triggers when the conditions are bridged. The whole system is controlled by an AT89S52 microcontroller programmable IC. The setup allows the user to operate in real-time and also preserving the time data if the main power supply fails. The design is meant to prevent unauthorized person from having access to ones properties through the use of times and it's focused on security system for buildings, cars, safes, doors and gates.

Keywords: Locking system; Microcontroller; Programming; LCD; Security system

1. INTRODUCTION

Over the years, various control systems have been designed to prevent access to unauthorized user (Alan, 2013). The main reason for providing locks for our buildings, home, office, church, school, etc. is for security of our lives and property. It is therefore important to have a stress free and convenient means of achieving this purpose. Automatic doors have become a standard feature on many different types of buildings and they are becoming increasingly popular every day with respect to developing an effective electronic devices geared towards providing adequate security. Home security has been a major issue of concern because of the dramatic increase in crime rate and everybody wants to take proper measure to prevent intrusion or unwanted/unauthorized user. In addition, there was a need to automate home so that user can take advantage of the technological advancement in Real Time technology and computer control system (Alan, 2016). It is also interesting to know that commonly used devices like a telephone land line or the Global System of Mobile communication (GSM) can possess features which can be used domestically by individuals or industries to operate appliances like; door, electric bulb, television, refrigerator, air condition, robotic arm, etc.

Therefore, the challenges associated with continued production of electronic devices without a corresponding locking system has been met with the design and construction of programmable electronic time lock. No doubt, this will serve as a measure to prolong the life span of such electronic devices and also ensure adequate safety and required protection of data, files, electronic devices and a host of facilities which include computer systems, televisions and most especially to provide a means for restricting and disallowing unauthorized user from gaining access to an automobile car through the ignition system

The micro controller-based time lock presented here is an access control system that allows only authorized persons to access a restricted area, this system is best suitable for corporate offices, automated machine (ATMs) and home security. It comprises a small electronic unit which is in fixed at the entry door to control a solenoid-operated lock with the help of a stepper motor, when an authorized person enters predetermined user password via the global system for mobile communication (GSM) keypad, the stepper motor is operated for a limited time to unlatch the solenoid-operated lock so the door can be open. At the end of preset delay time, the stepper motor is operated in reverse direction and the door gets locked again. When the time has been incorrectly entered three times in a row, the time lock will switch to block mode, this function thwarts any attempt by 'hackers' to quickly try a large number of times in a sequence (Allen, 2015). If the user forgets his password, the time lock can be accessed by a unique 8-digit administrator password and the secret time can be changed any time after entering the current time (Master time)

The increasing rate of crime, attacks by thieves, intruders and vandals, despite all forms of security gadgets and locks still need the attention of people to find a permanent solution to the well-being of lives and properties of individuals. To this end, we design a cheap and effective security system for buildings, cars, safes, doors and gates, so as to prevent unauthorized person from having access to one's properties through the use of times, we therefore experiment the application of electronic devices as locks.

2. REVIEW OF RELATED WORKS

2.1.1 Design and Construction of Automatic Sliding Door

Lew Hewitt and Dee Horton instigated the idea of building an automatic sliding door back in 1954, when they saw that existing swing doors had difficulty operating in Corpus Christi's (a Catholic festival) winds. So instead of always fixing glass doors shattered by Corpus Christi's wind they tried to give the problem a lasting solution. Their work led to the invention of an automatic sliding door that would circumvent the problem of high winds and their damaging effect. Their work was later patented and in 1960, Horton Automatics developed and sold the first automatic sliding doors in America. Their automatic doors used mat actuator as the access control mechanism. Over the years, modifications have been made to improve this door. In 2015, the manager of building, security systems at the University of Maryland and one time head of security for the Washington, D.C. from 1978-1988, designed and implemented a centrally controlled, electronic door access system to secure the University of Maryland.

2.1.2 Automatic Doors

The automatic slide door invented by Dee Horton and Lew Hewitt were not the only kinds of automatic doors that exist. Many other types of doors have also been patented and achieved commercially, they include: - Automatic slide door, Automatic swing doors, Automatic folding doors and Automatic revolve doors

2.1.3 Access Control and Security

To control access, a door must be modified in some manner to provide signals to the system to let it know whether or not the door is to be open or close, prohibiting passage of unauthorized persons. Simple access control is frequently used by corporate organizations and firms to limit access to their facilities, eliminating the need for a guard as well as the cost and headache associated with key control.

3. METHODOLOGY

3.1 DESIGN OF THE BLOCK DIAGRAM

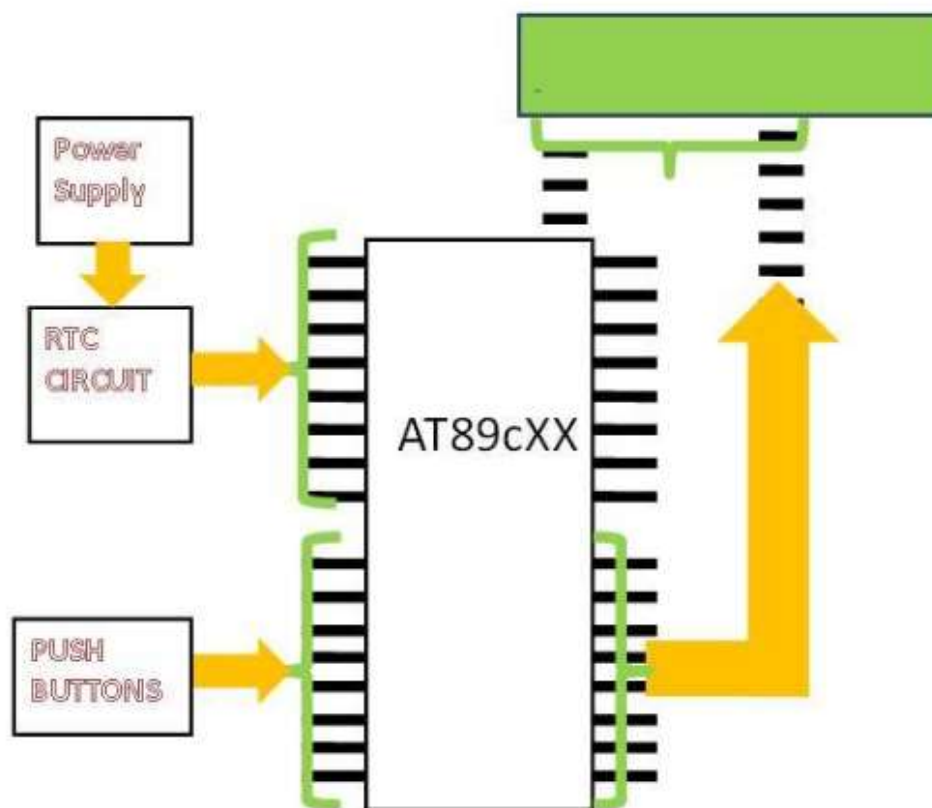


Fig 3.1: Block diagram

Real time clock is a digital clock which display real time on 16x2 LCD display. Here in this circuit, we can also set alarm and time. The DS1307 serial real-time clock (RTC) is a low-power, full binary-coded decimal (BCD) clock/calendar plus 56 bytes of NV SRAM. Address and data are transferred serially through an I²C, bidirectional bus. The ck/calendar provides seconds, minutes, hours, day, date, month, and year information. The end of the month date is automatically adjusted for months with fewer than 31 days, including corrections for leap year. The clock operates in either the 24-hour or 12-hour format with AM/PM indicator. The DS1307 has a built-in power-sense circuit that detects power

failures and automatically switches to the backup supply. Timekeeping operation continues while the part operates from the backup supply

4. RESULTS AND DISCUSSIONS

An AT89S52 microcontroller is a programmable IC, which needs to be programmed to suit the design. The source code was first compiled on the notepad and then test run on keil uvision Simulator. Proper concentration was given to the code during compilation in order to avoid any logical and syntax errors. The hex file was then generated and transferred to the chip with the aid of a universal programmer designed by topwin.

All the ICs were tested separately on a bread board to make sure they work properly. The whole circuit was also tested on the bread board to make sure it was design correctly. During construction, each section was tested as it was built to make sure the connections were done correctly before going onto the next section. This was done by applying the correct logic signals to the ICs and observing the output.

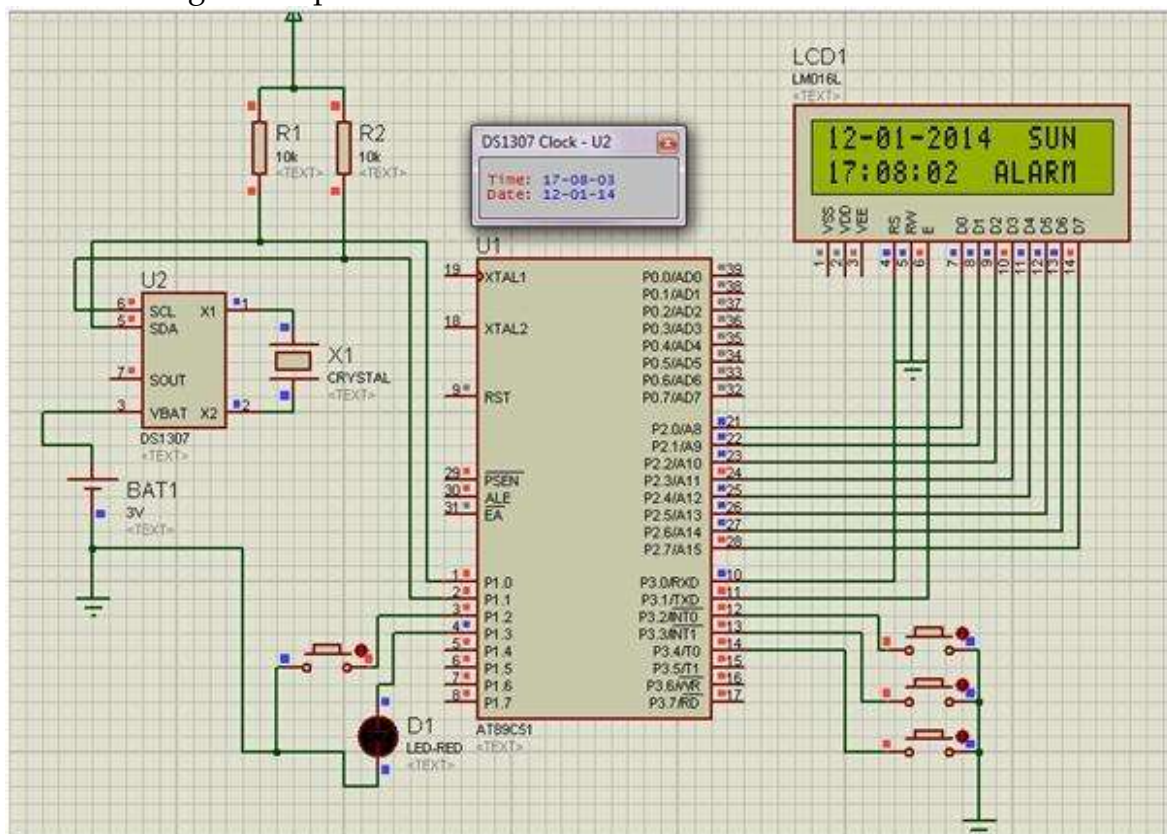


Fig 4.1 Proteus simulation

When the circuit is powered on, a welcome message is displayed on the LCD and a menu with 9 options (0-8) is displayed (refer to the figure). The options are explained here:

- 0: Erase EEPROM (fills eeprom with 0xff bytes)
- 1: Write EEPROM (starts writing eeprom starting with 0x0000 address)
- 2: Read EEPROM (reads eeprom starting with 0x0000 address)
- 3: Write EEPROM page (writes one page of EEPROM at specified page number)

- 4: Read EEPROM page (Reads one page of EEPROM at specified page number)
- 5: Display RTC Date (Displays current date from RTC)
- 6: Display RTC time (Displays current time from RTC)
- 7: Update RTC Date (Setting new date in RTC)
- 8: Update RTC time (Setting new time in RTC)

5. CONCLUSION

The device “electronic time lock” is designed and implemented successfully. It describes the hardware structure required to implement a real-time clock using the DS1307 circuit, monitored by a development system equipped with an ATMEL family microcontroller. The real-time clock operates continually, powered by a battery backup supply. When the main power supply is “on”, the clock is displayed on an LCD. This setup allows the user processes to operate in real-time, preserving the time data if the main power supply fails. The developed program features a series of commands for initializing, displaying and managing

REFERENCES

- Alan Muinford (2013): The IT Manager: Security and Training, Prentice-Hall, Inc. New Jersey.
- Alan Pritchard (2016) A Guide to Computer Literature: An Introductory Survey of the Sources of Information, Clive Bingley Ltd, United Kingdom.
- Allen Palms (2015): Lock: Locks and locked, Time Square, United Kingdom.
- Anderson, F. (2018): Computer in Agriculture, Acta-Hall, United Kingdom.
- Assa Abloy (2016): Door Opening Solutions, Whispering fuse, Maryland.
- Baker C, R. (2015): An Analysis of Fraud on Locking Devices, Spectra Inc, New York.
- Boxus, P. (2018): Multiple-Cycle Micro propagation Control, Specks Publishers, London.
- Carter G.N (2013): An Input-Output Analysis of The Nigerian Economy Cambridge press, London.
- Dennis Roddy and John Coolen (2018): The Small World of Microcontroller, Computer Prints, New York.
- Freeman, R. and Meed J. (2013): How to Study Effectively, Collins Educational, London.
- Irving Gottfried (2011): Basic Electronics Procedures, Foulsham-Tab Limited, USA.
- Jeffrey Whirrtten, and Lanni Bentley, (2001): System Analysis and Design, (Fifth Edition), Mc Graw Hill Publisher, New York.
- Kevin Dittmam (2016): Dictionary of Computer Information Processing Telecommunication (second Edition), Mc-Graw Hill Inc.
- Loveday, R. (2014): A First Course in Statistics, Newman Books, New York.

- Michaelson, H. B. (2010): How to Write and Publish Research Engineerring Paper and Reports, (Third Edition): Phoenix Az, Oryx.
- Morris Mano and Charles Kime (2011): Logic and Computer Design Fundamentals, Space Design Inc. Arkansas.
- Osy Igweonyia (2018): Standard Methods in Business Research (Millennium Edition), New Generation Books, Enugu.
- Sandra kay Miller (2016): How to analyze security Needs 2010 Penton Media, Inc.
<http://en.wikipedia.org/wiki/time.lock>

AMADIOHA AS A PREFIGURATION OF CHRIST IN IGBO TRADITIONAL RELIGION: TOWARDS THE MANAGEMENT OF RELIGIOUS DIVERSITY

Prof. KANU, Ikechukwu Anthony, OSA

Rector

Villanova Polytechnic, Imesi Ile

Osun State, Nigeria

ikee_mario@yahoo.com

Abstract

This paper is a comparative study of Amadioha known as the son of Chineke, and sometimes referred to as the husband of Ala in Igbo traditional religion, with the person of Jesus Christ, the Son of God and the Second Person of the Most Holy Trinity of the Christian religion. The comparative method of investigation is, therefore, employed to investigate the possibility of relationships between Amadioha in Igbo Religion and Jesus Christ. It strongly asserts that certain similarities exist between Amadioha worshipped among the Igbo before the advent of Christianity, and Jesus Christ of the Christian religion. While it does not in any way attempt at equating Amadioha with Jesus Christ, this paper believes that Amadioha, rather being thrown to the background as a pagan deity can be understood as an imperfect expression of Christ given to the Igbo in preparation for the revelation of Christ. Christ would have been more comprehensible to the Igbo if the missionaries to move from the understanding of Amadioha to the understanding of Jesus Christ, rather than presenting the gospel message as an entirely new message to the Igbo. Catechesis always make more impact if it begins from what the people know to what they do not know.

Keywords: Amadioha, Typology, Jesus Christ, Culture, Gospel, Igbo, Management

Introduction: The Looming Concern

In his address to the British Parliament on 2nd February 1835, an address which was an expression of his views on the 1813 Act of the British parliament (which sought to set aside money for the promotion of scientific study and native literature among the British colonies), Lord Thomas Babington Macauley, a British Historian and Whig politician said:

I have travelled along the length and breadth of Africa and I have not seen one person who is a beggar who is a thief, such wealth I have not seen in this country, such high moral values, people of such caliber, that I do not think we will ever conquer this country, unless we break the very backbone of this nation, which is her spiritual and cultural heritage and therefore, I propose that we replace her old and ancient educational system, her culture, for if the Africans think that all is foreign and English is good and greater than their own, they will lose their self-esteem, their native culture, and they will become what we want them, a truly dominated nation (2.2.1835).

From the foregoing, it is, therefore, not surprising that the colonial disposition towards the African culture and religion was that of condemnation. They identified everything “good to be white” and everything “bad to be black” (Nkrumah, 1981). As seen in the words of Lord Thomas Babington Macauley, the basic purpose of their

condemnation of the African culture and religion was to create a moral ground for the destruction of the traditional society in its various forms and modes. Thus, the African cultural and religious worlds were reconstructed according to the colonial vision and design (Ekwuru, 1999), thereby forcing it to derail from its unique tract of cultural civilization. It was, therefore, not surprising that Achebe (1958) in his celebrated classic and epoch-making piece, *Things Fall Apart*, laments the consequences of the encounter between the European and African cultures. He particularly looks at the Igbo society, specifically at the period when the white man broke into it as a missionary, trader and administrator:

Does the white man understand our custom about land?, asked Okonkwo, "How can he when he does not even speak our tongue?" responded Obierika, and then he continued, "But he says our customs are bad; and our own brothers who have taken up his religion also say that our customs are bad. How do you think we can fight when our brothers have turned against us? The white man is very clever. He came quietly and peaceably with his religion. We were amused at his foolishness and allowed him to stay. Now he has won our brothers and our clan can no longer act as one. He has put a knife on the things that held us together and we have fallen apart" (pp. 124-125).

The earliest Christian Missionaries who worked hand-in-hand with the colonial masters in the Igbo traditional society, tried to baptize the Igbo-African people and missed-out baptizing the Igbo-African culture. Jordan (1949) and Okonkwo (2002) observe that they referred to the Igboland that they had come to evangelize as the citadel of Paganism and the domain of the Lord of Hell. Isichei (1970) noted that the missionary Priest Rev. Fr. Lutz advised his colleagues during these early missionary ventures to note that this portion of 'Dark Continent (Africa)' was cursed and engulfed by the power of the devil. According to Okonkwo (1998ab&c), such missionary postures created more damaging effect on the Igbo which has until the present age, made the massage of the Gospel to a large extent in Igbo land an 'Engli-Igbo-Church'. Uzukwu (1988) described the this missionary frame of mind as oppressive and dominant, and also confirms the missionary frame of mind that portrayed the Igbo religious language, culture and worldview as inferior and as such was due for replacement.

This paper is anchored on the believe that the time has come for African scholars to rewrite their story told by their western visitors, who appropriated to themselves a superiority of knowledge they lacked the capacity to possess in the first place- not knowing the language and the culture of the people they came to evangelize. This paper attempts at studying the relationship between Amadioha and Jesus Christ, a comparative study that is more sympathetic, non-dominant and non-derogatory to the African culture and religion, so as to enhance a better understanding of the gospel by beginning from what the African people already know as part of their religion and culture.

From the Known to the Unknown

In the study of Christology emerged the idea of Christology from below. It begins from what the people know to what they do not know; it can be referred to as an

ascending theory. Bosch (1973) and Kanu (2016) aver that the breakthrough in Christological studies, came with the advent of Third World Theologies in their various forms, constructed from a plethora of socio-political contexts relevant to the people. The essential contextual approach to Third World Christologies distinguishes African Christology from Western Christology, which was basically an elitist enterprise, with philosophy as its main source and the interlocutors, the educated non-believer. The Christology of the West was, therefore, distinguished as a descending Christology or a Christology from above. It emphasized the divinity of Christ, and said very little about the historical or ontological context of such a study. This notwithstanding, African Christology begins from below, from the underside of history, its main source apart from Scripture and Tradition, the social sciences and its main interlocutors, the poor and the culturally marginalized. The primary concern of ascending Christology is “how will Christ and his message be presented to individual cultures, in such a way that particular peoples would understand and appreciate Jesus within categories that they have?” Thus, Schreier (1985) maintains that theology is meant for a community and not to remain the property of a theologian class. The contemporary signs of the times is a *locus theologicus* in Christology. It is within this context that we can speak of Jesus as the new Amadioha, just as we speak of Jesus as the ne Moses. That does not in any way mean that Jesus is the same as Moses, and this helped the Jewish people who were acquainted with Moses to understand Jesus much better. The old having passed away, the coming of Jesus puts human history on a new level of existence.

Jesus came from the Jewish background whose religiosity, prayers and practices of worship were well defined. However, His attitude towards the Jewish cult was one of Fidelity and autonomy. In fidelity, Jesus had respect for the traditions of His time. He came not to abolish the law and the prophets but to fulfill them (Matthew 5:17). He was faithful in observing the offering of sacrifices in the temple (Matthew 21:12), the service of Word in the synagogue (Matthew 6:6), observing the day of the Sabbath, the feasts of Passover, Tabernacle, and Dedication (Matthew 26:17-19). However, His fidelity did not lie in passivity, but represented that of a “critical yes”, a reforming fidelity, that placed a demand of purification to the worship of his time. His autonomy found expression in His challenge to fellow Jews to spiritualize and interiorize the Jewish religion (Kanu 2019).

When Jesus preached the Gospel, He used categories familiar to His audience. We hear of absentee Lords and Tenant revolts (Matthew 21:31-45); Small family-run farms (Matthew 21:28-30); debts and debtors (Matthew 18:25-35); extortion and corruption (Luke 16:1-9); uncaring rich (Luke 12:18); day labourers paid merely subsistent wages (Matthew 20:1-6); these graphically reflect the detail of the picture of Palestinian countryside during His time. St Paul writes, “To the Jews I became a Jew, in order to win Jews... I have become all things to all men that I might by all means save some” (9:20 & 22). In this context, St Paul was talking about mission, in a way that brings the Christian experience into the cultural experience of the local people (Kanu 2019). When Jesus began from below, from what the people know to the new message he was bringing them, he was establishing a method of evangelization and research that

must begin from the underground to the surface. This leads us to the understanding of culture as containing the seed of the Word of God.

Culture as *Logos Spermatikos*

During the 2nd century, Christianity had moved beyond the walls of Jerusalem to the Greek and Roman territories, with the challenge of Christianity coming face to face with other religious and cultural traditions outside of Judaism. This required a more dynamic method of evangelisation that does not in any way compromise the gospel message. Rather than a radical rejection of the Greek culture in which they found themselves, they indulged in a great appreciation and partial acceptance of the Greek culture as a starting point for their sowing of the seed of the gospel message among the Greeks. Although they were primarily Christian theologians, they employed Greek culture and philosophy for the service of the gospel message for they found philosophical themes and concepts useful for developing and clarifying the Christian message. At the time that these Christian thinkers brought the message to the Greeks, Neo-Platonism, a revival of Platonic philosophy, was at its peak. These Christian thinkers found Neo-Platonism a useful tool for the explanation of Christian doctrines. Prominent among these Christian writers were: Justine Martyr, Clement of Alexandria, Gregory of Nyssa, Origen, Augustine, among others. According to Omoregbe (1997):

These men Christianized Neoplatonism by giving Christian interpretation to certain theme and concepts in Neoplatonic philosophy, such as Logos, the divine mind, creation, the soul, the problem of evil, the problem of the universal and the particular, the problem of man's freedom and God's foreknowledge, etc. (p. 93)

These men were, therefore, the first, outside of the Apostles to raise the problem of the relationship between the doctrinal tradition of the church and other cultures outside of Jerusalem. However, more interesting is the position taken by Justine Martyr on this matter, when he tried to engraft Stoic concept of the logos into Christian revelation. Justine in his analysis of Natural law linked it to his concept of man. He saw man as composed of three distinct parts: body (σῶμα, *soma*), soul (ψυχή, *psyche*), and spirit (πνεῦμα, *pneuma*). He used the term ζωτικὸν πνεῦμα (*zotikon pneuma*), in Latin (*spiritus vitalis*) to describe the spiritual dimension of the human person. The ζωτικὸν πνεῦμα, he understands as the divine principle in man, the distinguishing feature of his nature, his unique dignity and as a participation in the very life of the Logos, and so he calls it the "seed of the word" or "reason in man", in Greek, the σπερματικός λόγος (*spermaticos logos*) and in Latin, the *ratio seminalis*.

Through the σπερματικός λόγος, the divine principle in man, man was able to govern himself and pursued virtue even before the coming of Christianity. This divine principle, he argues, has an intimate connection with the Divine Logos, the Word of God. "In every man," St. Justin Martyr believed, "there is a divine particle, his reason, which at least before Christ's coming was man's best guide in life." (*Ap. II* 10.8). This thus created a burden in man to live in accordance with reason and not against or without reason. By thus doing, the human person participated in divine reason, which formed his fundamental law. Through this reason, men without express faith in

Christ, already experienced Christ the Logos at work in them (Lex Christianorum 2010). He writes:

We have been taught that Christ is the First-born of God, and we have declared . . . that he is the Word of whom every race of men were partaken, and those who lived reasonable are Christians, even though they have been thought atheists." (*Apol. I*, 46.1-4)

He writes further that:

All right principles that philosophers and lawgivers have discovered and expressed they owe to whatever of the Word they have found and contemplated in part. The reason why they have contradicted each other is that they have not known the entire Word, which is Christ. (*Apol. II*, 10.1-3)

In his use of the concept 'Logos', St. Justin Martyr was certainly not viewing these *logoi spermatokoi*, these divine sparks in men, as being of the same substance (*homoousios*) as the divine Logos itself, though they clearly share in his mind, in some insubstantial, created, and relatively distant sense, in the divinity of the Logos (*homoiousios*). He avers that Christ was already present in local cultures in an imperfect way even before the Word of God was preached to these cultures. This he understood in reference to the scriptural parable of the sower (Mtt 13:3-9), as grace sowed already in the hearts of men, or in terms of creation, where men even before the coming of Christ were already created in the image and likeness of God (Gen 1:26-27).

An image which scholars have used to explain St. Justin Martyr's concept of Logos Spermatikos is Plato's chariot allegory of the soul. In his dialogue *Phaedrus* (sections 246a - 254e), Plato uses the allegory of a chariot to explain his view of the human soul. Plato describes the inner workings of man as a charioteer governing a chariot pulled by two horses, one white and one black. The white horse is long-necked, well bred, well behaved, and runs without a whip. The black horse is short-necked, poorly bred, and undisciplined, requiring constant guidance. St. Justin Martyr would make his *logos spermatikos* the charioteer charged with the task of using intellect and reason, that is, *logos*, to guide the white horse of the soul (*psyche*), and its rational moral impulses, and the black horse of the body (*soma*), with its irrational and concupiscent nature, to the true and the good. To St. Justin, the governing principle in us, the *spermatikos logos* or *zotikon pneuma*, is the source faculty of the natural moral law, the law that God has placed in the heart of man and which distinguishes him from beasts. It is what makes him a child of the one only God, and makes him brother with all those of his kind. It is the ruler, the pilot, of his lesser natures, part rebellious, part docile (Lex Christianorum 2010).

Justin the Martyr holds that different cultures were inspired by God and should be appropriate for His service. He saw culture as a prefiguration of Christ: a *Logos spermatikos* (seed bearing word). He taught that the *Spermatic Logos* has been implanted in the heart of every human culture since all things were created through Christ, with Him and for Him.

Amadioha in Igbo Traditional Religion

Amadioha also known as Igwe is the son of *Chineke*, and sometimes referred to as the husband of *Ala*. In some parts of Igboland, it is referred to as *Amadiora* or *Kamalu*. The colour of this deity is red, its symbol is a white ram and its day for worship is the Afo market day. This explains why during sacrifices to Amadioha, a white ram is always preferable (Kanu 2018). It is a god of justice, in that it carries out vengeance for the weak; it is the god of love, peace, unity and the messianic hope of those who are in great need; and also, the god of enterprise that brings personal wealth.

Amadioha stands for the collective will of the people. This is derived from its etymology which means 'man of the people'. Its associate is the Anyawu, the god of the sun, and the sun, astrologically, is its governing planet. This explains why, while Anyawu is popular in the northern part of Igboland, Amadioha is well revered in the southern part of Igboland, however, Amadioha remains a very popular deity in the entire Igboland (Kanu 2018). It is similar to the god Shango in the Yoruba religion, who is also considered as the god of thunder and lightning, and also Sokogba (Nupe) Ogiuwu (Edo); Eto, Itiri, Egba (Urhobo).

Amadioha is considered the "Owner of the Sky." Whenever lightning kills a person or strikes an object, the event is often considered a sign or message from Amadioha. Lightning was believed to have its track and so the Igbo would always avoid those tracks. It is also referred to as the husband of *Ala*. Just as a husband fertilizes his wife so does *Amadioha* fertilize his wife *Ala* through rainfall. Dibia, or priests, are, therefore, asked to determine what wrong has been committed by the victim or the owner of the object. Not minding the violent image that thunder and lightning carry, Amadioha is presumed to be a gentle deity who gets violent only when provoked (Kanu 2018). Amadioha is an agent of *Chukwu* against undetected crimes and who brings divine blessings to people. Through his intercession, *Chukwu* nourishes the green vegetation of the earth, sees to the health of the living, lightens up the world and gathers evidences as well as bears witness for good deeds and against evil deeds. It can pull down or up trees that have evil hidden in them, and such events is usually understood as an exposure by Amadioha. It can also destroy farmlands where people have buried charms to harm their enemies or kill their opponents. It ensures that the natural order as set by *Chukwu* is not upset. Its principle is simple, 'eye goes for an eye and a tooth goes for a tooth'. Whatever one sows, one will reap" (Kanu 2013). Amadioha is, therefore, referred to as the deity that manifests the wrath of *Chukwu*.

Apollos (2002) avers that in the shrine of Amadioha, there is usually a long bamboo pole normally suspended horizontally in the air by two strong big forked sticks, one on each side. Some charms and medicinal grass are tied to the suspended pole, smeared by blood of a fowl, and pasted with feathers. It is believed that any evil doer can never pass under it and go free without being struck to death or afflicted with an incurable disease. Big trees and thick bush normally surround the Amadioha shrine, with antiquated objects like broken pots, boxes, bottles, mirrors, iron pots and cups found inside the grove. Other special instruments found in the shrine include: Ogu (hoe), Mpi Okpu (animal horn), Opi ele (antelope horn), Igbugbo (metal gong) and Nma (knife). Animals dedicated to Amadioha include: Ebulu Amadioha (ram of

Amadioha). Aturu Amadioha (sheep of Amadioha); Ehi Amadioha (cow of Amadioha). These are regarded as the daughters and property of Amadioha. Nobody dares harm or kill them to avoid the wrath of Amadioha.

From Amadioha to Jesus Christ: Revisiting the Missionary Mandate

The missionary enterprise in Africa was contrary to the scriptural missionary mandate on various fronts. The missionary enterprise in Africa was overtaken by personal biases, ignorance, etc. The Pauline Areopagus method (Act.17.23-31) of evangelization is at the heart of the missionary mandate of Christ. At Paul's meeting in Athens with the Athenians, Saint Paul, though he was not impressed at the sight of Athens, an idol-ridden pantheistic city and people, he –Paul the missionary *per excellence*, did not *prima facie*, condemn neither the idols nor the people. Paul's sympathetic, non-dominant and non-derogatory approach created a free and natural ground for what Okonkwo (2019) referred to "his missionary-depth-grammatical-message-delivery" (p. 17). Paul proceeded with a secular wisdom and called the 'idol-ridden-pantheistic Athenians-a God-fearing and extremely scrupulous people in religious matters (Act, 17:23). Paul did not gloss-over their religious and cultural values but rather showered understanding to them. St. Paul after his polite and humane method of meeting with foreigners – the gentiles, he still was vehement and firm in his solemn proclamations as the method *per excellence* for the condemnation of false gods and idolatry. Obviously, Saint Paul began from what the Athenians knew to what they did not know. He led them from their unknown gods, which were known to them, to the unknown God known to him.

The Pauline method of evangelization is in accord with the economy of the incarnation and reflects in a profound manner in the teaching of Pope Pius XII, who in his *Evangelii Praecones* (Missionary Encyclical) which addressed the missionary mandate and missionaries thus:

The Church from the beginning down to our time has always followed this wise practice: Let not the Gospel on being introduced into any new land, destroy or extinguish whatever its people possess that is naturally good, just or beautiful. For the Church, when she calls people to higher culture and a better way of life under the inspiration of the Christian religion, does not act like one who recklessly cuts down and uproots a thriving forest. No. She grafts a good scion upon the wild stock that it may bear a crop of more delicious fruit (no. 66-67).

The missionaries would have made a greater impact, if they had begun from the religious categories of the African people, from the gods they knew to the God that they knew not. An attempt would be made, therefore, to show through identifying the similarities between Amadioha and Jesus Christ, that Amadioha was actually a prefiguration of Christ in Igbo culture.

Table 1: Showing the Relationship between Amadioha and Jesus Christ

No	Jesus Christ	Amadioha
1.	Jesus Christ is the Son of the Father. The Nicene Creed reads:	Amadioha, also known as Igwe, is the son of <i>Chineke</i> .

	"We believe in one Lord Jesus Christ, the only Son of God, eternally begotten of the Father; God from God, Light from Light, true God from true God; begotten not made, one in being with the Father". In the Apostles' Creed it reads: "I believe in God, the Father Almighty, Creator of heaven and earth; and in Jesus Christ, His only Son, our Lord; who was conceived by the Holy Spirit, born of the Virgin Mary, suffered under Pontius Pilate, was crucified, died, and was buried."	
2.	Jesus Christ is the Light of the World. The Nicene Creed refers to Jesus as: "Light from Light, true God from true God" In the Gospel of John Jesus says: "I am the light of the world. Whoever follows me will never walk in darkness, but will have the light of life." (8:12) "When I am in the world, I am the Light of the World." (9:5)	Amadioha is symbolized with Lightening. Whenever lightning kills a person or strikes an object, the event is often considered a sign or message from Amadioha. Even in pointing out these similarities, huge differences are noticeable, explaining why it is called a prefiguration.
3.	Jesus is symbolized in the Lamb. "The next day he saw Jesus coming to him and said, "Behold, the Lamb of God who takes away the sin of the world!" (John 1:29) "And they overcame him because of the blood of the Lamb and because of the word of their testimony, and they did not love their life even when faced with death." (Rev. 12:11)	Amadioha is symbolized in the ram. Wherever a shrine is dedicated to Amadioha, the symbol of the ram is always present. Moreso, those who bring sacrifices to be offered to Amadioha always bring Ram as the choice sacrifice for Amadioha.

	""These will wage war against the Lamb, and the Lamb will overcome them, because He is Lord of lords and King of kings, and those who are with Him are the called and chosen and faithful." (Rev. 17:14)	
4.	Jesus is an intermediary between God and His children on earth. <u>"For there is one God and one mediator between God and men, the man Christ Jesus, who gave Himself as a ransom for all—the testimony that was given at just the right time. For this reason I was appointed as a herald, an apostle, and a faithful and true teacher of the Gentiles". (1 Tim 2:5-6)</u>	Amadioha is an intermediary between traditional Igbo society and Chukwu. Amadioha is a functionary in the theocratic governance of God. It can also be referred to as a dean of God's creation.
5.	Jesus was sent by the Father and so He did only what the Father wanted of Him. Jesus says: "When you have lifted up the Son of man, then you will know that I am he and that I do nothing on my own but speak just what the Father has taught me" (John 8:28)	Amadioha does nothing of its will. It is not an end in itself but a means to an end, and everything it does is dependent upon Chukwu's approval; this does not in any way change the fact that it is a powerful spiritual being.
6.	Jesus was fully part of the creation of the world: "In the beginning was the Word, and the Word was with God, and the Word was God. He was with God in the beginning. Through him all things were made; without him nothing was made that has been made. In him was life, and that life was the light of all mankind." (Jn 1:1-4)	Amadioha is also considered to be a creator God.
7.	Jesus was not created by the Father, but proceeds from the Father.	Amadioha was not created by Chukwu. It emanated from Chukwu.

	The Nicene Creed reads: "We believe in one Lord Jesus Christ, the only Son of God, eternally begotten of the Father; God from God, Light from Light, true God from true God; begotten not made, one in being with the Father".	
--	---	--

Although the above table has attempted at a comparative study between Jesus Christ and Amadioha, it is not an attempt to show that Amadioha is the same as Jesus Christ. There are very obvious differences between Jesus Christ and Amadioha, such as- Christ is not just the Son of God, He and the Father and the Holy Spirit are equal in essence, brightness, glory and power, a place which Amadioha does not enjoy in relation to Chineke. Amadioha is associated with much violence, but Jesus Christ is the Prince of Peace. These differences were not highlighted because it is not the focus of the paper. The concern looming at the horizon of this paper is to show that there are relationships of interest between Jesus Christ and Amadioha, and that an understanding of Amadioha could be of help for a better understanding of Jesus Christ.

Concluding Remarks

The foregoing has studied, in a comparative style, the relationship between Amadioha of Igbo traditional religion and Jesus Christ of the Christian religion. It began by exposing the missionary compromise of the missionary mandate. That is, Christ's personal mandate and charge for the evangelization of peoples. His personal charge and mandate called up in Mt. 28: 18-20 states: "Go, therefore, make disciples of all nations"- this according to Okonkwo (2002) involved breaking, inter alia, the boundaries of cultural, political, socio-economic, socio-linguistic, ecological and socio-psychological heritages and identities. This missionary mandate must reach all extensive possibilities embracing, collecting and connecting nationalities and peoples, with all the linguistic and cultural differentiations involved. Thus, the Church in the *Ad Gentes*, calls for borrowing from the customs, traditions, wisdom and learning of local people.

In harmony with the economy of the Incarnation, the young churches, rooted in Christ and built up on the foundation of the Apostles, take to themselves in a wonderful exchange all the riches of the nations which were given to Christ as an inheritance (cf Ps. 2:8). They borrow from the customs and traditions of their people, from their wisdom and their learning, from their arts and disciplines, all those things which can contribute to the glory of their Creator, or enhance the grace of their Savior, or dispose Christian life the way it should be (No. 22).

The document adds further that:

From here... the Christian life will be accommodated to the genius and the dispositions of each culture. Particular traditions, together with the peculiar patrimony of each family of nations, illumined by the light of the Gospel, can then be taken up into Catholic unity. Finally, the young particular churches, adorned with their own traditions, will have their own place in the ecclesiastical communion, saving always the primacy of Peter's See, which presides over the entire assembly of charity (No. 22).

On these grounds, this work submits that Igbo traditional religious beliefs and culture, including Amadioha, were necessary paths that were preparatory for the reception of the Lord Jesus. In this case, Amadioha was a 'school master', given directory to the Igbo from above to help them understand and appreciate Jesus Christ.

References

- Achebe, C., *Things fall apart*. Britain: Heinemann, 1958.
- Apollos I. (2002). *Amadioha: The Igbo traditional god of thunder*. Retrieved 25/7/17 from <http://www.vanguardngr.com/2012/09/amadioha-the-igbo-traditional-god-of-thunder>
- Bosch, D. (1973). God in Africa: Implications for kerygma. *Missionalia*. 1. 3-21.
- Ekwuru, E. (1999). *The pangs of African culture in travail*. Owerri: Totan.
- Isichei, E. (1970). Seven Varieties of Ambiguity: Some Patterns of Igbo Response to Christian Mission, In *Journal of Religion in Africa*.
- Jordan, P. (1949). *Bishop Shanahan of Southern Nigerian*, Dublin.
- Kwame, N. (1981). *The struggle continues*. London: Panaf.
- Kanu, I. A. (2018). "Igbo-African Gods and Goddesses". *Nnadiabube Journal of Philosophy*. Vol. 2. No. 2. pp. 118-146.
- Kanu, I. A. (2013). The Dimensions of African Cosmology. *Filosofia Theoretica: Journal of African Philosophy, Culture and Religion*. 2. 2. 533-555.
- Kanu, I. A. (2015a). A hermeneutic approach to African Traditional Religion, philosophy and theology. Augustinian Publications: Nigeria
- Kanu, I. A. (2015b). African philosophy: An ontologico-existential approach to classical and contemporary issues: Augustinian Publications: Nigeria
- Kanu, I. A. (2019). Collaboration within the Ecology of Mission: An African Cultural Perspective. *The Catholic Voyage*. Vol. 15. pp. 125-149.
- Kanu, I. A. (2016). *Igbo-African Christology: A Cultural Christological Construct in Post-Missionary Africa*. **Germany: Lambert Publications.**
- Kanu, I. A. (2012). Towards an Igbo Christology, In Ezenweke, E.O and Kanu, A.I. (Eds) *Issues in African Traditional Religion and Philosophy*, Jos: Augustinian Publications.

[Lex Christianorum \(2010\). *St. Justin Martyr: The Spermatikos Logos and the Natural Law*.
lexchristianorum.blogspot.com/2010/03/st-justin-martyr-spermatikos-logos-and.html](http://lexchristianorum.blogspot.com/2010/03/st-justin-martyr-spermatikos-logos-and.html)

Omoregbe, J. I. (1997). *A simplified history of Western philosophy: Ancient and Medieval Philosophy*. Joja Educational Research and Publishers Limited

Okonkwo, J. (2002). *Onugaotu Ahiajoku Lecture Colloquium*, 2002, Owerri.

Okonkwo, J. (1998). Folks-Media and the New Era of Evangelisation: The Igbo Perspective, In: *Communication Socialis: International Zeitschrift fur Kommunikation in Religion, Kirche und Gesselschaft*, Salzburg.

Okonkwo, J. (1998). Oramedia-Traditions and the Igbo Question in Nigeria: A Philosophy of Identity, In Gehlaar, S. (Ed.), *Prima Philosophia*, Cuxhaven-Dartford.

Okonkwo, J. (2000). Language and Evangelisation: The Challenges of the Igbo Pastor, In Okonkwo, J. (Ed). *Pastoral Language and Evangelisation 2000*, Enugu, Fourth Dimension Publishers.

Okonkwo, J. (2002). Religious Language and Igbo Folks-Media: The Crisis- Situation of Modern Trend of Evangelisation, In Okonkwo, J. *et.al* (Eds.) *Onugaotu Ahiajoku Lecture Colloquium*, 2002, Owerri.

Schreiter, R. (1994). *Constructing local theologies*. Maryknoll: Orbis.

Uzukwu, E. (1988). Missiology Today: The African Situation, In *Religion and African Culture-Inculturation: A Nigerian Perspective*, SNAAP, Enugu.

CHALLENGES AND WAY OUT OF CYBER SECURITY ISSUES IN NIGERIA

Adenusi Dauda A.^{a*}, Adekunle A. U.^b, Ekuewa J.B.^c, Ayediran O.R.^d,

^{aa}Ibadan City Polytechnic, P.M.B. 10426, Ibadan, Oyo State.

^{bb}Federal Polytechnic Ede, P.M.B.231, Ede, Osun State.

E-mail: daudaadenusi2006@yahoo.com Tel: 08163302988 / 08063634490

Abstract

Cyber-space is a platform where you can process, receive and send information. It includes phone set, computer system, network, information stored on the network, network devices, all this constitute what is being called Cyber space. This cyber space is not secure, and the process to make it secure is known as Cyber Security. Cyber-crime refers to the series of organized crime attacking both cyber space and cyber security. The Internet is one of the fastest-growing areas of technical infrastructure development. Google, Wikipedia and Bing to mention a few, give detailed answers to millions of questions every day. Cyberspace is a world that contains just about anything one is searching for. With the advent of these advancements in information accessibility and the advantages and applications of the internet comes an exponentially growing disadvantage- Cyber Crime. Cyber security has risen to become a national concern as threats concerning it now need to be taken more seriously. This paper attempts to provide an overview of Cybercrime and Cyber-security. It defines the concept of cybercrime, identify reasons for cyber-crime and its eradication. It looks at those involved and the reasons for their involvement. Methods of stepping up cyber security and the recommendations that would help in checking the increasing rate of cyber-crimes were highlighted. The paper also attempts to name some bottleneck of cybercrime and present practical and logical solutions to these threats.

Keywords: Cyber-space, Cyber-security, Cyber-crime, ICT, Internet

INTRODUCTION

From business, industry, government to not-for-profit organizations, the internet has simplified business processes such as sorting, summarizing, coding, editing, customized and generic report generation in a real-time processing mode. However, it has also brought unintended consequences such as criminal activities, spamming, credit card frauds, ATM frauds, phishing, identity theft and a blossoming haven for cybercriminal miscreants to perpetrate their insidious acts.[13] This paper hopes to paint a developing scenario of the evolution of new type of war - the internet cybercrime - which will cause destruction of greater magnitude than the two past world wars- if not properly nipped in the bud. It has been established that Nigeria is an impressionable country. The advent of the internet to her was both welcome and full of disadvantages. The exceptional outbreak of cyber-crime in Nigeria in recent times was quite alarming, and the negative impact on the socio-economy of the country is highly disturbing. Over the past twenty years, immoral cyberspace users have continued to use the internet to commit crimes; this has evoked mixed feelings of admiration and fear from the general populace along with a growing unease about the state of cyber and personal security. This phenomenon has seen sophisticated and extraordinary increase recently and has called for quick response in providing laws that would

protect the cyber space and its users. The first recorded cyber murder was committed in the United States some years ago, according to the Indian Express, January 2012, an underworld don in a hospital was to undergo a minor surgery. His rival went ahead to hire a computer expert who altered his prescriptions through hacking the hospital's computer system. He was administered the altered prescription by an innocent nurse, this resulted in the death of the patient.[10] Statistically, all over the world, there has been a form of cyber-crime committed every day since 2016.[15] Prior to the year 2001, the phenomenon of cyber-crime was not globally associated with Nigeria. This resonates with the fact that in Nigeria we came into realization of the full potential of the internet right about that time. Since then, however, the country has acquired a world-wide notoriety in criminal activities, especially financial scams, facilitated through the use of the internet.[14] Nigerian cyber criminals are daily devising new ways of perpetrating this form of crime and the existing methods of tracking these criminals are no longer suitable to deal with their new tricks. The victims as well show increasing naivety and gullibility at the prospects incited by these fraudsters.[18] Since the issue of cyber security is raising a number of questions in the minds of Nigerians, it is only fair that we answer these questions. This paper seeks to give an overview of cyber-crime and cyber-security, its challenges and proffer solutions.

LITERATURE REVIEW

The issue of cyber-crime is one that has been discussed by many people with various perspectives on the issue, most coming at it from different sides than the others. Cyber-crimes have gone beyond conventional crimes and now have threatening ramifications to the national security of all countries, even to technologically developed countries such as the United States.[7] According to a publication [20] which states that "the adoption by all countries of appropriate legislation against the misuse of Information and Communication Technology (ICT), for criminal or other purposes, including activities intended to affect the integrity of national critical information infrastructures, is central to achieving global cyber security". The publication further stated that since threats could originate anywhere around the globe, the challenges are inherently international in scope thus requires international cooperation, investigative assistance, and common substantive and procedural provisions". In line with the above, Professor Augustine Odinma states that "cyber-crime is any illegal acts perpetrated in, on or through the internet with the intent to cheat, defraud or cause the malfunction of a network device, which may include computers and phones etc. The illegal act may be targeted at a computer network or devices e.g., computer virus, denial of service attacks (DOS), malware (malicious code). The illegal act may be facilitated by computer network or devices with target independent of the computer network or device".[5] Relating cyber-crime to the military in a paper depicting his vested interest in the country's military well-being, Major General Umo outlines that cybercrime, cyber terrorism, cyber warfare, cyber security are one and the same thing. This is because, stealing or forgery directed at an individual or an organization is synonymous to waging war on the target of the crime.[4]

Statistically, Nigeria ranked 43 in EMEA and ranked third among ten nations that commits cyber-crime in the world.[5] Professor Oliver Osuagwu, relating cyber-crime to the collapse of the educational sector, points out that cybercrime is causing near total collapse of the education community, particularly in Nigeria, with over 90% of criminals coming from this sector. Wrong value system has been identified as key factor encouraging cybercrime in Nigeria and the desire to get rich quick without working for it. Cyber-crime is complex and committed mostly from remote locations making it difficult to police. The absence of enabling law makes policing even more difficult.[9]

As earlier stated, the internet has a capacity for more good than bad. This is better explained by Mrs. R. Moses-Oke [14] when she said “The oxymoronic nature of the Internet is one of its unforeseen attributes; at its inception, no one, perhaps, could have clearly foreseen that, and how, the Internet would someday become a veritable platform for globalized criminal activities. As has been copiously remarked, the benefits of the Internet have so often been tainted by its versatility for virtual criminal activities that have vastly devastating physical and social impacts”. Many will agree that concerns are increasing as Nigeria is increasing its digitalization not only in the area of commerce and communications, but gradually into the area of electronic banking. In the past years, electronic banking and the cashless initiative have been in focus a lot. Amaka Eze in her article [12] for THISDAY live writes, “As the country integrates electronic payment system into its financial institution; a step that is expected to accelerate the nation’s e-commerce growth, the negative impact of cybercrime on businesses, and the absence of appropriate laws to guarantee the legality of online transactions, continue to create fear in the mind of users and potential online users”. Even as we talk about the rise and dangers of cyber-crime and breach in cyber security, there is need to focus on a way to reduce or completely eradicate its incidence in Nigeria. To restore the full glory of cyber security, those involved have to spend time to learn how cybercrime ring operates and then devise strategies to fight the menace. We cannot fight today’s crime with yesterday’s technology. It will always be a losing battle if security professionals are way behind the cyber criminals in terms of technological knowledge. It’s not just about computing skills, but IT Security expertise.

Also discussed previously are the costs incurred by the government due to the rise of cyber-crime. As for measuring costs, the Detica report in [3] considered four categories: costs in anticipation of cybercrime, such as antivirus software, insurance and compliance; costs as a consequence of cybercrime, such as direct losses and indirect costs such as weakened competitiveness as a result of intellectual property compromise; costs in response to cybercrime, such as compensation payments to victims and fines paid to regulatory bodies; indirect costs such as reputational damage to firms, loss of confidence in cyber transactions by individuals and businesses, reduced public-sector revenues and the growth of the underground economy. Having seen cybercrime from different perspectives, we would now discuss fully on cyber-crime and cyber-security, practical instances and solution mechanisms in the following sections. Much has already been done by the law enforcement agents, but cyber-crime is still perpetrated underground.

OVERVIEW OF CYBER-CRIME AND CYBER-SECURITY

As technology has developed so also the definitions of cyberspace, cyber security and cybercrimes. It has been argued that since computer crime may involve all categories of crime, a definition must emphasize the particularity, the knowledge or the use of computer technology.

Cyber-space is a platform where you can process, receive and send information. It includes computer system, our network, information stored on the network, network devices that you can connect to the network, all these constitute what we call Cyber space. Including your phone set. They are all cyber space. This cyber space is not saved, and the process to make it save is what we called Cyber Security. Cyber security is the collection of tools, policies, security concepts, security safeguards, guidelines, risk management approaches, actions, training, best practices, assurance and technologies that can be used to protect the cyber environment and organization and user's assets. Organization and user's assets include connected computing devices, personnel, infrastructure, applications, services, telecommunication systems, and the totality of transmitted and/or stored information in the cyber environment. Cyber security strives to ensure the attainment and maintenance of the security properties of the organization and user's assets against relevant security risks in the cyber environment.[20] Cyber-security is the body of rules put in place for the protection of the cyber space. But as we become more dependent on cyberspace, we undoubtedly face new risks. Cyber-crime refers to the series of organized crime attacking both cyber space and cyber security. Sophisticated cyber criminals and nation-states, among others, present risks to our economy and national security. Nigeria's economic vitality and national security depend on a vast array of interdependent and critical networks, systems, services, and resources known as cyberspace. Cyber-space has transformed the ways we communicate, travel, power our homes, run our economy, and obtains government services.

Cyber-security is the body of technology, processes and practices designed to protect networks, computers, programs and data from attacks, damage, or unauthorized access. In the computing or cyber context, the word security simply implies Cyber-security.[19] Ensuring cyber-security requires coordinated efforts from both the citizens of the country and the country's information system. The threat posed by breaches in our cyber-security is advancing faster than we can keep up with. It is not possible to concentrate efforts on only one aspect of the breach as it means negligence and allowance of growth for other aspects of the breach. This leads us to conclude that we have to attack cyber security breaches as a whole. What then are these breaches?

Cybercrime includes unlawful actions carried out on or by means of a computer such as internet fraud or use of computer to commit numerous crimes such as email scams – to cheat unsuspecting people, hacking – by people who create viruses intentionally to gain access and harm computer data.

Others are introducing worms to destroy computer data, stealing data, stealing people identity, obtaining money under false pretense (i.e 419) and introducing malicious traffic from many source to make real services unavailable to a company server etc.

Cybercrimes take advantage of speed on the internet, messaging system and publications of information globally in seconds, to attack computer systems with their cruel plans.

Cyber-crime refers to criminal activity done using computers and the Internet. This includes anything from downloading illegal music files to stealing millions of dollars from online bank accounts. Cybercrime also includes non-monetary offenses, such as creating and distributing viruses on other computers or posting confidential business information on the internet. Perhaps the most prominent form of cybercrime is identity theft, in which criminals use the internet to steal personal information from other users.[6] Perhaps the most complete definition of Cyber-crime is as given: [7]

“A criminal activity involving an information technology infrastructure, including illegal access (unauthorized access), illegal interception (by technical means of non-public transmissions of computer data to, from or within a computer system), data interference (unauthorized damaging, deletion, deterioration, alteration or suppression of computer data), system interference (interfering with the functioning of a computer system by inputting, transmitting, damaging, deleting, deteriorating, altering or suppressing computer data), misuse of devices, forgery (ID theft), and electronic fraud”.

GOALS OF CYBER SECURITY

The following are the objectives of Cyber-security.

1. To help people reduce the vulnerability of their Information and Communication Technology (ICT) systems and networks.
2. To help individuals and institutions develop and nurture a culture of cyber security.
3. To work collaboratively with public, private and international entities to secure cyberspace.
4. To help understand the current trends in IT/cybercrime, and develop effective solutions.
5. Availability.
6. Integrity, which may include authenticity and non-repudiation.
7. Confidentiality.

E-CRIMES THAT ARE PECULIAR TO NIGERIA

There is no doubt that e-crime is an image trauma for Nigeria. Cyber-crime is a source of concern and embarrassment for the nation. The internet creates unlimited opportunities for commercial, social, and educational activities. But as we can see with cyber-crime the internet also introduces its own peculiar risks. The instances reported here ranges from fake lotteries to the biggest internet scams. Elekwe, a chubby-faced 28-year-old man made a fortune through the scam after two years of joblessness despite having Diploma in Computer Science. He was lured to Lagos from Umuahia

by the chief of a fraud gang in a business center. He has three sleek cars and two houses from his exploits. In July 2001, four Nigerians suspected to be operating a "419" scam on the internet to dupe unsuspecting foreign investors in Ghana were arrested by security agencies. Their activities are believed to have led to the loss of several millions of foreign currencies by prospective investors. Two young men were recently arrested after making an online purchase of two laptops advertised by a woman on her website under false claims. They were arrested at the point of delivery by government officials. Mike Amadi was sentenced to 16 years imprisonment for setting up a website that offered juicy but phony procurement contracts. The man impersonated the EFCC Chairman, but he was caught by an undercover agent posing as an Italian businessman. The biggest international scam of all was committed by Amaka Anajemba who was sentenced to 2½ years in prison. She was equally ordered to return \$25.5 million of the \$242 million she helped to steal from a Brazilian bank.

An internet scam case was reported on the Sunday PUNCH newspaper of Sunday, July 16, 2006 involving a 24-year-old Yekini Labaika of Osun State origin in Nigeria and a 42-year-old nurse of American origin, by name Thumbelina Hinshaw, in search of a Muslim lover to marry. The young man deceived the victim by claiming to be an American Muslim by the name, Phillip Williams, working with an oil company in Nigeria and he promised to marry her. He devised dubious means to swindle \$16,200 and lots of valuable materials from the victim. The scammer later was sentenced to a total of 19½ years having been found guilty of eight-counts against him. Incidences like these are on the increase. Several young men unabated are still carrying out these illegal acts successfully, ripping off credulous individuals and organizations.[8] Recently, a report indicated that Nigeria is losing about \$80 million yearly to software piracy. The report was the finding of a study conducted by Institute of Digital Communication, a market research and forecasting firm, based in South Africa, on behalf of Business Software Alliance of South Africa.

The American National Fraud Information Centre reported Nigerian money offers as the fastest growing online scam, up to 90% in 2015. The Centre also ranked Nigerian cyber-crime impact per capital as being exceptionally high.[17]. Those involved are between 18-25 years mostly resident in the urban centers. The internet has help in modernizing fraudulent practices among the youths. Online fraud is seen as the popularly accepted means of economic sustenance by the youths involved. The corruption of the political leadership has enhanced the growth of internet crime subculture. The value placed on wealth accumulation has been a major factor in the involvement of youths in online fraud.[1]

Recent convicted Nigerians that are into cybercrime are:

1. Olayinka Olaniyi, 34, of Nigeria was sentenced to five years, 11 months in prison, to be followed by three years of supervised release on October 22, 2018. Olaniyi was also ordered to pay restitution in the amount of \$56,175.44.
2. Damilola Solomon Ibiwoye, 29, of Nigeria was sentenced to three years, three months in prison to be followed by three years of supervised release on January 31, 2018. He was also ordered to pay \$56,175.44 in restitution.

3. Bonaventure Sunday Chukwuka, 41 of Roding Gardens, Loughton, who was found guilty of conspiracy to commit fraud by false representation, and conspiracy to conceal/transfer criminal property (money laundering). He was also found guilty of possession of a prohibited item (a phone) in prison. Chukwuka was sentenced to 11 years' imprisonment.
4. Andrew Chike Chukwu, 35 of River Road, Buckhurst Hill, who was found guilty of conspiracy to commit fraud by false representation and conspiracy to conceal/transfer criminal property. He was handed 10 years' imprisonment.
5. Emmanuel Chike Chukwuka, 27 of Roding Gardens, Loughton, was found guilty of conspiracy to commit fraud. He was found not guilty of conspiracy to money launder and was sentenced to two years and eight months' imprisonment.
6. Christian Chukwuka, 39 of Latchetts Shaw, Basildon, Essex was found guilty of conspiracy to commit fraud by false representation and conspiracy to conceal/transfer criminal property. He got five years and nine months' imprisonment.
7. Queen Chukwuka, 32 of Roding Gardens, Loughton was found guilty of acquiring/possessing criminal property and was sentenced to a community order.
8. Grace Plange Chukwu, 39 of River Road, Buckhurst Hill, was found guilty of acquiring/possessing criminal property. She, however, got a conditional discharge.

The court heard during the trial that Bonaventure Chukwuka led an organised criminal gang that targeted businesses and individuals by hacking into their email accounts, and stealing large sums of money. This case was investigated by the Federal Bureau of Investigation.

CATEGORIES OF CYBER CRIME

- a. **Identity Theft:** Identity theft occurs when a hacker steals information from personal accounts such as banking information, social security numbers, and addresses. The hacker will then use this information to create accounts in the victim's name. Being aware of encrypted websites and having adequate measures of protection when imputing this information into websites is essential to even the less-than average user of internet.
- b. **Viruses:** Computer viruses are pieces of code that are usually attached to downloadable files. When the file is running, the code of the virus activates and proceeds to spread throughout computer files. These viruses infect vital information and can lead to deletion or corruption of important system files. Some viruses will also allow personal information and files to be accessed by another user.[16]
- c. **Cyber Stalking:** Cyber stalking is a crime that occurs when a person is being harassed by another person in an online setting. The victim is often bombarded with messages not just to themselves, but also to family members or friends. Threats are often received by the victim as a tactic to get the victim to reply. Often the victim will suffer from anxiety and fear.

- d. **Phishing:** A “phishing scam” is the act of sending fraudulent emails that appear to come from legitimate enterprises for the purpose of tricking the victim into providing personal information, including usernames and passwords. It is important for a potential victim to be aware of email addresses associated with bank accounts and other sites that may contain personal information. Olaniyi and Ibiwoye directed phishing emails to college and university employees. Once they had possession of employee’s logins and passwords, they were able to steal payroll deposits by changing the bank account into which the payroll was deposited. [17].
- e. **Hacking:** Hackers make use of the weaknesses and loop holes in operating systems to destroy data and steal important information from victim's computer. It is normally done through the use of a backdoor program installed on your machine. A lot of hackers also try to gain access to resources through the use of password hacking software. Hackers can also monitor what you do on your computer and can also import files on your computer. A hacker could install several programs on to your system without your knowledge. Such programs could also be used to steal personal information such as passwords and credit card information. Important data of a company can also be hacked to get the secret information of the future plans of the company.
- f. **Spamming-** involves mass amounts of email being sent in order to promote and advertise products and websites. Email spam is becoming a serious issue amongst businesses, due to the cost overhead it causes not only in regards to bandwidth consumption but also to the amount of time spent downloading/ eliminating spam mail. Spammers are also devising increasingly advanced techniques to avoid spam filters, such as permutation of the emails contents and use of imagery that cannot be detected by spam filters.
- g. **Cyber laundering-** is an electronic transfer of illegally-obtained monies with the goal of hiding its source and possibly its destination.
- h. **Website Cloning:** One recent trend in cyber-crime is the emergence of fake ‘copy-cat’ web sites that take advantage of consumers what are unfamiliar with the Internet or who do not know the exact web address of the legitimate company that they wish to visit. The consumer, believing that they are entering credit details in order to purchase goods from the intended company, is instead unwittingly entering details into a fraudster’s personal database. The fraudster is then able to make use of this information at a later stage, either for his own purposes or to sell on to others interested in perpetrating credit card fraud.

EMERGING CYBER TRICKS IN NIGERIA

- a. **Beneficiary of a Will Scam:** The criminal sends e-mail to claim that the victim is the named beneficiary in the will of an estranged relative and stands to inherit an estate worth millions.
- b. **Online Charity:** Another aspect of e-crime common in Nigeria is where fraudulent people host websites of charity organizations soliciting monetary and materials donations to these organizations that do not exist. Unfortunately, many unsuspecting people have been exploited through this means.

- c. **Next of Kin Scam:** Collection of money from various bank and transfer fees by tempting the victim to claim an inheritance of millions of dollars in a Nigerian bank belonging to a lost relative.
- d. **The “Winning Ticket in Lottery you Never Entered” Scam:** These scams lately include the State Department’s green card lottery. This allows users to believe they are beneficiaries of an online lottery that is in fact a scam.[18]
- e. **Bogus Cashier’s Check:** The victim advertises an item for sale on the internet, and is contacted
- f. **Computer/Internet Service Time Theft:** Whiz kids in Nigeria have developed means of connecting Cyber Cafes to Network of some ISPs in a way that will not be detected by the ISPs and thereby allow the Cafes to operate at no cost.

CHALLENGES OF CYBERCRIME

- a. **Domestic and International Law Enforcement:** A hostile party using an internet connected computer thousands of miles away can attack internet- connected computers in Nigeria as easily as if he were next door. It is often difficult to identify the perpetrator of such an attack, and even when a perpetrator is identified, criminal prosecution across national boundaries is problematic.
- b. **Unemployment:** The spate of unemployment in Nigeria is alarming and growing by the day. Companies are folding up and financial institutions are going bankrupt. The federal government has proposed a mass sack of government workers. Companies are also embarking on mass sacks of staff. Financial institutions have put unreasonable age barriers on who is eligible to apply for jobs and embark on mass lay-offs of staff based on ad-hoc decisions.
- c. **Poverty Rate:** On the global scale, Nigeria is regarded as a third world country. The poverty rate is ever increasing. The rich are getting richer and the poor are getting poorer. Insufficient basic amenities and an epileptic power supply have grounded small scale industries.
- d. **Corruption:** Nigeria was ranked third among the most corrupt countries in the world. Until 1999, corruption was seen as a way of life in Nigeria.
- e. **Lack of Standards and National Central Control:** Charles Emeruwa, a consultant to Nigeria Cyber Crime Working Group (NCCWG), said lack of regulations, standards and computer security and protection act are hampering true e-business. Foreign Direct Investment (FDI) and foreign outsourcing are encouraging computer misuse and abuse.
- f. **Lack of Infrastructure:** Proper monitoring and arrest calls for sophisticated state of the art Information and Communication Technology devices.
- g. **Lack of National Functional Databases:** National database could serve as a means of tracking down the perpetrators of these heinous acts by checking into past individual records and tracing their movements.
- h. **Proliferation of Cybercafés:** As a means of making ends meet, many entrepreneurs have taken to establishment of cybercafés that serve as blissful

havens for the syndicates to practice their acts through night browsing service they provide to prospective customers without being guided or monitored.

- i. **Porous Nature of the Internet:** The Internet is free for all with no central control. Hence, the state of anarchy presently experienced.

REASONS FOR ATTACKING PEOPLE, ORGANIZATION AND GOVERNMENT

As you think of how to prevent cybercrime and internet fraud in Nigeria, you would also wonder why cyber criminals attack people in the internet, organization and governments all over the world.

Here are some reasons

1. The prime reason is greed for money by these criminals
2. Unemployment is partly to blame for this crime. Undergraduate leave Nigeria institutions of Higher Learning yearly without any hope of employment.
3. Lack of confidence in your ability to succeed in a legitimate way.
4. Bad upbringing caused by the absence parents contributes to nurturing criminals
5. Peer pressure could lead young innocent ones into this crime
6. Attraction for fast money by youths is a factor of cybercrime
7. Porous cyber security protocol by organization, government and individuals
8. Disregard for the rule of law because it fails to punish these criminals to deter others.
9. Lack of accountability of government officials is another cause of this crime.

WHO ARE THE TARGETS OF THESE CRIMINALS?

To find how to prevent cybercrime and internet fraud in Nigeria, let us find out the targets of these criminals.

Everyone who uses a computer is a target but the most affected is the financial sector. Nigerian banks are going cashless and using more electronic means of payment which leads to the generation of massive data. From 2014 to 2018, Nigerian banks have lost over N198 billion by electronic fraud and cybercrime. In addition, Cyber criminals target and wreak havoc to computer systems of all facilities and government establishments.

This quotation by the National Security Adviser to President Mohammadu Buhari says, "Nigeria loses N127 billion annually to cybercrime". That is how devastating the effect of cybercrime is to Nigeria. Hence, fighting and defeating it is the only way forward.

Moreover, it is embarrassing when foreign countries catch Nigerians who commit cybercrimes. Till date, Nigeria suffers from the stigma of 419 put on the nation in the 90's. according to the President of integrated Cyber Security Solution, in 2015 Nigeria lost an estimate of N40 billion naira to cyber criminals and globally the world lost the sum of \$400 billion. We should not allow this huge waste of our scarce resources to

cybercrime to continue if we don't want it to cripple the economy and turn citizens into paupers.

EFFECTS OF CYBER CRIME

- a. Financial loss: Cybercriminals are like terrorists or mental thieves in that their activities impose disproportionate costs on society and individuals [11].
- b. Loss of reputation: Most companies that have been defrauded or reported to have been faced with cybercriminal activities complain of clients losing faith in them.
- c. Reduced productivity: This is due to awareness and more concentration being focused on preventing cybercrime and not productivity.
- d. Vulnerability of Information and Communication Technology (ICT) systems and networks.

WAYS TO PREVENT CYBERCRIME IN NIGERIA.

How to prevent cybercrime in Nigeria like any other crime is difficult as criminals use available sophisticated technology and international criminal networks to improve their skill for carrying out their tricky plans.

The following are ways to fight Cybercrime and internet fraud:

1. Increasing Security of Computer and Networks

Increasing security of computer and networks by developing software and methods to counter potent software hacker tools such as automatic computer virus generators. Internet listening sniffers, password guessers, vulnerability testers and the dreaded computer service saturators.

2. Simple and Advanced Methods for Preventing Cyber Crime

You can prevent computer crimes by protecting computer screens from inspection, locking printed information and computers in safe places, backing up software and data files to keep copies safe and removing sensitive material and information from your table during and after work hours.

In addition, using these more advanced ways of how to prevent cybercrime and internet fraud in Nigeria is effective. They include adopting encryption procedures, giving software usage permissions to authorized users, requesting passwords to use a computer, fixing firewalls and systems that detect unauthorized entrance and finally using self-regulating controls in a computer system.

3. ICT Ability of Personnel

Security personnel must have Information Communication Technology (ICT) capability, training and adequate knowledge of computer (software and hardware) to win this war.

4. First Class Intelligence Capability of the Security Forces

To commit cybercrime and succeed, you must know how to manipulate information by using advanced technology and software. The criminals seem to be ahead of the security forces and have more sophisticated equipment too.

Security forces intelligence gathering ability must be a head of the bad guys. If you want to fight the menace to a standstill.

5. Adequate Plan

The Nigeria Security personnel should spend enough time to profile these attacks and plan to prevent them and if possible, catch these criminals in the act.

6. Support by Main One

As you seek for how to prevent cybercrime and internet fraud in Nigeria using Main One is a brilliant idea [7]. What is main one? Main One is the first connectivity and data provider in the country. It could use its cyber security solutions to help its customers such as telecommunication providers. Banks, oil and energy companies direct traffic through Main One's distributed Denial of Service (DDOS) protection system to check cybercrime before it happens.

7. Develop Local Solutions by Technology Transfer

Government's use of Technology transfer project to develop local solutions by partnering with Leo Telecommunications Limited an Israeli company, to set up a security and Defense technology. Assembly plant for Security and communications hardware and software solutions will prevent cybercrime and internet attacks.

8. Government Support for the Niger Cyber Crime Working Group

Government should support The Nigeria Cyber Crime Working group set up by former President, Olusegun Obasanjo to stop cybercrime in Nigeria. Funding this group and giving them good equipment will help them provide new ways of preventing this crime.

9. Removing Unsecure Wireless Connections

The Government should borrow a leaf from the United States and remove all unsecure Wireless connections in the country as they did in America.

10. Development of Local ICT Solutions

National Computer Society should build a platform to develop local methods of using Information Communication Technology to secure the country against cyber bandits.

11. Declare Computer Emergency

The government has set up Computer Emergency response teams in National Security Adviser's office and National Information Development Agency. These teams should work with start-up companies going into technology business to build secure computer Networks for government and stop cybercrime and internet fraud in Nigeria.

12. Free Education and Vocational Training

Government should give Youth free education and vocational training to give them more opportunities to have decent jobs and live comfortable lives.

CONCLUSION

In conclusion, how to prevent cybercrime in Nigeria is tough but doable. Using simple and advanced methods such as protecting computer screens from inspection, encryption, firewalls and passwords to make computer databases strong is the way to go.

In addition, training law enforcement staff in ICT and use of first rate equipment will help nip these crimes in the bud and having fast trials to get judgment quickly against these criminals will deter others.

Finally, all citizens must be alert to the danger of cybercrime and support government as they try to rid society of these criminals, save billions of naira and inject the same to build needed infrastructure and grow the economy.

REFERENCES

- [1] Adebusuyi, A. (2008): *The Internet and Emergence of Yahooboys sub-Culture in Nigeria*, International Journal Of Cyber-Criminology, 0794-2891, Vol.2(2) 368-381, July-December
- [2] Amaka Eze, "Thisday Live"
- [3] Anderson, Ross, et al. (2016): *Measuring the cost of cybercrime*, 11th Workshop on the Economics of Information Security (June 2016), Retrieved from http://weis2016.econinfosec.org/papers/Anderson_WEIS2012.pdf
- [4] Augustine C. Odinma, MIEEE (2010): *Cybercrime & Cert: Issues & Probable Policies for Nigeria*, DBI Presentation, Nov 1-2.
- [5] Background Check International, "Information Technology/Cyber Security Solutions"

Ibikunle. F. and Eweniyi O. (2017): *Cyber Security In Nigeria. (IJCRSEE) International Journal of Cognitive Research in science, engineering and education. Vol. 1, No.1, 2017.*
- [6] International Telecommunication Union, Retrieved from <http://www.itu.int/en/Pages/default.aspx>
- [7] Laura, A. (2015): *Cyber Crime and National Security: The Role of the Penal and Procedural Law*, Research Fellow, Nigerian Institute of Advanced Legal Studies., Retrieved from <http://nials-nigeria.org/pub/lauraani.pdf>
- [8] Longe, O. B, Chiemeké, S. (2018): *Cyber Crime and Criminality In Nigeria – What Roles Are Internet Access Points In Playing?*, European Journal Of Social Sciences – Volume 6, Number 4
- [9] Major General G. G UMO (2010): *Cyber Threats: Implications For Nigeria's National Interest*, Retrieved from https://docs.google.com/file/d/0B9sby6N_v5O3M2FINWlZjgtMDRiOS00Njl1LTNmMjltNmI0Nzg5NGVINTM2/edit?num=50&sort=name&layout=list&pli=1
- [10] Mohsin, A. (2006): *Cyber Crimes And Solutions*, Retrieved from <http://ezinearticles.com/?Cyber-Crimes-And-Solutions&id=204167>

- [11] Okonigene, R. E., Adekanle, B. (2009): *Cybercrime In Nigeria*, Business Intelligence Journal, Retrieved from http://www.saycocorporativo.com/saycoUK/BIJ/journal/Vol3No1/Article_7.pdf
- [12] Oliver, E. O. (2010): *Being Lecture Delivered at DBI/George Mason University Conference on Cyber Security holding*, Department of Information Management Technology Federal University of Technology, Owerri, 1-2 Nov.
- [13] Olumide, O. O., Victor, F. B. (2010): *E-Crime in Nigeria: Trends, Tricks, and Treatment*. The Pacific Journal of Science and Technology, Volume 11. Number 1. May 2010 (Spring)
- [14] Roseline, O. Moses-Òkè (2012): *Cyber Capacity Without Cyber Security: A Case Study Of Nigeria's National Policy For Information Technology (NPFIT)*, The Journal Of Philosophy, Science & Law Volume 12, May 30, 2012, Retrieved from www.Miami.Edu/Ethics/Jpsl
- [15] Schaeffer, B. S., et al. (2018): *Cyber Crime And Cyber Security: A White Paper For Franchisors, Licensors, and Others*
- [16] Strassmann, P. A. (2014): *Cyber Security for the Department Of Defense*, Retrieved July 10, 2017 From <http://www.strassmann.com/pubs/dod/cybersecurity-draft-v1.pdf>
- [17] Department of Justice, U.S. Attorney's Office, Northern District of Georgia (2018) "Cyber-criminal sentenced for hacking universities"
- [18] Thompson, D. (1989): *Police Powers-Where's the Evidence, Proceedings of the The Australian Computer Abuse Inaugural Conference*.

THE IGBO-AFRICAN KOLA NUT AS A 'TYPE' OF HOLY COMMUNION: TOWARDS THE MANAGEMENT OF CULTURAL DIVERSITY

Prof. KANU, Ikechukwu Anthony, OSA

Rector

Villanova Polytechnic, Imesi Ile

Osun State, Nigeria

ikee_mario@yahoo.com

Abstract

This paper is a comparative study of two major elements of worship from two major religions: African traditional religion and Christianity. The comparative method of investigation is, therefore, employed to study the relationship between the Igbo kola nut and the Christian Holy Communion. It strongly asserts that the Igbo kola nut, having been studied alongside the Christian Holy communion, is the Igbo Holy Communion in Igbo traditional religion. While it does not in any way equate the Igbo kola nut with the Holy Communion, it believes that the Igbo kola nut can be understood within the parameters of a typology of the Christian Holy Communion given to Ndi'gbo as a preparation for the gospel message. As already indicated, the method of research employed in this work is the comparative method of investigation, with an ascension theory, which heavily emphasizes that for evangelization to be fruitful, pastoral agents need to begin from what the people know to what they do not know. In this case, from the kola nut as a 'type', a 'copy', a 'shadow' to the Holy Communion as its fullness.

Keywords: Kola Nut, Typology, Holy Communion, Culture, Gospel, Igbo, Management

Introducing the Problem

The relationship between the Christian gospel message and other religions and cultures has remained a relevant discussion on the table of missiology and in fact other related areas of study. This is very important as Christianity continues to confront new cultures every day and everywhere. A cursory glance at the historical evolution of Christianity reveals that it came into existence in a Greco-Roman world, with Judaism as its first encounter. This notwithstanding, these two worlds played significant parts in shaping its character and influencing its history, in the sense that Greek philosophy and culture shaped early Christian theological formulations, and the Roman world, with its rich organizational structures, shaped the organizational and practical dimensions of the life of the Christian church, and its religious impulses from the rich Jewish tradition.

As Christianity moved to the shores of Africa, its encounter with African traditional religion and culture, its sympathetic, non-derogatory and non-dominant touch was not felt in relation to its encounter with the Greek, Roman and Jewish cultures. There was a smugness toward African Traditional Religion and culture, which generated barrage of names for it. Names like primitive, pagan, heathen, magic, ancestor worshippers, juju, animists, Fetish, animism, etc (Kanu 2015a&b). This may have been

partly the result of the developments in the areas of sociology and anthropology, evident in the writings of Linnaeus (1788), Gobineau (1853), among others. However, very interesting is the perspective of the Colonial Governor of Nigeria, Lord Frederick Lugard. His perspective was very influential as he was Britain's most valued African possession. His views expressed in his *The Dual Mandate*, which was a handbook for all British administrators in tropical Africa, and influenced British colonial policies across the continent.

In character and temperament typical African of this race-type is a happy, thriftless, excitable person. Lacking in self-control, discipline, and foresight. Naturally courageous, and naturally courteous and polite, full of personal vanity, with little sense of veracity, fond of music and loving weapons as an oriental loves jewelry. His thoughts are concentrated on the events and feelings of the moment, and he suffers little from the apprehension for the future, or grief for the past (p. 70).

Relegating the African to the level of lower animals, he writes:

His mind is far nearer to the animal world than that of the European or Asiatic, and exhibits something of the animals placidity and want of desire to rise beyond the State he has reached. Through the ages the African appears to have evolved no organized religious creed, and though some tribes appear to believe in a deity, the religious sense seldom rises above pantheistic animalism and seems more often to take the form of a vague dread of the supernatural (p. 70).

Focusing on the inability of the African to manage his own affairs, he writes further:

He lacks the power of organization, and is conspicuously deficient in the management and control alike of men or business. He loves the display of power, but fails to realize its responsibilityhe will work hard with a less incentive than most races. He has the courage of the fighting animal -an instinct rather than a moral virtue.....In brief, the virtues and defects of this race-type are those of attractive children, whose confidence when it is won is given ungrudgingly as to an older and wiser superior and without envy.....Perhaps the two traits which have impressed me as those most characteristic of the African native are his lack of apprehension and his ability to visualize the future. (p. 70).

These perspectives limited the African personality to the negative stereotypes of the primitive, the savage, the inferior, and this shaped the missionaries' conception of the African religion and culture (Kanu 2019). The early missionaries, therefore, saw the African culture in the negative light. This encounter was a forced acculturation, which describes the situation in which the Christian culture imposed certain of its elements on the African people, thereby forcing the African culture to derail from its unique tract of cultural civilization (Kanu 2010a). The first strategy employed was that of disassemblage, concealed in the exploitative colonial ideology of benevolent paternalism (Ekwuru 1999). It was first an ideology of condemnation, which identified everything "good to be white" and everything "bad to be black" (Kwame, 1981). Some missionaries made no appraisal of our peculiarities, African languages

enriched with traditions of centuries, our parables, many of them the quintessence of family and national histories; our modes of thought, influenced more or less by local circumstances our poetry which reveals the profundity of African literary wizardry. The drum were banned from sounding in most churches (Hastings, 1976). African names for baptism were rejected, and as a replacement, they encouraged the adoption of not only Christian names, but also European family names like De Santos.

This paper strongly believes that it is very difficult to engage with the African people within the context of evangelization without engaging with all the stories of the African people. They can be used as instruments to dispossess and malign. Stories can also be used to empower and humanize. Stories can break the dignity of people, but stories can also be used to repair that dignity (Kanu 2019b). This paper is an attempt to retell the African story in a sympathetic, non-dominant and non-derogatory manner. Its area of focus is the African kola nut which this paper strong believes was given to the African people as a preparation for the acceptance of the Holy Communion. It is in fact understood as the Igbo traditional Holy Communion. It does not in any way equate the Igbo kola nut with the Eucharistic meal, but emphasizes that the Igbo kola nut can be considered a typology of the Eucharistic meal.

Culture as a *Preparatio Evangelica*

Clement of Alexandria was born at a date not known, though it is estimated to be likely between 150-160, most possibly in Athens. Having studied with religious and philosophical teachers in Greece, southern Italy, and Syria, and settled in Alexandria and Egypt. There he was deeply impressed by the teachings of Pantaenus, who had been converted to Christianity from stoicism and who was at the time head of the Christian catechetical school in Alexandria. It is generally thought that he died around 215 AD.

In Alexandria, Clement was at one of the leading intellectual centers of the Hellenistic world. Highly speculative and heretical Gnostic forms of Christian thought had been prominent there for decades among those who professed any form of Christianity. Gnosticism itself represented one way of synthesizing Christian faith with Hellenistic culture (Spanneut 2004, n.p).

Clement of Alexandria wrote several works during his life time, however, more interesting is his *Stromata* in which he addressed the issue of the relationship between Greek philosophy and Christianity. This was necessary at a time when Christianity had moved into the Greek world where Neoplatonism was the dominant idea. He began by criticizing those who say that philosophy is worthless or dangerous for Christians. Clement calls them babblers “who in their ignorance are frightened at every noise” (*Strom.* 1, 1). He goes further than earlier thinkers like St. Justin Martyr who thought pagan philosophy contained seeds of the Logos to argue that philosophy was given to the Greeks by God to prepare them for the coming of Christ, just as the Law was given to the Hebrews for the same purpose (Mirus 2015). He writes thus:

Accordingly, before the advent of the Lord, philosophy was necessary to the Greeks for righteousness. And now it becomes conducive to piety; being a kind of preparatory training to those who attain to faith through demonstration.

"For thy foot," it is said, "will not stumble, if thou refer what is good, whether belonging to the Greeks or to us, to Providence." For God is the cause of all good things; but of some primarily, as of the Old and the New Testament; and of others by consequence, as philosophy. Perchance, too, philosophy was given to the Greeks directly and primarily, till the Lord should call the Greeks. For this was a schoolmaster to bring "the Hellenic mind," as the law, the Hebrews, "to Christ." Philosophy, therefore, was a preparation, paving the way for him who is perfected in Christ. (*Strom.* 1, 5)

His own interpretation of Greek philosophy is that it was not only necessary for the Greeks as an intellectual enterprise, but very useful in preparing Christians to accept the faith, as well as helping them to understand it better and defend it against error. His idea becomes clearer when we understand the early Christian thinkers used Neoplatonic concepts to clarify the Christian message, thus using philosophy as a vehicle for conveying the Christian message.

To give a divine origin to his perspective, Clement traced Greek philosophy to the prophecy of the Old Testament. He took his time to show that, through a comparative study, Plato learned much from the books of Moses. In this, he proved that all wisdom, whether of the Jews or the Greeks, has a common origin: God. Taking from the perspective of Clement of Alexandria, the Igbo Kola nut can be understood as a gift given to Ndi' gbo to prepare them for the understanding of the Holy Communion. Thus, for evangelization to be more fruitful, beginning from the understanding of the Kola nut in Catechesis is an advantage.

The Kola Nut in Igbo-African Religious-Culture

Of the many cultural symbols in Igboland, none has received attention like the kola nut. It is very important and central to the life and ceremonies of the Igbo. For the Igbo, it goes beyond the red and yellow seed that you find in trays sold on the streets and in kiosks. It is not just the biannual crop grown and stored in sacks and baskets soaked with water to preserve it. It is not just the seed crops grown in the central and western parts of Africa. It is more than all these. It is a food that must be eaten with relish; it commands adoration and many accolades and must be attended to with deserving feast. It is a holy communion that unites the living and dead. Obiajulu (2013) avers that:

Apart from economic and medicinal importance of kola nut, its metaphysical significance especially among the traditional Igbo Africans,...Ọjị Igbo is commonly held to be ontologically sacred to the extent that certain taboos are hedged around it. It is not an ordinary tree and so not rampantly seen like any other trees. This scarcity portends a signal that it is exclusively created for a purpose which Igbo generally construed to be a sure key to unlock the hearts of men and gods (p. 517).

Kola nut symbolizes a feast of togetherness, love and trust. The Kola nut is a symbol of Life *ndu*, this is why the Igbo say: "He that brings kola brings life" (*onye wetara oji*

wetara ndu), and to share in it is to be part of the project of the preservation of life. It is, therefore, not surprising that the poetry of the Kola breaks the day for the typical Igbo (Nwachukwu 2015).

Every Kola can be broken into lobes, and these lobes signify numbers. And number is very important for the African. Some have 2 lobes, some 3, some 4, some 5 and some 6. Kola nut with two lobes is a dumb kola and is not eaten because it is understood as the *Kola of the Spirits*. When it has three lobes, it is called the *Kola of the Valiant*. As a matter of principle it is eaten only by warriors, brave men, the consecrated or ordained. The Kola with four lobes is the *Kola of Peace and Blessings*. It is a sign of completeness and signifies four market days in Igbo society. The Kola with five lobes is the *Kola of Procreation, Protection and Good luck*. The Kola with six lobes is indicative of communion with the ancestors. No wonder the smallest part of it is not eaten but given to the ancestors (Ukaegbu 2015).

This notwithstanding, among the lobes, there is always a female and male lobe. When these lobes stay together they remain alive, but when they separate they die and dry off. Their togetherness is a symbol of life, and their separation, death. It's a symbiotic relationship in the sense that they need each other to remain alive. Here in, the concepts of co-essentiality and co-responsibility begin to make a profound meaning.

The kola nut is also a symbol of peace and goodwill. This is why the first thing an Igbo person offers a guest is Kola nut to indicate that the guest is welcome. It is sometimes an indispensable element when sacrifices are offered to the gods. It is also a sign of communion, not just among the living, but also between the living and the dead. It could be referred to, in a traditional sense as the Igbo sacramental communion, specially presented, broken, shared and partaken of. During the breaking of the kola, heaven and earth come together (Kanu 2015a).



The Kola Nut

This is evident in the invocation of God during the breaking of the kola nut (*Chukwu Abiama bia taa oji*), the heavens and the earth (*elu na ala bia ta oji*), the deities (*amadioha bia ta oji*), and the dead ancestors (*nnam... bia taa oji*). The study of symbols like the kola nut can enrich the study of African Traditional Religion (Kanu 2015b).

From Biblical Typology to an African Typology

An interesting aspect of Biblical studies is the area of typology. Bullinger (1968) defines typology as “a figure or ensample of something future and more or less prophetic, called the ‘Antitype’” (p. 768). Muenscher (cited by Terry 1890) understands typology as a study of “the preordained representative relation which certain persons, events, and institutions of the Old Testament bear to corresponding persons, events, and institutions in the New” (Terry 1890, 246). In the contention of Broomall (1960): “A type is a shadow cast on the pages of Old Testament history by a truth whose full embodiment or antitype is found in the New Testament revelation” (p. 533). As a theological concept and method of investigation, there are several words in the New Testament scripture that forms its scriptural basis. Paul uses the Greek word *Tupos* in Romans 5:14 (which means a ‘type of’ in English), to speak of Adam as a type of Christ. A second word is *Skia* in Colossians 2:17 (which means shadow); Paul employs it to speak of the Mosaic system as a shadow of things to come. Related to these is *Hupodeigma* in Hebrews 9:23 (which means copy). *Parabole* in Hebrews 9:9 (which means parable) has also been used to speak of the tabernacle of the Old testament as a figure for the present time. Another word that points to typology is *Antitupon* in Hebrews 9:24 (which means figure, likeness or pattern). They were employed to denote the fulfillment of a prophetic picture or a correspondence between things, persons, events, etc., in the Old Testament and the New Testament. Moorehead (1930) brought out the distinctive features of typology thus:

What are the distinctive features of a type? A type, to be such in reality, must possess three well-defined qualities. (1) It must be a true picture of the person or the thing it represents or prefigures. A type is a draft or sketch of some well-defined feature of redemption, and therefore it must in some distinct way resemble its antitype, e.g. Aaron as high priest is a rough figure of Christ the Great High Priest, and the Day of Atonement in Israel (Leviticus 16) must be a true picture of the atoning work of Christ. (2) The type must be of divine appointment. In its institution it is designed to bear a likeness to the antitype. Both type and antitype are preordained as constituent parts of the scheme of redemption. As centuries sometimes lie between the type and its accomplishment in the antitype, of course infinite wisdom alone can ordain the one to be the picture of the other. Only God can make types. (3) A type always prefigures something future (pp. 3029-3030).

Examples of types in the scripture include, the Passover, with its spotless lamb (Exodus 12:5) which was slain “between the two evenings” (12:6), i.e., between three and five P.M., without any bones being broken (12:46). It was a type of the death of Jesus (cf. 1 Corinthians 5:7), who was without spot or blemish (1 Peter 1:19), who died at about 3 P.M. (Matthew 27:46), and who had none of his bones broken (John 19:33ff). The feast of the first-fruits (Leviticus 23:10), i.e., Pentecost, was a celebration in which

the initial produce of the harvest was offered to God as a token of the full crop to follow. This ritual typified: (1) the early influx of the Jews into the church of Christ (Romans 11:16); and, (2) the resurrection of the Lord Jesus as God's pledge of the general resurrection to ultimately come (1 Corinthians 15:20, 23). The feast of the tabernacles was instituted to commemorate Israel's sojourn in the wilderness (Leviticus 23:43). But it was also designed to remind us that we are but sojourners on this earth (1 Peter 2:11), and that someday we will lay aside this earthly tabernacle (2 Corinthians 5:1; 2 Peter 1:13, 14) for a more permanent abiding place (cf. Hebrews 11:9-13).

For instance, on the annual Jewish Day of Atonement, amidst numerous other rituals, the high priest presented two goats before the door of the tabernacle. After the casting of lots upon these animals, one was sacrificed as a "sin-offering" and the other was "set alive before Jehovah" (Leviticus 16:9, 10). The blood of the slain goat was taken into the most holy place where it was sprinkled upon the mercy seat. This, of course, was typical of the sacrificial death of Christ (Hebrews 9:11, 12). The high priest then took the living goat, laid hands upon him and confessed over him all the iniquities of the people. Subsequently, by an appointed servant, the animal was led away into the wilderness (Leviticus 16:21, 22). The two goats were, so to speak, two sides of the same coin. Both constituted the solitary offering of Christ. The one signified his death and the atoning effect of his blood, the other his resurrection (cf. Romans 4:25) and the complete removal of our sins (cf. Isaiah 53:4, 6; John 1:29) (Wayne 2019).

The flood of Noah's day (Genesis 6-8) typified the sudden destruction of the world yet to come at the end (Matthew 24:37-39). The miraculous water from the rock in the wilderness (Exodus 17:6) was a preview of the life-sustaining water provided by our Lord (John 4:14; 1 Corinthians 10:4). The manna from heaven in the wilderness (Exodus 16:14-16) was a type of that spiritual bread who came down from heaven to nourish humanity (John 6:32). The deliverance of Noah's family from a corrupted world, by means of "water," prefigured our salvation, through baptism, from the power of darkness into the kingdom of Christ (cf. 1 Peter 3:20-21; Colossians 1:13). The brazen serpent, lifted up in the wilderness, through which the people found physical healing (Numbers 21:8) was a type of the lifted-up Christ (John 3:14; 12:32), through whom spiritual healing comes (Isaiah 53:5) (Wayne 2019).

Adam is a type of Christ in that as the former introduced sin into the world, even so, through the latter a system of righteousness was made available for mankind (Romans 5:19). Melchizedek, who was both king of Salem and a priest of God – **at the same time** (Genesis 14:18-20) – was a type of Christ. Jesus, at his ascension, began to reign on David's throne and to simultaneously function as our high priest (cf. Psalm 110:4; Zechariah 6:12, 13; Hebrews 5:5-10; 6:20; 7:1-17). This point, incidentally, is disastrous for millennialism. If Christ is not yet king (as premillennialism asserts), then he is not yet a priest and we are **yet in our sins!** Moses, in his noble role of prophet, leader, and mediator for Jehovah's people, was typical of the Lord Jesus who functions in a similar, though more exalted, capacity (cf. Deuteronomy 18:15; Acts 3:22; 1 Corinthians 10:2; Galatians 3:27; 3:19; 1 Timothy 2:5) (Wayne 2019).

Having understood typology as method of biblical studies and interpretation, it is easier to now understand typology from an African context. It is a little bit different from the biblical concept of it since it relates the Old Testament events, persons, things, places, etc., to New Testament events, persons, things, places, etc. In relation to African traditional culture and religion, the base for relationship changes from the Old Testament to the religio-cultural experiences, categories, events or persons in traditional African culture and religion which may find their fulfillment in the New Testament scripture. This is anchored on the fact that African traditional religion and culture is understood as a gift from God, given in preparation for evangelization. It holds that the events, persons and things in traditional African religion were not so much about the time of their expression but had the capacity for fulfillment in the future with the fullness of revelation in Christ Jesus. These patterns often have their greatest manifestations in the life of Christ or in the eschaton, but there may be one or more other fulfillments elsewhere in human history, especially in the immediate historical context.

The table below will, therefore, do a comparative study the Igbo kola nut and the Christian Holy Communion to see basic areas of relationship.

Table 1: The Kola Nut vis-à-vis the Holy Communion

No	Holy Communion	The Kola Nut
1.	The Holy Communion is made of bread, which was a common meal among the Jewish people at the time. There was hardly a home where the bread was not found, no matter how poor the home was. The use of bread, therefore, appealed to the senses and cognition of those who were at the Last Supper.	The Kola nut among the Igbo is a common meal. Every Igbo home had kola nuts kept, even for unexpected visitors. Kola nut is found in the homes of both the rich and the poor. It is a meal that sends a message to the cognitive faculty of the Igbo each time it is seen. It is more than a meal; it is a welcome.
2.	The bread at the Last Supper and during the Mass is held with honour, held up into the sky as the priest consecrates it. Generally held in a posture that points it towards the sky.	When the kola nut is blessed, it is treated with great honour. It is held with the fingers, pointing it into the sky.
3.	Bread is made from wheat grass, which is cultivated for its seeds, a cereal grain. It is the product of the human effort at cultivating the earth.	The kola nut is from the evergreen kola tree, which is found in the rain forests of Africa. It is the product of the human effort at cultivating the earth.
4.	The Holy Communion is the Bread of Life. Jesus says: Jesus says:	The Kola nut is a symbol of life. This is why it is said: "He that brings kola brings life".

	"I am the bread of life" (John 6:25-59). Jesus says also: "He that eats my flesh and drinks my blood shall have eternal life" (John 6:56).	
5.	Sharing in the Holy Communion should strengthen unity, respect and love among those who partake of it. Sharing in it reassures the partakers that they are one body.	The Kola nut and the accompanying ritual that goes with it symbolize the customs and signs of mutual respect and community. It welcomes the guest into the home where it is served. "Among Igbo Africans, the aspect of communalism are celebrated with kola nut which is both a spiritual and physical symbol of unity. 'Ofeke', or the excommunicated or the unqualified or the socially stigmatized does not partake of the communion of kola. A condition of admittance is Igba Oriko a banquet of togetherness, a celebration indicating that the ostracized or the rejected or the excommunicated person is now free to relate with his brethren and enjoy the common wealth in sharing love and responsibility" (Obiajulu 2013, p.518).
6.	Before Jesus broke the bread and gave it to His disciples, the Scripture says that He first gave thanks. Scripture says: "And he took bread, gave thanks and broke it, and gave it to them, saying 'This is my body given for you; do this in remembrance of me'" (Lk 22:19)	Before the breaking and serving of the kola nut, the person saying the prayer first of all gives thanks to Chukwu. The prayer of thanksgiving precedes the prayer of petition.
7.	To continue the offering of this sacrifice in memory of the Jesus Christ, he chose from among his followers, only men who would continue to offer this sacrifice.	The kola nut is only blessed by men in Igbo traditional society, and even till date. It is an abomination for a woman to break the kola nut.

8.	After the consecration of the bread, the priest breaks the bread as Jesus did and handed it over to His disciples.	After the kola nut has been consecrated, the kola nut is broken and shared to those present.
9.	During the prayer of consecration of the bread, the priest calls the names of the Saints, in their memory and asking for their intercession. “We venerate the memory of those whose fellowship we share: especially the glorious ever-Virgin Mary, Mother of Jesus Christ our God and Lord, blessed Joseph her husband, the blessed apostles and martyrs Peter and Paul, Andrew, James and John, Thomas, James, Philip, Bartholomew, Matthew, Simon and Jude: Linus, Cletus, Clement, Sixtus, Cornelius, Cyprian, Lawrence, Chrysogonus, John and Paul, Cosmas and Damian and all your saints. Through their merits and prayers grant us always the defense of your protecting help. (Through Christ our Lord, Amen.)” (Eucharistic Prayer 1)	During the consecration of the kola nut, the person leading the prayer invokes the presence and benediction of the ancestors of the community or the family. It all depends on the gathering. These ancestors are referred to as Ndichie.
10.	During the consecration of bread, wine is also offered.	During the consecration of the Kola nut, liquor is also offered to Chukwu and the gods.
11.	At the end of the Eucharistic celebration, the participants are blessed.	The people present at the consecration of the Kola nut are blessed as well
12.	The Holy Communion is a sacrament, which speaks of an earthly sign with inward grace.	The Kola nut also has a sacramental dimension when it is consecrated. This is very important as the kola nut at this point acknowledges the archetypal patterns of the gods and ancestors in illo tempore.
13.	The priests presides at the Mass	The most elderly person present presides at the consecration of the kola nut. This does not in any way disrupt the equation of the idea of a priest in relation to an elder. Presbyter, a word

14.	After the consecration of the bread, it is only those who are not in the state of sin that are allowed to partake of the Eucharistic meal. Saint Paul writes: "Whoever eats the bread or drinks the cup of the Lord unworthily will have to answer for the body and blood of the Lord. A person should examine himself, and so eat the bread and drink the cup. For anyone who eats and drinks without discerning the body, eats and drinks judgment upon himself. That is why many of you are ill and infirm, and a considerable number are dying" (1 Cor. 11:27-30).	used to cover many facets of the priestly mission and essence, comes from the Greek <i>presbyteros</i>, meaning elder. After the prayer and the breaking of the kola nut, those who have evil in their heart of have done something against their brother or sister avoids partaking in it because of the consequences. The Kola nut is the centre and life of Igbo traditional celebrations. "It is a sure key to unlock the hearts of men and gods... used whenever the spirits of the ancestors are being conjured or after libation has been poured in order to pacify a particular deity that is injured" (Obiajulu 2003, p. 11)
15.	The Eucharist is the centre and summit of the Church's life and prayer.	

This table has outlined basically the major areas of similarity between the Igbo kola nut and the Holy Communion. As already observed, this comparative study is not in any way to equate the Kola nut with the Holy Communion. Obviously, as much as there are areas of similarities, there are also various areas of differences. For instance, in spite of the consecration of the kola nut, it still does not assume a person as the Holy Communion through the words of consecration becomes the body, blood, soul and divinity of our Lord Jesus Christ; while the elder presides at the blessing of the kola nut because of his age advantage, the Priest presides because of his ordination to the priesthood. There are several other differences that can be enumerated. However, that is not the preoccupation of this work.

Conclusion

The foregoing has studied the Igbo kola nut in relation to the Christian Holy Communion, seeing the Igbo kola nut as a type of the Christian Holy Communion. This method of research has become very relevant as an attempt to retell the African stories that were poorly told by her colonial masters and missionaries, who saw anything black as evil and anything white as good, therefore, leading to the relegation of the African traditional religion and culture to the background of mere obscurantism. Rather than a clear condemnation of the African culture or the presentation of the African culture as an opponent of the gospel message, African culture and religion is here presented as a preparation for evangelization. This perspective is also anchored on the African worldview which holds that reality is related- each aspect relates with the whole. It, therefore, understands reality within the context of relationships and experiences of interrelationships and interconnections. Within this context, there is a relationship between culture and evangelization.

References

- Broomall, Wick. (1960). *Baker Dictionary of Theology*. Everett F. Harrison, Geoffrey W. Bromiley, and Carl F. H. Henry, eds. Grand Rapids, MI: Baker.
- Bullinger, E. W. (1968). *Figures of Speech Used in the Bible*. Grand Rapids, MI: Baker.
- Ekwunife, A. N. O. (2007). *What will be will be, why pray?* Priceless Prints, HOSCON, Lagos.
- Ekwunife, A. N. O. (2003). *Consecration in Igbo traditional religion*. SNAAP Press, Enugu.
- Ekwuru, E. (1999). *The pangs of African culture in travail*. Owerri: Totan.
- F. D. Lugard (1926). *The Dual Mandate in British tropical Africa*. Blackwood and Sons, Edinburgh.
- Gobineau, A. *The inequality of human race*. London: William Heinemann, 1915
- Hastings, A. (1976). *African Christianity*, New York: Crossroads Books
- Jon Ofoegbu Ukaegbu, *The Kola Nut: As an Igbo Cultural and social symbol*. IgboNet. <http://kolanutseries.igbonet.com/jukaegbu>.
- Kanu, I. A. (2010). Towards an African Cultural Renaissance. *Professor Bassey Andah Journal of Cultural Studies*. Volume 3, pp. 146-155.
- Kanu, I. A. (2015). *A hermeneutic approach to the study of African traditional religion, theology and philosophy*. Augustinian publications, Nigeria
- Kanu, I. A. (2015). *An Ontologico-Existential Hermeneutic approach to classical and contemporary issues*. Augustinian publications, Nigeria
- Kanu, I. A. (2019a). Collaboration within the Ecology of Mission: An African Cultural Perspective. *The Catholic Voyage*. Vol. 15. pp. 125-149.
- Kanu, I. A. (2019b). *Naming ceremony and the sacrament of baptism: Towards an evangelical-pastoral-Mutual Unitary balance*. A paper presented at the Conference

of Diocesan Directors of Inculturation on 25th-27th June 2019, at the Resource Center of the Catholic Secretariat of Nigeria, Durumi, Abuja

Kwame, N. (1981). *The struggle continues*. London: Panaf.

Linnaeus, C. *System of nature*. Stockholm: Laurentius Salvius, 1758

Obiajulu, M. I. (2003). "Sacrokolanization or Kola-aucharization. A Challenge to enculturation (II)" in *Our Nation* July 27.

Obiajulu, M. I. (2013). Metaphysics of Kola nut: Towards an Authentic African Igbo Communion; A challenge to Christians. *Filosofia Theoretica: Journal of African Philosophy, culture and Religion*. 2. 2. 517-531.

Philips Nwachukwu. *What is this about Kola nut in Igbo land?* Vanguard Newspaper. <https://www.vanguardngr.com/2012/04/what-is-this-about-kolanut-in-igboland>.

Spanneut, M (2004). Clement of Alexandria. Encyclopedia.com. <https://www.encyclopedia.com/people/philosophy-and-religion/roman-catholic-and-orthodox-churches-general-biographies/clement-alexandria>

Terry, M. S. (1890). *Biblical Hermeneutics*. New York, NY: Eaton & Mains.

Thomas V, Mirus (2015). Church Fathers: Clement of Alexandria, Part I. Catholic Culture.org. <https://www.catholicculture.org/commentary/articles.cfm?id=655>

Wayne, J (2019). "A Study of Biblical Types." *ChristianCourier.com*. Access date: June 22, 2019. <https://www.christiancourier.com/articles/126-study-of-biblical-types-a>

William G. Moorehead (1930). The typology of scripture. *The International Standard Bible Encyclopedia*, ed. James Orr (Chicago: Howard-Severance Co., 1930), vol. 5, pp. 3029-3030.

NIGERIA'S ELECTORAL SYSTEM IN NEED OF SCIENTIFIC UPGRADE FOR SMOOTH AND SUCCESSFULLY ACCEPTED OUTCOME.

ONMOKE SYLVESTER.

Department of Christian Religious Education
Benue State College of Education, Oju.
Benue State
fronmoke@gmail.com

Abstract.

World-over, the conduct of general elections are made easier through the use of scientific and technological devices. Countries with greater populations around the world employ electronic means of voting and counting, such that elections are easily conducted with faster, credible and acceptable results. Nigeria has remained with its traditional system which is outdated, non-fashionable and crude manual devices. No doubt such elections results are bound to be unacceptable, and also contested at tribunals. Free, fair and credible electioneering processes might continue to elude Nigeria for years to come. On this platform, I wish to propose an establishment of scientific and technological methods be adopted in Nigeria. The case emanating from fraud elections, manipulation of voting processes and declaration of rigged results would lead to voter's apathy, it could result in violence and subsequent death of innocent people. More advanced countries with larger populations like India, Indonesia and United State of America etc conduct their elections electronically, the processes there are generally acceptable. They are devoid of manipulations. Why would Nigeria not adopt such scientific technological systems? Nigeria has grown over the years and has become the leading Nation in Africa, we stand as role models to smaller African countries, and ironically the level of our development has not been fully harnessed. Talents abound, human resources are plentiful and the push for our advancement are still untapped. This paper therefore, wishes to seek ways of improving our electioneering processes for more acceptable and credibly worked systems in Nigeria. This paper calls for an electronic voting process in Nigeria.

Keywords: Election, Voting, Electronic Voting and Credible election

INTRODUCTION

Nigeria has undertaken several elections since independence up to date. Nigeria has practiced democracy at her beginning since independence, it was truncated several by the military. Our current attempt at democracy has been on for above two decades of uninterrupted democratic practice. The hallmark of a genuine democracy is credible, free, fair and acceptable outcome. How has Nigeria fare in this regard? Have there not been violent rejections of election results even at the last general elections? Have the looser not sought justice even up to the apex on all occasions? Therefore, when shall the electoral regulators get it right in Nigeria? The regulatory body INEC (Independent Nigeria Electoral Commission) has seeming fancied dancing to the tone of the government of the day, not until Professor Jega led body deed the unimaginable, letting the incumbent government lose the 2015 general elections. The process was not free, fair and credible though but Nigerians needed a change.

NIGERIA'S 2019 ELECTIONS

The most widely praised as the best system of government in our contemporary world is democracy, which allows for high level of people's participation in decision-making and policy formulation through representatives. A major determinant of democracy is the electoral process that provide the electorate the institutional framework for choosing representatives through a competitive free and fair election. The emphasis of this paper is on the challenges of conducting free and fair elections and its impact on the democratization process in Nigeria. Relying on secondary data on elections in Nigeria, we established that elections have been marred by unprecedented abuse of electoral process in form of election rigging, ballot box snatching, inadequate and late arrival of voting materials at polling centres, vote buying, connivance between the ruling party elites and INEC to manipulate and even declare false elections result and so on. Based on these observed abuses, we emphasize representative democracy cannot be consolidated or triumph where there is negation of democratic principles. Could be a functional special electoral malpractice court for presentation of offenders? For INEC to become an autonomous and really independent body? Haven seen in a flash what Nigeria dished out as the 2019 general election in the whole world view, make the call for modernization more timely now than ever.

HAS NIGERIA'S ELECTORAL PROCESS IMPROVED SINCE INDEPENDENCE?

Even before returning to democracy in 1999, when the military allowed political associations which led to the 1993 elections, the electoral process was still in order;

1. Remembering the election of social democratic party which almost brought Moshood Abiola to Power, it was still largely commendable. Abiola, then a southern Muslim, captured most of the votes in the North; unfortunately, he was not declared winner.
2. In 1999, Olusegun Obasanjo and Olu Falae, both contested the presidential election and as southerners, each got a fair share of votes from the North. The candidates enjoyed the support of all Nigerians and the process was fair.

However, when you look at the elections Late Musa Yar'Adua, Goodluck Jonathan and now Muhammadu Buhari, you will see that elections were rarely a resemblance of democracy. This is not about whether any one likes anybody or any political party or not. A new system of rigging has surfaced such that election results of some polling units are deliberately doctored so as to increase or decrease a political party's chance of winning an election. This is not good for our electoral process and it is a bad commentary on the government of the day. Now that the 2019 general elections had come and gone; what remarkable difference have been seen? Have the processes not followed the pattern as since independence era? I can say categorically that our Electoral process has improved since independence, not sagastically though. In all ramifications, no progress was made.

If we look at elections conducted before 2011 and 2015, they were characterized by violence and ballot box stuffing. "Ghosts" used to vote during our elections but with the innovations introduced by INEC this has reduced to a reasonable level such acts.

One expects that with the introduction of smart card reader, this should have tackled or detected fraud in the electoral processes but even at this, we have had an acceptably free and fair elections that stand the test of time. There are still issues that must successfully be tackled to make the process better and one of such is vote buying.

Prof. Bolaji Omitola asserted,

According to Lekan Oketokun; “We have an upsurge in incidents of vote buying, excessive monetization of the electoral process, intimidation, and politics of brinkmanship by various gladiators bordering on desperation to grab power at all cost. All these do not point to an improved electoral process”.

TOWARDS EFFECTIVE ELECTORAL PROCESSES IN NIGERIA.

Nigeria has for long been in constant search for effective electoral processes, as an integral part of its transition to democracy. A long history of badly or poorly conducted elections has, until recently, created profound skepticism amongst ordinary Nigerians about the utility of electoral democracy. The relative success of electoral democracy, the relative success of 2011 and 2015 general elections, seem to have revived hope amongst Nigerians that with determined effort, their votes could indeed count. Hopes and expectations that the new civilian government would pave the way for better governance that would satisfy the needs and aspirations of ordinary Nigerians over-shadowed the flaw of the electoral process and the dynamics of the politics of transition under military rule, which circumscribed, if not tele-guided, the elections, as observed by **ATAHIRU JEGA**. What can be done newly? I would suggest six major ways, to ensure effectiveness of the electoral processes.

1. STRENGTHENING THE ELECTORAL LEGAL FRAMEWORK

The constitution 1999 (as amended) and the electoral Act. 2010 (as amended) contain the essential elements of a sound legal framework for the conduct of elections in Nigeria. However, According to A. Jega; “There is tremendous scope for improvement to ensure a more robust legal framework for greater effectiveness in the conduct of future elections.” INEC has identified all the areas where improvements are needed. Regrettably, no amendment came into effect before 2015 as well as 2019 general elections, why then can Nigeria not become laughable object before the world today?

2. PROFESSIONAL COMPETENCE AND ADMINISTRATIVE CAPACITY BUILDING

With the restructuring and reorganization of INEC after the 2011 elections, a lot of additional work is required, according to David Mark, “For upgrading the professional competence of staff, through a range of capacity building and skills provisioning training programmes. Rigorous training of both the permanent and temporary staff as INEC ensure well for efficiency and effectiveness in electoral services delivery.

3. INCREASING KNOWLEDGE SHARING AMONGST AFRICAN ELECTION MONITORING BODIES.

According to Atahiru Jega; there are many good electoral practices amongst the African EMBS, which we can share with each other. There is indeed even scope for sharing electoral resources, in addition to sharing knowledge and experiences” (A. Jega Nov. 10, 2015). He concludes that: “INEC should play a leading role in driving this and other mutually beneficial initiative”.

4. STRENGTHENING FINANCIAL AUTONOMY OF THE COMMISSION

To a large extent effectiveness of electoral process is conditional on availability of funds to deliver efficient services consistent with international minimum benchmarks and global best practices. Electoral processes cannot be effective if an EMB is starved of funds and/or has to go cup in hand to an incumbent executive begging for funds before it can conduct an election.

5. INCREASED ENGAGEMENT WITH STAKEHOLDERS.

Bringing about free, fair and peaceful is not the business of INEC alone. All stakeholders and indeed out citizens have roles to play. Regularized and periodic meetings between INEC and political parties, civil society bodies, security agents, development partners and many others would safeguard and make elections work.

6. TECHNOLOGY ADAPTATION FOR TRANSPARENCY AND EFFECTIVENESS

There is no doubt that increasing use of adaptable technology in carefully selected areas goes a long way to ensure transparency and effectiveness of the electoral processes: E.g. The technology for biometric registration of voters, the use of smart permanent voters card (PVCs), the voter verification and authentication of the registered voter card and server processing data and result collation are highly commendable. There are, however many challenges in the use of technology; e.g. Lack or inadequacy of original equipment or spare-parts. Lack of security for data, its storage or adequate internet facilities, etc hinder proper usage.

CONCLUSION

As the 2015 general elections clearly show, Nigeria has come of age, but with the 2019 election; much was left to desire. We therefore, need to forge a strong stakeholder alliance for the consolidation as well as expand the scope of the use of technology in Nigerian electoral process for greater transparency and effectiveness as it is done in advanced countries and larger population than us; fair, free, credible and peace elections are what Nigeria desires. Litigations, rankles, agitation and violence is the bare of political success in Nigeria today,

WORKS CITED

1. Attahiru Jega: Nigeria Pilot Newspaper Nov, 20, 2015 Pg. 35-37
2. Atahiru Jega: Tribune Newspaper Nov 23, 2018.
3. David, ABM: Guardian Newspaper January 8, 2019

Books:

4. Bolaji; O., (2018) Need for Employment of Adequate Technology in Electoral Process, Ibadan.
5. Lekan; O., (2014) Data Processing and Election Processes: (Lagos)

LIBRARY REFERENCE SERVICES BASED ON ARTIFICIAL INTELLIGENCE

GYANG CATHERINE HONGHAI
VILLANOVA POLYTECHNIC IMESI ILE,
OSUN STATE, NIGERIA
gyangcatherine86@gmail.com

Abstract

Libraries are commonly known for information acquisition and organization - for easy access. The third vital service rendered by the Library is the dissemination of the acquired information, which is more delicate than the acquisition services. Reference services fulfill this third library function which are especially, offered by Library Information Scientists. This arm of Library service, focuses on establishing prompt contacts between users and the right resources, thereby saving the research or searching time of the user. The advent of Digital Library Systems is known to have ignited the massive drift from the traditional library system, which is expected to influence the entire mode of Library service delivery. This further implies that Library Reference services now have to move from offering full human assistance to a digital solution. Data dissemination in the sphere of Information Technology (IT) has gone wild, especially with the implementation of Artificial Intelligence (AI). Since Libraries have decided to join the IT sphere, it is then expected to adopt such competitive dissemination technology for its Reference Services. Using Analytic induction - a model for qualitative research design, this study carefully examines Library reference services in relation to AI-based solutions for selective Information dissemination. The result of this study is a discussion on how AI, which has Machine Learning paradigm underneath, can now be tuned to Knowledge Assimilation and Dissemination agents in an academic digital Library.

Keywords: Digital Library, Reference services, Artificial intelligence, Information dissemination

INTRODUCTION

Access to the right information in a library is about to get worse than tedious for users if reference librarians do not get helping hands. This is a reality that is encroaching every digital library that have not improved or designed its system to assist reference librarians with automatic dissemination.

Reference librarians also known as subject librarians are to recommend, interpret, evaluate, and/or use information resources to help patrons (or users) with specific information needs (American Library Association, 2016). Apart from requesting for on-desk services, reference is increasingly conducted via phone calls, chat and email. If online book stores are now very smart with almost accurate recommendations, then a digital Library cannot afford to offer less.

According to Jadhav (2018, p. 170), human-machine partnership will not only help automate and coordinate our lives, but it will also transform how Knowledge Repository products and services will support professional development.

At this point, it is important to revisit a clear definition of a Library, to have an insight of how the objective of an ideal Library will be disrupted in the case of unfitting reference services.

A library is a collection of resources in variety of formats that are:

- Organized by information professionals or other experts;
 - Physically, digitally, bibliographically, or intellectually convenient to access;
 - In line with target services and programs;
 - Provided with the aim of educating, informing, or entertaining a variety of audience;
 - Meant to stimulate individual learning and advance the society as a whole.
- (George, 2010)

Today's information technology provides numerous solutions for real-time and selective dissemination of information. These solutions are most recently, delivered as AI (Artificial Intelligence) powered systems which leverage Machine Learning and Big Data at its core. What we get from such systems includes;

- Highly accurate suggestions,
- Chained follow-up services,
- Real-time broadcast,
- Smart backend resource management,
- Highly customizable user Interface,
- Sporadic data generation and reasonable pattern detection,
- Ever increasing knowledge base and so much more.

The challenge is in not only staying abreast of new trends in information delivery but also in putting it to best use for patrons (or users) whether in providing reference materials or as a reference transaction format. (Louise, 2006)

In an era where information goes after the users, it is not expected that providers who sit back to have users find them, remain relevant. Information is being generated at a high rate in today's world, even in narrow subject areas, which makes it difficult for researchers to keep themselves abreast of new developments in their fields. Hence, there is a need for optimal awareness services to meet such needs especially from an academic repository. Reference services are getting more complicated for subject Librarians due to increasing interdisciplinary research topics and team work. This reflects a need for a knowledge support system to help Librarians maintain contact with relevant materials for their users. Information formats and medium are now more than it was, few decades ago. It was mainly journal or periodical for the serials. Now we have conference papers, technical reports, patents, theses, and standards, all ranging from hard to multi-type electronic formats. This is that age where information spills on every gadget even those with the poorest internet access. Therefore, today's library services have to thread such competitive path, so as to reach their target audience, patron or users.

The aim of this study is to initiate a digital library reference solution that offers prompt and relevant services in an era of highly competitive technologies such as AI.

This paper therefore, focuses on outlining the core constituents of library reference services. Next is a brief and theoretical introduction to Artificial Intelligence. Finally, a modular discussion on how new or basic digital library reference services can be optimized to inhibit Knowledge Assimilation and Dissemination agents with the use of Artificial Intelligence.

TAXONOMY OF LIBRARY REFERENCE SERVICES

Library Reference Service is defined as a part of library administration that deals with the assistance given to patrons in their use or quest for resources of the library. According to Kumar (2003), reference service helps to establish contact between a user and the right document at the right time, thereby saving the time of the user. (as cited in Fehintola & Adeniyi, 2011)

Credited with the “founding” of library reference service, Green (1876) said in a paper read at a meeting of the American Library Association, “A librarian should be as unwilling to allow an inquirer to leave the library with his question unanswered as a shop-keeper is to have a customer go out of his store without making a purchase.”

Categories of Library Reference Services

In line with Green’s illustration, library reference service has evolved over the years to constitute the following major categories and respective functions;

- ❖ Bibliographic Compilation: Subject bibliographies are compiled on requests from the users or on a regular basis in anticipation of users’ needs. At times, bibliographies are compiled on special occasions, such as during seminars and workshops to provide the participants with the latest literature on the subject. (LIS, Module 4).
- ❖ Information Literacy: According to Tewell (2018), this involves developing instructional programs designed to teach library users how to find and evaluate information. An implementation of such programs is the introduction of “Use of Library” as a general course to be offered in all Nigeria tertiary institutions.
- ❖ Current Awareness Services (CAS) and Selective Dissemination of Information (SDI): Current awareness services focus on keeping users abreast of current developments in their respective field. With the inclusion of SDI, users gets alerts of more individualized development based on indicated interest or recommendation.
- ❖ Advisory Services: This is a fundamental aspect of reference services that is involved in, but not limited to suggesting library resources to users based on the need discovered by the librarian directly, through conversation or indirectly.

The Reference and User Services Association (RUSA) of the American Library Association has summarized these functions in its issued guidelines for the development and delivery of such services, which states, “Information services in libraries take a variety of forms including direct personal assistance, directories, signs, exchange of information culled from a reference source, reader’s advisory service, dissemination of information in anticipation of user needs or interests, and access to electronic information.” (RUSA, 2004, p.1).

Traditionally, the above services have been offered by persons at a designated desk known as the reference desk, within the library building, and can also be reached through telephone or mailed correspondence. To meet the information needs of the users in changing technological environment digital reference service is a natural solution which is supposed to be an advancement of the traditional reference service. (Chandwani, 2009).

Digital Reference Services

Digital reference service can be defined as the provision of reference services involving computer-based collaboration between library user and librarian over a digital network.

Over time, the major role that digital reference services have attempted to improve is the communication between the Librarian and the users. On this basis, the following two categories of digital reference services were derived;

1. **Asynchronous:** This is a mode of communication between the Librarian and the users that does not involve instant feedbacks or real-time communication. Email is the oldest digital tool in this category and another commonly used tool is Web-forms which is provided on the library website.
2. **Synchronous:** As opposed to Asynchronous digital reference services, this category features real-time or instant communication over a digital network. Tools that are commonly promoted for such communication include Instant messengers which are text-based/instant messaging apps and Video Conferencing or VoIP (Voice over Internet Protocol) solutions.

ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is an area of computer science that focuses on creating mostly software solutions that are capable of performing pseudo-human intellectual tasks.

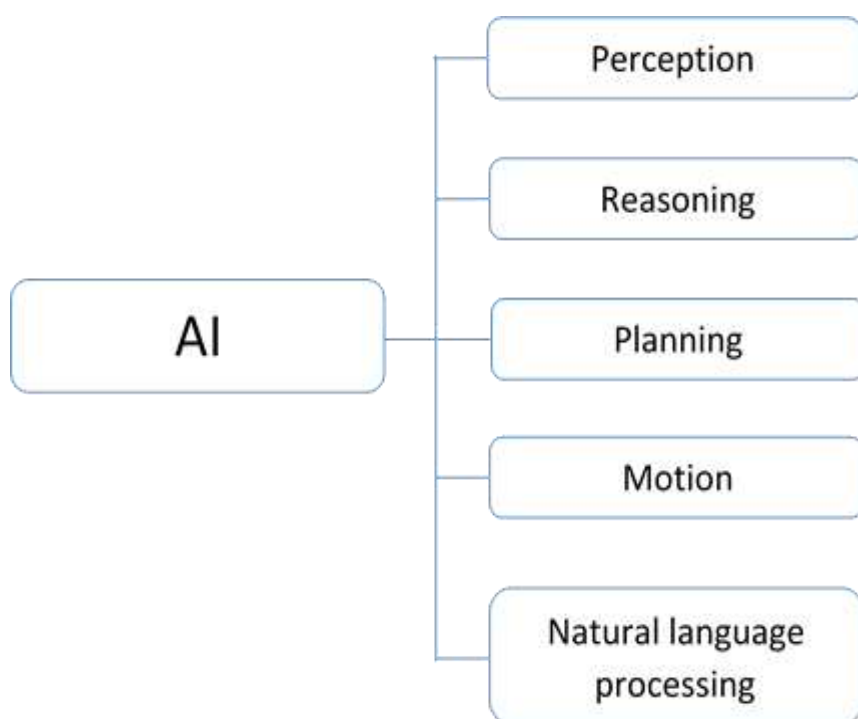


Figure 1: Branches of Artificial Intelligence

The above-mentioned branches imply that AI technologies can respectively, understand images, audio, and other media/physical objects, reasoning gives it the power to answer questions seamlessly from a self-grown or pre-stored knowledge

base. It can infer the required steps to reach a goal in terms of planning, from its understanding of an environment, dynamic motion becomes possible. Lastly, understanding human language is a branch that has attracted so many contributions with significant success.

Machine Learning

Machine learning is an application of AI that provides a system the ability to perform specific tasks effectively without using explicit instructions, relying on patterns and inference instead. These patterns are mostly the result of BIG DATA processes.

Big Data

Big Data is a field that treats ways to analyze, systematically extract information from, or otherwise deal with data sets that are too large to be handled traditionally, to reveal patterns, trends, and associations, especially relating to human behaviour and interactions.

Bibliographic Compilation and AI

Upon a request for bibliographic compilation by the user, the regular digital system will generate results based on keyword occurrence and in the order by which the data is stored (ascending or descending). Artificial intelligence can optimize this process to yield a better result in the following ways.

Suggest complete sentence to keywords upon typing, which are not compulsorily exact. Thereby, offering options of other bibliographies that could be helpful or even better.

The result of a search is not based on the keyword by which it was stored or statically programmed but on relevance, which considers keyword density in the main text, past search patterns, interest of the researcher, location and other information that cannot be gotten in a single or day-long conversation. The speed of generating result is improved through stored usage model built from each user over time. This is why lots of tech analyst say "Google knows us better than we know our selves". The results are fast and just what we want. Librarians can now take break from the other end of the system by allowing AI to give a helping hand.

Information Literacy and AI

A scholar or researcher may find it difficult to use the library resources over time and develop disinterest for all of its services. Orientation programmes may have been organized but it remains a fact that not all fresh men or audience got it in that event. AI can step in to improve literacy and even promote the use of the physical library facilities. Here is how; with AI-Powered learning tools, library instructions and guides can be passed to users at their most convenient spot, time and with individualized content. To add thrills, a virtual reality tour guide for the library can be provided to scholars even before they step into the library for the first time. This will educate and take care of those that will not want to ask their way within the library.

CAS and SDI with Artificial Intelligence

RSS feed, e-alerts or push notifications are quite handy for CAS but for SDI, only a tip has been explored. SDI as it is mostly practiced in digital reference services, deals with disseminating information to users based on interests which were indicated during signups, and/or research period. Just as we have in today's digital marketing sphere, it is expected that SDI moves a bit further with Artificial intelligence to achieve the following:

- Provide environment-based information which will vary as the user changes location.
- Refine users' interest based on regular library usage pattern rather than wait for the user to adjust his/her preference settings.
- Get feedback from users' interaction with notifications such as "opened", "not opened" and if a negative feedback is significant then interest should be reviewed.

AI Based Advisory Services

Also powered by machine learning, an AI based Reference advisory service will not just offer suggestions or learning advices to users who requests for such services, but offer a prompt and data-driven service even when a user has not realized a deficiency in learning or the need for such support. AI systems can go as far as recommending contemporary resources that will help to resolve the user's mood and improve motivation for learning. Relevant quotes can also be served with close follow up analytics and restructuring.

All of these solutions and more are already in today's AI Virtual assistant solutions. The most popular virtual assistants are currently Amazon Alexa, Apple's Siri, Google Now and Microsoft's Cortana.

CONCLUSION

It is important to know that Artificial Intelligence in the provisioning of library reference services, does not take the place of a reference librarian rather, it assists the librarian with offering a service that meets the technological expectations of today's users. With the application of AI, it is seen that increasing interdisciplinary research topics can have the most useful bibliographies. Increasing amount of data from internal and external repository can now be optimally analyzed to match the individual needs of users. This brings in the AI-powered Knowledge Assimilation agent that can generate knowledge from library resources and users system interaction through machine learning. Thus, keeping the Library as a whole at a relevant position in the institution and raising scholars that are data rich.

RECOMMENDATION

Academic Libraries don't have to build systems that are as sophisticated as Amazon Aleza and the other examples, but can build a model from some of its features for reference services. For cost efficiency such project should be delivered in phases and analyzed on regular basis for machine errors with steady staff availability for escalated support.

REFERENCES

- American Library Association. (2016). *Reference Librarian*. Retrieved from <http://www.ala.org/educationcareers/libcareers/jobs/reference>
- Chandwani, A. (2009). *An overview of Digital Reference Services*. Retrieve from <http://eprints.rclis.org>
- Fehintola, O. Adeniyi, S. (2011). Reference Services in a University Library: awareness and perception of undergraduate students. *Journal of Pacific Northwest Library Association*, 75, 3. Retrieved from <https://www.researchgate.net/publication/>
- George, G. (2010). *The librarian's book of list* (ed.). USA :American Library Association.
- Green, S. (1876). Personal Relations Between Librarians and Readers. *American Library journal* 1, 74-81.
- Jadhav P. R. (2018). Collective Intelligence in Library & Information Service: knowledge librarian. *Journal of Library and Information Science*, 3(5)170. Retrieved from <http://www.klibjlis.com>
- LIBRARY AND INFORMATION SERVICES MODULE 4. *Traditional Library service Responsive and Anticipatory*. Retrieved from <https://nios.ac.in/media/documents/SrSecLibrary/LCh-013.pdf>
- Louis. F. (2006). Subject Librarians in the Changing Academic Library. *Electronic Journal of Academic and Special Librarianship*, 7, 3.
- Reference and User Service Association. (2004). *Guidelines for Implementing and Maintaining Virtual Reference Services*. Retrieved from <http://rusa.ala.org/update>
- Tewell, E. (2018). The Practice and Promise of Critical Information Literacy: Academic Librarians' Involvement in Critical Library Instruction. *College & Research Libraries*, 79(1), 10. doi:<https://doi.org/10.5860/crl.79.1.10>

PORTRAYAL OF YORUBA TRADITIONAL RELIGION IN AWARI OMO ODUDUWA PROGRAMME OF MITV

¹ Oladimeji Simon Pinheiro, ² Sanyaolu Oluwaseyi, ³ Sunday Ufot Imoh

¹ Department of Mass Communication
Interlink Polytechnic, Ijebu-Jesa, Osun State, Nigeria
otunbasop1980@gmail.com

² Department of General Studies,
Grace Polytechnic, Omu-Ijebu, Ogun State
utifot11@gmail.com

³ RSA Institute, Ibadan, Oyo State
samechconcept@gmail.com

ABSTRACT

African culture intertwined with religion which makes religion permeates into all aspects of life, which made impossible to isolate. This study therefore examined how the television programmes has portrayed the Yoruba traditional belief system, and as well analyzed the controversies in the representation of Yoruba Traditional Religion on television and in tandem to the actual practice of Yoruba Traditional Religion. The study was anchored on Media-Society Theory of Functionalism. It explains that, mass communication can be considered as both a 'societal' and a 'cultural' phenomenon and also as part of the structure of society, and its technological infrastructure is part of the economic and power base, while the ideas, images and information disseminated by the media are evidently an important aspect of our culture. The Study also anchored on Culturalist Theory. The study adopted the ethnographic research design with the use of key-informants interview and content analysis to elicit in-depth information needed. A collection of some recorded episodes of the programme and interviews were analyzed to ascertain the extent it has portrayed the belief system of Yoruba traditional religion. The finding revealed that media owners have not seen relevance of promoting such programmes on their stations, the rites and ritual practices of the Yoruba traditional religion on which the belief system is anchored on are not permitted to be broadcast due to NBC law. The findings further revealed that presenters and producers of the Yoruba traditional religion programmes on Television are not core worshipers or traditionalist of the religion which pave way for misrepresentation. The researchers therefore recommend that National Broadcasting Cooperation (NBC) is to make better policies and laws that will make the african religion practices to be aired by media stations, which would have given opportunity to the audience to understand the belief system of Yoruba traditional religion. And also the core practitioners should be core producers and presenters of Yoruba traditional religion programmes.

Keywords: Yoruba; Traditional Religion; Media; Rites and Rituals

1. INTRODUCTION

Religion can be described in various ways due to its diversity. Religion is people's beliefs and practices about existence, nature, and worship of a God or gods. It also provides a theistic code of morals for use in binding order in society and culture. William Padden (2012) opined that religion is an organized system of beliefs, ceremonies, practice and worship that centre on one supreme God, or the deity. In the views of McNamara (2005), in some religion, no particular God or gods are worshipped. According to Paul Tillich (2003), "Religion is the collection of cultural systems, belief systems, and worldviews that relate humanity to spirituality and, sometimes, to moral values." Whatever diversity it entails, the centrality of most forms of religion is predicated on a divine power that has absolute influence on the lives of adherents. To these submissions, certain universal themes cut across most religion; they include belief in God or deity, a code of conduct or ethics, the engagement of sacred stories and rituals or religious acts and ceremonies.

African Traditional Religion, (ATR) has long been in existence prior to colonial times. Idowu (1973), contends that African Traditional Religion is totally grounded in the culture and religious beliefs and practices of Africa. Therefore, with the submission of Idowu, it can be boldly affirmed that African Traditional religion is a lived tradition, rather than a faith tradition. Additionally, it can be deduced that in African Traditional Religion the customs and traditions of the people are sacrosanct. One of the genres of African Traditional Religion is Yoruba Traditional Religion. But their belief system and practices remains controversial as the earlier researchers submitted that, it could not be connected to the belief in the Supreme Being and its practices could not be connected to the same practices.

Against the backdrop of some western scholar's negative perception of African Traditional Religion, Omotoye (2011) argues, Africa Traditional Religion is perhaps the most important influence in the life of most Africans. Yet, according to him, its essential principles are often unknown to foreigners. In recent times, there has been a renewed vigour to give visibility and audibility to Yoruba Traditional Religion. It is noteworthy to mention that, with the liberalization of the electronic media in Nigeria, the drive to create more awareness of Indigenous Traditional religion has received a boost. To this end, television has been seen as one of the media genre as a principal medium for obtaining visual entertainment and information which are presented through various programme genres such as: News, Sports, Documentary, Interviews, Drama, Music, etc. It establishes a direct relationship which presents particular sets, values and attitudes to its mass audience.

Fiske (1987:37), defines television as a popular cultural medium, with programmes that are disseminated to a mass audience from numerous subcultures; who have a wide variety of social relations, socio-cultural experience, and discourse. Its content represents real life and fictional worlds to its viewers. Its visual and aural nature affords its viewer the opportunity to participate through call in programmes as they watch and afterwards, as they are able to perceive, interpret, and accept or reject images as real or imaginary. However, beyond this, television content as likened by O'Donnell (2007:145), are strategies through which a society's cultural values, norms, practices, interest, and trends are developed.

Considering the functionality of television programmes, having considered various submission by scholars in African traditional religion study which has brought about divergence and convergence in the true nature of Yoruba traditional religion practices in respect to the existence of Yoruba Traditional Religion practice and their belief system, it is pertinent to note that, series of programmes have been aired on Nigerian Television Stations such as Odu Ifa, Irinkerido, Asa ati Ise, Ayelaba, etc trying to give a clearer picture of the various Yoruba traditional Religion practices and structure of belief system in connection to believe in Supreme Being. This remains a controversial issue as the way some of the television programmes portray the Yoruba Traditional Religion in mystifying every happening surrounding the Yoruba society as an act of God without any empirical evidence as proof to validate their claim.

It is on this note that, this work will try to x-ray the issues surrounding the matter through the programme “Awari Omo Oduduwa” of Muri International Television (MITV), in understanding Yoruba Traditional Religion practice and belief system This research tries to examine how Awari Omodudwa television programme has portrayed what Yoruba Traditional Religion belief system involves.

1.2 RESEARCH QUESTIONS

This study shall seek to proffer answers to the following research questions:

1. How far has the Awari Omo Oduduwa television programme portrayed the belief system of Yoruba Traditional Religion?
2. To what extent has it influenced the understanding of Yoruba Traditional Religion?
3. What are the controversies in the representation of Yoruba Traditional Religion on television and in the actual practice of Yoruba Traditional Religion?
4. What are the challenges facing the Awari Omo Oduduwa Television?

2. LITERATURE REVIEW

2.1 Definitions of Religion

Immanuel Kant (1980) opined that Religion is the recognition of all our duties as divine commands. Also, Ludwig Feuerbach (1977) defined religion as a dream, in which our own conceptions and emotions appears to us as separate existence, being out of ourselves. Emile Durkeim (1976) sees it as a unified system of beliefs and practices relative to sacred things, that is to say, things set apart and forbidden- beliefs and practices which unite into one single moral community called a Church all those who adhere to them. while James Frazer submitted that Religion is a propitiation or conciliation of powers superior to man which are believed to direct and control the course of nature and human life. To this end, the submission of the scholars still centered on the supreme being, at the center of their belief system, but some other religion practices like Buddhism, Hinduism, does not even believe in any supreme being but rather nature, most Hindus worship one being of ultimate oneness (Brahama) through infinite representations of gods and goddess. These various manifestation of gods and goddesses become incarnate within idols, temples, gurus,

rivers, animals. Hindus believe their position in this present life was determined by their actions in a previous life. Religion enters into every aspect of the life of the Africans and it cannot be studied in isolation. Its study has to go hand-in-hand with the study of the people who practice the religion.

2.2 Concepts of African Traditional Religion

Therefore, African traditional religion expresses the religious beliefs, customs, norms, behaviour, ethics and pattern of administration of people in their various communities and societies at large. It is inclusive in its worldview because it incorporates other religious elements. African Traditional Religion means the indigenous religious beliefs and practices of the Africans. It is the religion which resulted from the sustaining faith held by the forebears of the present Africans, and which is being practiced today in various forms and various shades and intensities by a very large number of Africans, including individuals who claim to be Muslims or Christians.

Omotoye explains that African Traditional Religion has for a long time been misrepresented by the early European explorers, investigators and Christian missionaries. Many of them used obnoxious and unacceptable terminologies to describe the religion, such as “the high god of the primitive people”, “withdrawn god”, “polytheism”, “fetishism”, “idolatry”, “heathenism”, “paganism”, “animism”, and “ancestor worship”.

Therefore, African Traditional Religion is a fundamental, perhaps the most important, influence in the life of most Africans yet its essential principles are too often unknown to foreigners who thus make themselves constantly liable to misunderstand the African worldview and beliefs. To them they never see religion as integral part of culture of the Africans, and their lack of understanding of the African culture made them to conclude that Africans have no religion.

A French scholar, Banding in 1884 had this to say: “They think that God, after beginning the organization of the world charged Obatala to finish it and govern it, even withdrew and went into an eternal rest to look after his own happiness”. Bandings position on Yoruba Traditional Religion Belief system in the gods as emissaries of the Almighty God cannot be a true representation of Yoruba traditional religious worldview. Yoruba believed that the world was created by God. Obatala in Yoruba creation mythology was an arch-divinity. He could not function on his own.

Bouche (1999) also said that “A Yoruba man thinks that God is too great to deal with and that He has delegated the care of the blacks to the Orisa”. This scholar goofed in his submission because he did not understand the concept of God in Yoruba story of creation. It is true that God is omnipotent, transcendent, and at the same time He is immanent. He is worshipped everyday through sacrifices and prayers. Bouche went further to say that “God enjoys abundance and gentle rest, keeping his favour for the white man”. This statement could be seen as racially discriminatory between the whites and the blacks. God is universal as the creator of the universe.

Leo Frobenius, said: Before the introduction of a genuine faith and a higher standard of culture by the Arabs, the natives had no political organization, nor, strictly speaking, any religion... Therefore, it is necessary in examining the pre-Muhammedan conditions of the Negro races, to confine ourselves to the description

of their crude fetishism, their vulgar and repulsive idols. None but the most primitive instinct determines the lives and conduct of the Negroes, who lack every kind of ethical inspiration. The above statement made use of some obnoxious and wrong terminologies like native, fetishism and idols. These terms have been consistently rejected by African scholars. Some of these scholars are Samuel Johnson, Olumide Lucas, E.G.Parrinder, Bolaji Idowu, John Mbiti,

H.Sawyerr, E.G.Ilogu, Christian Gaba, Afolabi Ojo, P.C Lloyd, E.W Smith and Wande Abimbola, Dopamu, Awolalu and host of others. They try to re-write what the African Traditional Religion stands for against the account of the European scholars; Mbiti (1980), posited that African culture is intertwining with religion. Religion permeates into all the department of life so fully that it is not easy or possible always to isolate it. A study of these religious systems is therefore ultimately a study of the people themselves in all complexities of both traditional and modern life... Religion is the strongest element in traditional background, and exerts probably the greatest influence upon the thinking and living of the people concerned. In corroboration with Mbiti, Ezeanya(2003) agrees that in Africa life is religion, and religion is life. This means that religion could not be explained away in Africa. Whoever tries it will be seen as a stranger to Africa

Africans see the universe as created by the Supreme Being. This Being is the same as the Christian God and is known by various names in Africa. Omosade Awolalu, in his work "Sin and its Removal in African Traditional Religion" writes, when we speak of African Traditional Religion we mean the indigenous religion of the Africans. It is the religion that has been handed down from generation to generation by the forbears of the present generation of Africans. It is not a fossil religion (a thing of the past) but a religion that Africans today have made theirs by living it and practicing it. This is a religion that has no written literature, yet it is "written" everywhere for those who care to see and read. It is largely written in the peoples' myths and folktales, in their songs and dances, in their liturgies and shrines and in their proverbs and pithy sayings. It is a religion whose historical founder is neither known nor worshipped; it is a religion that has no zeal for membership drive, yet it offers persistent fascination for Africans, young and old.

The above passage serves as a clear picture of the nature of African Traditional Religion.

Bolaji Idowu (1973:84), in African Traditional Religion submitted that in understanding the African Religion, one must understand the myths of the people for there-in lies their philosophy of origin of the universe. This is because a myth is a vehicle for conveying a certain fact or a certain basic truth about man's experiences in his encounter with the created order and with regard to man's relation to the supersensible world. It endeavors to probe and answer questions about origins and meanings and purposes. These answers are naturally clothed in stories which serve as means of keeping them in the memory as well as handing them down from generation to generation.

Awolalu and Dopamu explained further that, aside from myths, there are liturgies which prescribe forms of ritual for public worship. This serves as the vehicle of communication between man and the Divine Being. They stressed further that, studying this religion is through songs. As songs are so much in Africa which enrich

African heritage; these songs are employed in worship, in naming ceremonies, in wedding, in funeral, in wrestling, during cultivation of farm, in working, in going to war, in praising the ruler, in rocking babies to sleep and so many other activities. They express joy, sorrow, assurances, hopes and fears of the future and life after death. Thus, in songs according to the peoples' doctrinal and philosophical outlook are expressed.

Awolalu and Dopamu (1979) further explain that these recitals "proffer material of immense value on the peoples' philosophy, theology and history. Other sources include pithy sayings, proverbs, adages, epigrams and riddles which are formulated from human experiences and reflections from time immemorial. These oral traditions can be found or preserved in "arts and crafts, symbols, shrines and sacred places. From the foregoing, it is clear that a study of African Traditional Religion is a study in the totality of the peoples' way of life. This therefore means that the philosophy of African Traditional Religion does not exist in well-articulated body of knowledge as it is in the Western Philosophy, but is interwoven in the religion and culture of Africans.

2.3 Elements of African Traditional Religion.

In understanding the philosophical foundations of African traditional religion, Bolaji Idowu (in Olosumare, 1962: 137-202) has enunciated five component elements of African Traditional Religion. These five elements he called the structures of African Traditional Religion, while Awolalu and Dopamu see them as the features of West African Traditional Religion (1979) These are, *belief in God, belief in divinities, belief in spirits, belief in the ancestors and belief in the practice of magic and medicine*. These are the philosophical pillars on which the study of African Traditional Religion rest on. Apart from the study of the nature of the religion of Africans, these five elements form the central tenets of African religion and philosophy, the understanding goes thus;

- (a) **Belief in God:** The concept of belief in God in Africa forms the bedrock of every religious worship and ceremony. It is an idea that is fundamental to African religion. Africans believe in the existence of a supreme primordial being, the Lord of the universe. He is the Supreme Primordial Being, the author and father of other gods. He is known in Africa by the names given to Him. Ekeopara(2005) explains that "the names by which God is called in Africa are descriptive of his character and the reality of his existence... to Africans and convey in clear terms the religious and philosophical thinking and experience of the Africans" The myths in Africa show his creative power, his ability to sustain, protect and guide his creation. His attributes are seen in the names given to their children such as Chidinma in Igbo meaning "God is good", Olorunfemi in Yoruba means "God loves me", Onyemachi meaning "Who knows God?" depicting God's unknow ability. God cannot be fully known or explained.
- (b) **Belief in divinities:** These are divine beings that derive their being from the Supreme Being. They are created to serve God's will and sometimes manifest his attributes. They are messengers of God and so serve him in the monarchic

theocratic control and maintenance of the universe. They also serve as intermediaries between God and man.

- (c) **Belief in spirits:** Spirits usually make natural phenomena their place of habitation, though these things may be destroyed without destroying the spirits. This is because they have the power to incarnate into anything at will. They are separate and separable entities and the material objects they inhabit are but channels through which the spirits are approached. These spirits are ubiquitous and so are feared by people. So many channels can be used to appease them such as sacrifices, offerings, and others.
- (d) **Belief in the ancestors:** Ancestors are spirits of dead Africans especially those who died at ripe good old age and who lived a worthy life while on earth and left a legacy before their death. Mbiti calls them the *"living dead"* while others see them as our "dead fathers", "dead forefathers". Dopamu in Ekeopara explains that "belief in ancestor-ship depicts the African life as that of an unending fellowship in the community of one's kit and kin who had gone before into the world beyond".
- (e) **Belief in the practice of Magic and Medicine:** In African environment, there are certain forces that fight against man's progress in life. This is why the use of magic and medicine became very expedient in order to help man conquer and subdue his environment. They are either used for good or for bad. The practice of magic and medicine enables an African to procure what cannot be obtained in the ordinary way. Among those who use their magical powers for harm include such people as the sorcerers and witchcrafts, while those who use their power for good include medicine people who treat people for various ailments and those who exorcise spirits out from those who were possessed.

According to Olowola (1985) principles of African traditional religion has been created by a Supreme Being; the Supreme Being has created several divinities and spirits that will act as his functionaries to maintain the order of the world; life continues after death; although divinities and spirits live in the supernatural world, they are interested in human beings' life; the existence of mysterious forces brings fear to human life; for human beings it is possible to live peacefully only by following the directions of the Supreme Being and his functionaries

2.3 Worship System in African Traditional Religion

Emeka (2000) submitted that the concepts of worship of God in African Traditional Religion is a way of understanding the true practice of African Traditional Religion and its practices, saying, the days when some scholars and early Christian Missionaries assumed that God is not worshiped in African Traditional Religion has gone. For Dierich Westerman (1996) stated that God to the Africans is not "the object of a religious cult and is of small or almost no significance in practical religion" (qtd in Offiong, 2001). Quoting Idowu, this impression is borne out of the fact that God is not worshipped directly by the Africans and there is no place of worship set aside for God.

African people respond in many and various ways to their spiritual world of which they are sharply aware. This response generally takes on the form of worship which is eternalized in different acts and sayings. These acts may be formal or

informal, regular or extempore, communal or individual, ritual or unceremonial, through word or deed (Mbiti, *African Religions...*, 1969: 58). He also adds that African worship is being regulated by both immediate needs and inherited practice. Worship is offered rather than meditational, in the sense that it is expressed in external forms, the body speaking both for itself and the spirit. It is in this assertion that Quarcoopome in Offiong, has defined "Worship" as the spontaneous expression of man's experience of the divine being who is considered to be the ultimate reality (qtd Offiong, 2001: 14). Though in some African languages there is no word for worship as such, rather we find other words like „to 'pray', to 'sacrifice', 'to perform rituals', 'to make an offering, and so on. These words describe things and actions which are directed towards God and spiritual being.

Mbiti (1975:54) in introduction to African religion, defines worship as "a means of renewing contact between people and God, or between people and the invisible world". They (African people) perform acts of worship to keep alive the contact between the visible and invisible worlds, between men and God. He explains further that some of the many ways Africans worship the Supreme Being is through sacrifices and offerings. Sacrifices and offerings are important elements of worship and are the essence of every religion. Mbiti stressed further that, the practice of making sacrifices and offerings is found all over Africa. By this practice material or physical things are given to God and other spiritual beings. This act marks the point where the visible and invisible worlds meet, and shows man's intention to project himself into the invisible world. People make sacrifices and offerings of almost any animal or object. Also, Mbiti (1962: 58). in his book *African Religions and Philosophy* explain further that, sacrifices and offerings constitute one of the commonest acts of worship among African people.

Similarly, Idowu (in *Olodumare*, 1962: 120) explains that sacrifices and offerings are means of contact or communion between man and the deity. Sacrifice and offering are the means by which man maintains established relationship with his object of worship making distinction between sacrifices and offerings, Mbiti writes further: "Sacrifices involve the shedding of the blood of human beings, animals or birds; offerings do not involve blood but concern the giving of all other things, such as foodstuffs, water, milk, honey or money. The kind of situation that calls for a sacrifice may include drought, epidemics, war, raids, calamity, insect pests, and destructive floods. For examples, the Akamba, and Gikuyu people of Kenya make sacrifices on great occasions, such as at the rites of passage, planting time, before crops ripen, at the harvest of the first fruits, at the ceremony of purifying a village after an epidemic, and most of all when the rains fail or delay. The Gikuyu use sheep of a particular colour; but the Akamba use oxen, sheep or goat of one colour. The Akan and Ashanti people of Ghana have altars in their homesteads at which they make offerings of food, especially eggs and wine. These are made to God, with prayers for the wellbeing of the people (Mbiti, *African Religions and Philosophy* 1969:59). Stressed more, Sacrifices and offerings are made by people in order to draw the attention of God to their needs. The major purpose of sacrifices and offerings is to maintain right relationship with God.

Nweke (2000) explained further that prayers, invocations, blessings and salutations are forms or means of worship in appreciating the beauty of African traditional religion practice, he pointed out that;

- a) **Prayer** is the most common act of worship among African people and most African prayers are short, extempore, and to the point, though there are also examples of long and formal prayers. It is also worth noting that majority of prayers and invocations are addressed to God, and it is also important to note that African prayers are not formally recorded. Few examples to illustrate the concepts and content of African prayers are as follows: the Bachwa Pygmies of the Republic of Congo pray when there is sickness, and before undertaking a journey or going to hunt, asking God to heal the sick, prosper the traveler and give game to the hunter. The Bambuti Pygmies also of Republic of Congo also pray in difficulties, especially when there is a thunderstorm of which they are terrified. Prayer in the event of a thunderstorm goes like this:
*"Grandfather, Great father, let matters go-well with me, for I am going into the forest; Or, if they are already in the forest when it arises:
 Father, Thy children are afraid; and behold, we shall die!"*
- b) **Invocations:** These are common versions of prayer used by Africans. Invocations are short and spontaneous form of prayer asking God to intervene for a particular purpose. They may be in the form of: God, give us rain, God give you fruit! Help me o God (Mbiti, *African Religions and Philosophy*, 1969: 65).
- c) **Blessing:** Pronouncing and requesting of formal blessings play an important role in the social and religious life of African peoples. Hence, formal blessing is another form of prayer. The person who gives the blessing is always older or higher in status than the one who receives the blessing. The blessings take such form as *"May God go with you", "God preserve you and keep you until you see your childrens' children", "May God help you", "May God bless you".*
- d) **Salutations:** Greetings and farewells take on the form of prayer in a number of societies. For instance, among the Banyarwanda people of Rwanda and Barundi people of Burundi when two people are parting, one says, "Go with God!", to which the other responds "Stay with God" (Mbiti, 1969: 66). All these are also peculiar to Yoruba believe of worship in God.

2.4 Yoruba Belief System

Yorùbá religion, simply mean the indigenous faith of the Yorùbá passed down from the genesis of their generation through oral traditions, art, crafts, liturgies, pithy sayings, proverbs, folklores, stories, songs and wise sayings to this contemporary age, (Ogunade, 2010). Yorùbá practiced this traditional religion, before the introduction of Christianity and each community worshipped individual deity (or deities) in accordance to its devotional needs, for instance: in Ile-Ife -Olójó; Ìbàdàn- Òkè; Ọ̀yọ́-Şàngó; Ìjẹ̀bú- Agemo; Èjìgbò- Ògìyán;Ìwó- Pópó.

The Yoruba traditional society is a corporate and religious society. Ogungbile (1998: 125) identifies two major forms of identity in Nigeria-religious identity and ethnic identity. To be human therefore, is to belong to the whole community and to

do so involves participating in the beliefs, ceremonies, rituals and festivals of that community (Mbiti 1970:80). Religion is the focal point of Yoruba culture as pointed out by Idowu (1970), "the keynote of their life is their religion. In all things they are religious, religion forms the foundation and the all governing principle of life for them". Religious festivals usually serve as a package containing many aspects of the Yoruba culture, such as their beliefs, family life, dress, language, music and dance.

The religious ethics, myths and ideas are clearly expressed through the songs the adherents sing during the festivals. Oyetade (2003) asserts that Yoruba religious festivals have welfare objectives, during a festival the divinity is appeased to in order that the adherents and the entire community may enjoy another year of safety, plenty and happiness. Every member of the society is therefore expected to show support for the occasion by joining the crowd or by partaking in the rituals. The annual Yoruba religion festivals, such as Ifa festival in Abeokuta, Sango festival in Oyo, Ogun festival in Ondo and Ijesa land, Agemo festival in Ijebu land, Gelede festival in Yewa land, Oro festival, Egungun festival and so on among various groups in Yoruba land, are very important events. They are occasions for re-union of the people with their gods and for renewal of religious and social values.

2.5 Rites and Rituals in Yoruba Traditional Religion

Diedrich Westermann, wrote on African belief system when he probably had little access to the proper sources of African beliefs and practices or when he had little more than 'a chance opportunity of a cursory glimpse of a gargantuan continent. Thus, in connection with the African concept of God, he declares: the high-god is, as a rule, not the object of a religious cult and is of small or almost no significance in practical religion. People acknowledge him but neither fear nor love nor serve him. It is to be noted that a good number of such scholars had over the years taken appearance for reality, symbol for the symbolised, means for the end with regard to the religious situation in Africa. Reasons for this step are not far-fetched. A lot of them were staying behind the garden and at the same time trying to pontificate on the items in the garden. Some had not even touched the African soil. Rather, they relied on the reports of traders and missionaries in dishing out information on the religious situation in Africa. Whatever their motives, they came, observed and wrote their memoirs, which testified to the glamour of the ancient Yoruba kingdom.

Adelowo (2011) expressed further that, rituals and rites are a means of bringing into the limelight the religious experience of a group of people, rituals and rites thus constitute some kind of religious expression. They are a means of concretizing one's belief system. They are a means of expressing one's experience of the supersensible world and the supernatural beings. In short and simple terms, they are acts of forms of worship or communion and communication between one and one's objects of worship.

Pointing out the roles of ritual leaders in practice of Yoruba traditional religion he asserted; rituals in Yoruba traditional religion are not usually administered by the uninitiated or the untrained (Yoruba: *ogberi*), rituals are usually administered by the priests known as *aworo* or *iworo*. They are specialists in leading the others in worship. They are devotees of *orisa*; that is, there is something of the divinity in them and it belongs to their position not only that they should offer worship to the *orisa*, but also

that they should absorb the *orisa* into their being and manifest it. Traditionally, specialists in ritual administration followed the craft from father to son; through several or even many generations, handing down their techniques and forms of training, their quintessential experience and habitual shrines where application could be made to the gods and spirit. It is to be noted that it was an attempt to resolve the need for an adequate *link* between the object of worship and man that the idea of ritual leaders emerged in Yoruba religious thought and since man felt that he had to deal not with a vague abstraction but a reality with the attributes of *person*, he naturally thought of a *means* which would be a person - a person sufficiently "human" to make intimate contact with man and not harm him. In short, the need for a personal mediator, a priest, a ritual leader, a specialist in ritual administration, arose.

In the cultic activities of a town the Oba is usually the head of the ritual leaders. He is the priest-king. In Ile-Ife, for example, the Ooni of Ife, *Alase Ekeji Orisa* is usually the *Pointifex Maximus*, he is the head of all the priests "*olori Awon aworo*". He assumes this office in consequence of his sceptre (*are*) which is derived from the divinity to whom he is vicegerent. The office still stands even though the Ooni does not now officiate directly at any particular shrine and only performs certain customary rituals as tradition decrees.

Talking of Rituals and rites abound in Yoruba traditional religion. In understanding the ritual in connection with the worship of God - Olodumare and gods - *Orisa*. There is a specific cult of Olodumare in Yorubaland. This may baffle those foreign arm-chair investigators who hold the thesis that Olodumare is not an object of worship in Yoruba religion. The point here is because Olodumare cannot be confined into space (the Yoruba described Him as *A-te-rere-K'aye*) One who occupies the whole extent of the world); the ritualistic worship offered to Him takes place in the open and not in building like temples and mosques. The worshipper makes a circle of ashes (Yoruba: *eeru*) or white chalk (Yoruba: *efun*); within the circle, which is a symbol of eternity, he pours a libation of cold water, and in the centre he places his kolanut (Yoruba: *obi* on cotton wool- Yoruba: *owu etutu*). He then takes the kolanut, splits it and holding the valves within the circle. Often, a white fowl (Yoruba: *adie funfun*) is offered in the same way. In Ile-Ife, the ancestral home of the Yoruba, there is a priest-chief whose duty is to offer this ritual every morning in the name of the Ooni and of all the people. However, it is unfortunate to note that the direct ritualistic worship of Olodumare, as a regular aspect of cultic activities in Yorubaland, is dying out. In some places, according to Bolaji Idowu, it is no longer known; in some, it has become the cult of women.

3. RESEARCH METHODOLOGY

This study is a qualitative, designed in a way to understand the people from their own perspective. the study would rely on the content analysis and in-depth interviews for its execution. The rationale for this is to allow for much richer information as the methods complement each other. The content analysis will provide basic background information on the subject at large and the in-depth interview will provide information on specific areas of the study. The sampling procedure used for the study was non-probability techniques of purposive method in selecting the study location, respondents for in-depth interview and snowballing in selecting key informants for

interviews. The primary methods of data collection used for the study were in-depth interview guide and non-participants observation method while the method of data analysis was descriptive analysis of the information given by the respondents. The technique was adopted, because the selected media stations possess the data that was needed for this study. Also, random sampling was considered for the analysis from responses through phone calls discussion from the viewers of the programme to avoid bias.

3.1 Data Presentation

This section presents the results and analysis of the data elicited from respondents from the field work through In-Depth, Key Informant interview, Non Participan and content analysis. Discussions were also presented based on the research questions. Again, the primary aim of the research is to examine how Awari Omo Oduduwa Television Programme has portrayed Yoruba traditional belief system.

Table 4.1 Distribution of Participants Interviewed for The Study

Category of Participants/ Respondents	Number of Respondents	Types of Instrument of Data Collection	Maximum Minute of Interview Session	Location
Ifa Traditionalists	Ten respondents	In-depth Interview	25 Minutes for each respondent	Ire-Akari, Inalende, Agala,Oja- Oba,Moniya,Beere.
Ogun Traditionalists	Five respondents	In-depth Interview	15 Minutes for each respondent	Elelede,
Osun Traditionalists	Six respondents	In-depth Interview	15 Minutes for each respondent	Agala,Opo
Egungun Traditionalists	Ten respondents	In-depth Interview	15 Minutes for each respondent	Beere, Oje, Mapo, Opo,Oke padi,Sapaati
Sango Traditionalist	Three respondents	In-depth Interview	15 Minutes for each respondent	Oja Oba
Obataala Traditionalist	Two respondents	In-depth Interview	15 Minutes for each respondent	Moniya
Producer/Presenter	2	Key Informants Interview	25 Minutes for each respondent	

Table 4.1: Distribution of Participants Interviewed for The Study

Category of Participants/ Respondents	Number of Respondents	Types of Instrument of Data Collection	Maximum Minute of Interview Session	Location
Ifa Traditionalists	Five respondents	In-depth Interview	25 Minutes for each respondent	Ire-Akari, Inalende, Agala,Oja- Oba,Moniya,Beere.
Ogun Traditionalists	Two respondents	In-depth Interview	15 Minutes for each respondent	Elelede,
Osun Traditionalists	Two respondents	In-depth Interview	15 Minutes for each respondent	Agala,Opo

Egungun Traditionalists	Four respondents	In-depth Interview	15 Minutes for each respondent	Beere, Oje, Mapo, Opo, Oke padi, Sapaati
Sango Traditionalist	Three respondents	In-depth Interview	15 Minutes for each respondent	Oja Oba
Obataala Traditionalist	One respondent	In-depth Interview	15 Minutes for each respondent	Moniya

Fieldwork 2015

Table 4.3: Socio- Demographic Characteristics of Respondents for In-depth Interview

Gender	Ifa Traditionalists	Ogun Traditionalists	Osun Traditionalists	Sango Traditionalist	Egungun Traditionalists	Obataala Traditionalist
Male	Eight(8)	Four(4)	Four(4)	(Two)2	Seven(7)	Two (2)
Female	Two(2)	One(1)	Two(2)	(One)1	Three (3)	One(1)

Table 4.4: Socio- Demographic Characteristics of Respondents for In-depth Interview

Gender	Ifa Worshippers	Ogun Worshippers	Osun Worshippers	Sango Worshippers	Egungun Worshippers	Obataala Worshippers	Producer/ Presenter
Male	Three(3)	One(1)	One(1)	Two(1)	Two(2)	One (1)	Two(2)
Female	Two(2)	One(1)	One(1)	One(1)	Two(2)		

4.1. Research Question 1 (RQ 1): How far has the Awari Omo Oduduwa television programme portrayed the belief system of Yoruba Traditional Religion.

Findings from the in-depth interview revealed the belief system in Yoruba traditional religion is entrenched in the dressing, deities, religious festivals, songs, chants symbols, shrines, rituals, worship system and rites. Asking this question revealed how all these characteristics are hold to the esteem values of the traditionalists and worshippers of Yoruba traditional religion. In the view of respondent 1 on this, he expressed that:

“ our belief system are the deities, Ifa divination, because, is the source of the wisdom and what ever we did not understand, of having a sort of problems, we make consultation to ifa, and you will be guided, he never misled us, and the deities, we believe in them because, they are in communion with olodumare, in which they serve as intermediaries. That is why you will never see any traditionalist that will never make consultation every day he wakes up (Awofisayo, Ibadan, 2015)

In the view of Respondent 2, he put forward that the belief system of the Yoruba system is being guided by our relationship with the gods, which we have faith in and make necessary sacrifices for all our intentions. We traditionalist believe in Olomumare, and all the deities are just messenger of God, we believe in them because we always felt their impacts in whatever we asked for, they guided us from dangers, they are more in spirit world and have constant relationship with Olodumare since it's not possible for us to see Olodumare. (God) that is our belief system

4.2 Research Question II (RQ 1): To what extent has it influenced the understanding of Yoruba Traditional Religion?

Responses sampled from respondents through analysis of the phone calls from the audience, the advantage of the portrayal of Yoruba traditional religion was a clear reflection of the understanding of some Yoruba people in respect to belief system of African traditional religion. This was really affirmed in some of the callers that called in during the programme.

According to caller 1 and 2

Hello..... my position on today programme has never changed, it has been said in the though shall not create or worship any idol, but I know is every understanding of Yoruba religion belief system is surrounded on idol worship but not of God. (Olusola Babajide, Idi-Ose, Moniya 2015)

I greet you presenter, for the work you are doing, but my position on the Yoruba religion belief system is that, it is very occult and idol worshipping, I have been to many places, I tried many place but all are nothing but deceit and exploration by the custodian, you only encounter God within yourself. (Agboluaje Sade, 2015)

It was a clear indication that, through the programme, viewers are getting better understanding of what the Yoruba traditional religion stands for. Notwithstanding some callers still owns the views of the religion is still subjected to idol worshipping which might have resulted to the civilization and westernization of African religion. Caller 3 has this to say:

As much as I appreciate the effort of the presenter to promote this Yoruba religion through your programme, there are salient issues you have to unravel to convince me that, the so call religion is not idolatory, talk of the shrines, or the egungun festival, and the rest, are they not idols. it is better we begin to celebrate the other culture of Yoruba race that the religion, nothing to prove it that they are serving one God (Babatope, Bodiya, 2015).

The position of the caller 3 could be supported by the position of Gbenda (2010) posited that Westernism and colonialism has been the factor mitigating the declination of African Religion, expressed through art, science, technology, learning and social contact. Christianity was part of the European's civilizing mission cloth in European culture and philosophy. The studies by foreign scholars and Africans

especially those influenced by the colonial mentality, were never from within approach but suffered from presuppositions, ignorance, biases, and linguistic difficulties as well as social misgivings.

With the above responses from the audiences who participated in the programme through call-in session, they have really in tandem with the position of Gbenga (2010) that the civilization and introduction of western religion both Christianity and Islam were a factor to the declination of acceptance of Yoruba traditional religion among its people.

It is noteworthy to know that there has been a renewed vigor to give visibility and audibility to Yoruba Traditional Religion. The liberalization of the electronic media in Nigeria, the drive to create more awareness of Indigenous Traditional religion has received a boost. To this end, television has been seen as one of the media genre as a principal medium for obtaining visual entertainment and information which are presented through various programme genres.

It establishes a direct relationship which presents particular sets, values and attitudes to its mass audience.

Caller 4 has this to say:

I am pleased to have access to this kind of programme, that promote Yoruba cultural values and religion, this has collaborate what I used to read, hear, because the scene you shown us establish the reality of Yoruba religion practices, hope this programme will stay to continue to promote more values of Yoruba religion (Agbabiake Toyosi 2015)

Good programme presenter, this is a kind of programme , we love to be seeing in the media so as to delete the notion of the Yoruba people about the Yoruba religion being fetish and idolatry, as long as you continue to show this program, our people will understand the beauty of the Yoruba culture and religion, may God continue to protect you and guide you, it is a difficult one, travelling across West African in showcasing the reality of Yoruba religion and its promotion. (Akinriade Sanda 2015)

It is a great work you are doing, what am seeing, is absolutely different from what I have been told about Yoruba traditional religion, I hope that this will stay longer on air and the hours should be extended so that it will continue to propagate the Yoruba religion, I pray that more will have access to this kind of program especially those that are having bad impression about the religion, well done presenter. (Princess Atinuke 2015)

The above submission of the audience, supports Fiske (1987:37) findings on what attracts most viewers and give better understanding of Yoruba traditional religion programme on television. The overall analysis of responses through phone calls that lasted for 30 minutes and people calling in from different location across the state reveals that airing of the Awari Omoduduwa on television has shaped the understanding of the people about the religion because it proffers them opportunity to see what is practice within the Yoruba religion system.

4.4 Research Question III (RQ 3): What are the controversies in the representation of Yoruba Traditional Religion on television and in the actual practice of Yoruba Traditional Religion.

Africans traditionally believe that “man is a product of a universe in which all energy and everything is interconnected, born out of a “primal force” which has spread a little of itself into all it has generated” (Barlet, 1996: 84-85). By this it is meant that Africans believe in a world that is unified between all beings, whether material, spiritual or metaphysical. Thus, “the world of Africans is one of inanimate, animate, and spiritual beings and there is the influence of each category of these beings in the universe in which they inhabit” (Onwubiko, 1991: 3). This inhabited universe according to Nwoga is a ‘space’ which is a field of action and not just a location made up of discrete physical distances and separate physical spaces. *Ala mmuo* (spirit world) and *ala mmadu* (human world) according to him, are the plains of spirit action and of human action, and these need not be physically separated. It is “the non-separation of these entities in physical terms that makes interaction between the various worlds possible so that spirits and their activities impinge on realities that are seen in the human and the physical” (Nwoga, 1984: 36).

It is this view of the above scholars’ that has affirmed the Yoruba traditional religion actual practice which is almost the same practice shown or aired in Awari Omo Oduduwa, at every gathering of the traditionalist of Yoruba religion to make consultation through the divinities, This findings support the position of Onwubiko, 1991: 31) on reality of practices of Yoruba traditional religion, that says The ritual of faith and religion in African traditional worship is seen among Africans in almost every religion-social rituals. It enhances their identity as a people and offer clues to understanding their cosmological framework and thought patterns. Since people believe that God is a higher spiritual force that is involved in their affairs as a community and individuals, they reach out to him through a pantheon of other gods and minor deities like *Ala* or *Ani*, the earth goddess, *Amadioha*, the god of thunder; *Ajoku* the yam god and other clan deities.

The overall content analysis of the programmes reveals that most, there was no difference in the communication through ifa consultation, chants of making of Odun proverbs known as Odu Ifa, and the course of my observation, there are ritual rites that were performed that really established the reality of the Yoruba religion, but due to the policy of the media owners and the government, such evidence of reality about the belief system could allow the on air which has brought some controversy. But in real practice most of what that was showcase on the programme are reality of the true practice of Yoruba traditional religion.

Research Question IV (RQ 4): What are the challenges facing the Awari Omo Oduduwa Television Programme and how are they being tackled?

Sponsorship is part of communication mix that constantly attracts increasing focus among organisations and marketing communication professionals. It involves investment in events or causes for purpose of achieving various objectives such as

increasing sales volume, enhancing a company's reputation or brand image and increase awareness (Tripod 2001). Above scholar's view was an evidence of the relevance of the sponsorship of a television programme for constant airing of a problem, and this has been identified as one the major factors affecting the propagating of African traditional religion activities on television especially the Yoruba traditional religion, both the presenter and producer are on the same page while responding to interviews on the challenges among which are;

❖ **Lack of sponsorship**

Airing of television programme of this nature , is a capital intensive one , most especially in a private station, and the presenter of the awari omo Oduduwa has been working tirelessly to get corporate sponsorship for the continuity of the programme, before there is a limit that media station can partner with such programme, because the station is going to meet up with their own overhead expenses, payment of staff, fueling for 24hours, running cost and maintenance of equipment and office are there, and more so the programme does not has wider audience as well that can pull crowd for potential organisation like other sporting, or reality tv show programmes (Dr Oladejo , MITV 2015).

The major challenge of this programme is funding, this programme cut across Nigeria and western neighboring countries that we have Yourba settlers and the Yoruba traditional religion is being promoted, I have been using my personal money that I got through personal donations from friends, associates of mine to travel to Abidjan, Togo, Benin Republic, Badagry and all Yoruba states, it is has not been easy to get corporate sponsorship for this kind of programme.(Akuko, MITV 2015)

❖ **Unavailability of needed materials**

Sometimes you know needed materials are not easy to get, for a particular episode, due to the nature of the programme, it might not be ready on time or even get, most times producers travel far and wide to get information on particular African belief system and he might have to travel if the town or people that are in practice of it are in Ekiti let us take for instant..... Issues like this always come up. (Dr Oladejo, MITV, 2015).

Talking of challenges, getting material for a particular episode might be difficult that sponsorship at times you know for this traditional religion we are talking about, to get real information on their belief system, it might take me to other state, which I might have the idea of the season the protocols of the custodians, most times to get the custodians of the deities take days, even at time for them to release information to you is another problem, getting materials on for the programme is a big challenge on its own but we thank God that, we are having a way out, (Akuko, MITV 2015).

❖ **NBC Policies/ Government Lack of Support**

When it comes to airing of religious programme, National Broadcasting Commission, has laid down many policies that will guide stations in airing religious programmes, and with one must be watchful and careful of what is

been aired to the public, come to think of it, there are many rituals and rites that are sacred in Yoruba traditional religion that must be aired to the public, in Ogun celebration, Sango, and many others, if it were to show the whole reality of the belief system practices, definitely MITV we have been sanctioned with fines in many times. Presenters always want to show the reality of the Yoruba traditional religion practices, my presenter will go to the extent of recording the ritual or rite exercise but, when it brings them the clips, I always tell him, for NBC policies and management reason, some of the salient aspect will be edited, and the most painful is that, most time it is where the reality of Yoruba religion practices are anchored on, but it cannot be on air because when we flout the rules, the NBC will not petition the presenter, but the media house, the consequence will not be funny. (Dr Oladejo 2015).

Acceptance and better understanding of Yoruba traditional religion would have be well appreciated, propagated and promoted if our government has given a strong backing as its being accorded to Christianity and Islam, but the case is other way round through its agency, NBC that gatekeeps so many finding on the religion which would have more been appreciated and accepted with the help of the visual aids. As for us that make research on the reality of Yoruba traditional religion, we keep on getting the facts, but one day, a government will come that will make the policies that will give room for the showcasing of the practices on television. It was not as if the media owners are willingly to edit better part of our findings but they are also afraid of the sanction that will be imposed on them, sincerely, government has not been given necessary support to promote the religion than what we are managing to show. (Akuko, MITV, 2015)

In the above responses, the presenter and producer revealed that promoting of the Yoruba traditional religion has not been prominent due to the above listed factors which has given the propagation of the religion a slim chance of expansion and more visible for better understanding of Yoruba people through television.

5. DISCUSSION OF FINDINGS

- The findings showed that, few programmes were being aired through Television programmes to promote Yoruba traditional religion due to the lack of sponsorship from corporate bodies.
- Media owners have not seen the relevance of promoting such programmes on their stations and to society at large due to the strict policy of the regulatory body
- The rites and ritual practices of the Yoruba traditional religion on which the belief system is anchored on, are not permitted to be broadcasted due to NBC laws.
- Most times presenters and producers of the Yoruba traditional religion are not core worshipers or traditionalist of the religion but left for the professionals of media to promote the religion.

- The clips of the episodes of various activities of Yoruba traditional religion affirmed linkage of the belief system to almighty God.
- The findings showed also that, the mode of worship through songs and prayers is embedded in religion and cultural festival.

6. RECOMMENDATIONS FOR FURTHER STUDIES

1. The government should endeavour to formulate accommodating policies that will enable the presenters and producers of Yoruba traditional religion, to project the practices of the activities of the religion on television
2. The Yoruba traditional religion practitioners should also involve more in the presentation and production of the Yoruba traditional religion on television
3. The producers and presenters of Yoruba should encourage corporate bodies for more sponsorship, while the traditionalist and worshippers also should promote the religion through individual sponsorship on television

7. CONCLUSION

Based on the findings of this study, it is evident that as far as portrayal of Yoruba traditional religion is concerned through television programmes, the television station has been able to project the belief system of Yoruba traditional religion in a right perspective through its mode of worship, against the backdrop of earlier reports. The audio-visual impact and participatory of the audience have really increase the understanding of the people on the believe system. The portrayal of the religion could be better understood if only the government revisit her policies on such programme that would have qualified as local content that will promote the element of indigenous religion and culture. Sponsorship of such programmes and involvement of the real traditionalist in the production of Yoruba traditional religion program is a major hindering factor in portraying the Yoruba traditional religion on television and as such must be immediately tackled.

REFERENCES

- Jacob K. Olupona, "The Study of Yoruba Religious Tradition in Historical Perspective" Vol. 40, No. 3. (Sep., 1993), pp. 240-273.
- Ogunade Raymond. "Environmental Issues in Yoruba Religion: Implications for Leadership and Society in Nigeria" This paper presentation 2005, in Philadelphia, PA, USA,
- J. O.Kayode on "Symbology of Yoruba religion" (1973) and P. Ade Dopamu, "The Practice of Magic and Medicine in Yoruba Traditional Religion" (1977) Ibadan.
- J. Omosade Awolalu, *Yoruba Beliefs and Sacrificial Rites* (London: Longman; 1979).
- Samuel A. Adewale, *The Religion of the Yoruba: a phenomenological Analysis*, (Ibadan: Religious Studies. University of Ibadan, 1988).
- Awolalu, P. A. and Dopamu P. *West African Traditional Religion*. Ibadan: Onibonoje Press, 1979.

- Onunwa, U. R. *A Critical Review of Methodologies of African Religion and Culture*. Pittsburgh: Red Lead Press, 2006.
- R.W. Omotoye "The Study of African Traditional Religion and Its Challenges in Contemporary Times" Vol.1 No.2, 2011, Pp.21-4
- Balogun, I. A. B. (1976). "*Religious Understanding and Co-operation in Nigeria*", Ilorin, (Proceedings of a Seminar organised by the Department of Religions, University of Ilorin, Ilorin, 7th- 11th August, 1976.
- Ushe M.N (2013). *Fundamental of African Religion*, Germany: Lambert Academic Publishers.
- P. O. Abioje "Divine Revelation in Yoruba Traditional Religion and in Christianity" *Volume 6, Issue 4 (Jan. - Feb. 2013), PP 42-49*
- Ahamad Faosiy Ogunbado, "Impacts of Colonialism on Religions: An Experience of South-western Nigeria." *Volume 5, Issue 6 (Nov. - Dec. 2012), PP 51-57*
- Ajayi, S. A. (2008). "Bower tower: A historical monument in Ibadan, Southwestern Nigeria." *The Social Science* 3 (1) 2008: 45-50.
- Johnson, S. (1921, reprinted ed. 2001). "*The History of the Yorubas*". Lagos: CSS Press.
- Awolalu, J. O. (1996). "What is African Traditional Religion?" *Studies in Comparative Religion, Vol. 10, No. 2:1*.
- Gbenda, J. S. "The Impact of Colonialism on African Indigenous Religion" Department of Religion and Philosophy, Benue State University Makurdi, Nigeria.
- Alokan, P. O. "The Impact of Religion on The Promotion of Peace and Economic Integration in Yoruba Land" Vol. 2, Nos. 1-3, 2010
- A. Kasongo, "Impact of Globalization on Traditional African Religion and Cultural Conflict" (2010) *Vol 2, No 1, 309-322*
- Chioma, P. E. "Television Local Contents; Conduit for Cultural Learning in Nigeria?" *Vol. 2, No.12; July 2013*
- Fiske, J. (1987). *Television Culture*. London and New York: Routledge Taylor & Francis Group.
- Lasode, O. (1994). *Television Broadcasting: The Nigerian Experience (1959 -1992)*. Ibadan: Caltop Publications (Nigeria Ltd.)
- J.S. Mbiti, "African Religions and Philosophy", New York: Double Day and Co. Inc., 1970, especially pp. 19-36.
- Ahamad Faosiy Ogunbado, "Impacts of Colonialism on Religions: An Experience of South-western Nigeria." *Volume 5, Issue 6 (Nov. - Dec. 2012), PP 51-57*
- J.O. Kayode and E. Dada Ade10wo, "Religions in Nigeria" in R. Olaniyan ed., *Nigerian History and Culture*". Longman, London, 1985, p. 240.
- Rev. E. C. Ekeke "African Traditional Religion: A Conceptual and Philosophical Analysis" *LUMINA, Vol. 22, No.2*

RISK MANAGEMENT: A PREVENTIVE MEASURE FOR NATIONAL DISASTER

ABIMBOLA, Esther O.
Business Administration Department
Villanova Polytechnic, Imesi-Ile.
estherabimbola972@gmail.com

Abstract

Every developing and under-developing countries of the world in which Nigeria is not left out are aiming for a total transformation in order to lead to all round development. Natural transformation and development are essential factors needed for the growth of any individual, family, cooperate bodies and the society at large. Risks which take different forms and are numerous across all facets of life require proper planning and management for effectiveness and advancement in the society. The purpose of this write up is to identify risk management as an important means for national transformation and development against risk of any form. Due to inadequate distribution of resources and social vices across the nation, risk such as insecurity, ill-health issues, poverty, bribery and corruption etc abound at every level of the society. Therefore, risk management serves as a controlling factor against every type of risk. The paper is an exploratory review on risk management where it has been deduced that there is the need to revisit the way things are done in the country in which the solution rest in risk management so as to add value and quality to the citizens. It is advisable for every nation to request the help of risk management personnel for the growth of the nation's administration.

Keywords: Risk, Risk Management, National Development, Strategic Tools, Risk Identification.

INTRODUCTION

Today the world is full of risks. The number of risks that exist increases as a result of both human and organizational, evolution and development. As organizations become larger and more complex, they tend to face an increasing array of complex and diverse risks.

Proper planning and management are important features for any nation's development. Risk Management is the process by which risks are managed alongside all other aspects of the business. It has already been established that risks are abundant and take numerous forms. Risks can be reduced and controlled up to a point but they cannot be entirely eliminated. The organization that is willing to take the risk may well be the one that succeed overall. Risk Management is the process that identifies risks and classifies them in some way so that they can be assessed and prioritized. The paper is an exploratory and systematic literature review on how risk can be managed for the transformation and development of any nation especially the under-developed and developing nations. According to Adeosun (2012:25), risk is ordinarily understood to be associated with uncertainty, danger, fear of the unknown and subject matter of a potential loss etc.

If we must know more in order to live in a changed world; if we must know more in order to act with clear reason rather than with prejudice; with wisdom rather than with folly; with humanity rather than with inhumanity, all of us must undertake the task of learning in order to understand and undertake the task of understanding in order to learn.

‘Necessity is the mother of invention’ prompting a burning desire to reach millions of peoples with adequate vital information that will help to positively change our lives in terms of how we do things; relate with our environment; relate with other people and how we react to diverse circumstances.

By this dispensation on a viable platform for a very consistent and effective reading culture, we hope to create and foster an attitude of **risk avoidance** through ideas and learning that constitute new concepts; the goal is to limit the pain and agony of managing risks after they have happened. On the other hand, natural disasters which we often cannot avert except we plan ahead for their eventuality as a contingency or unforeseen circumstance.

In all perspective, prevention is better than cure; we should emphatically state that as much as we desire to inform and educate, we look forward to getting regular feedbacks because it is all about participatory forum for sensitization in anticipation of uncertainties.

An identifiable and notable characteristic of risk is that it changes with time as new risks emerge day- in day-out in the environment. Risks are not limited to businesses or corporate bodies, they abound almost at every phase, in different forms from individual, organizations, household etc. in order to avoid failure and disaster risk must be consistently managed for transformation, development and sustainability. Risk Management effectiveness has been reinforced by an interviewer as ‘a surgical tool for dissecting and for treating the sick.’

Differentiating between Risk and Uncertainty

A risk is a situation in which we do not know exactly the performance of future uncertain events but we can quantify the possibilities of such future event. The quantification of occurrence of such events is usually called “probability.” However, for so long term decision making, such future events can be categorized into: cash flows, project lives and cost of capital.

An uncertainty is a situation we do not know the future event; hence we cannot quantify the probability or possibility of occurrence of such future event. Therefore, the inability to be able to quantify the possibility of occurrence may be as a result of lack of experience in that area of business or absence of research data in that area.

The above distinction between risks and uncertainty is purely theoretical and would not affect our method for adjusting or incorporating risks and uncertainties in long term decisions. The reason is that most long-term projects will have elements of both risks and uncertainties.

Adjusting for Risk and Uncertainty

Any of the following methods can be used to adjust for risks and uncertainties in long term projects:

- a) Accounting rate return adjustment

- b) Payback Adjustment
- c) Finite Horizon Method
- d) Risk Premium Method
- e) Expected Value Approach or Probability Theory
- f) Risk Analysis
- g) Sensitivity Analysis
- h) Simulation Analysis
- i) Decision Free

A discussion of the first four methods are as follows; however, a knowledge of capital budgeting is assumed for the first four methods.

a.) Accounting Rate Return Adjustment: Under this method, project that are considered risky are evaluated by using a higher accounting rate adjustment than the normal accounting rate return for the company especially, if a company usually evaluates project at an accounting rate return of 30%, it may evaluate risky projects at 40%.

b.) Payback Adjustment: Like in the method above, risky projects would require a more stringent condition i.e. risky projects would meet a payback period that is shorter than the company's normal payback period e.g. if a company usually evaluates projects may be required to pay back within two years.

c.) Finite Horizon Method: This method involves evaluating a project that is considered risky within a reduced number of years that the appraiser will be comfortable with. This reduced number of years is usually called the "finite horizon" or the foreseeable future. The assumptions for using this method are the following:

- a) Cash flows of future years for conventional projects would normally be net cash inflows.
- b) Our inability to forecast cash flows of distant future years is debatable.
- c) The present values of such distant future cash flows will be insignificant or immaterial since they will tend to zero e.g. a project with a ten year span may be evaluated with cash flows of only the first 5 years.

d.) Risk Premium Method: In this case, the adjustment for risk is done on the cost of capital. Risky projects will be evaluated at a cost of capital that will be higher than the company's normal cost of capital e.g. if the company's normal cost is 10% per annum, then, a risky project may be evaluated at 15% per annum cost of capital. The difference between the company's normal cost of capital and the risk adjusted is known as the 'risk premium' which in case is 5% (15%-10%).

Forms of Risk

Risks are too numerous to mention, only a handful example will be listed below; insecurity, terrorism, accident, fire outbreak, flood, vandalism, ill health, building collapse, earthquake, tsunami, riot, war, assassination, kidnapping, ritual killing, bombing, fraud, famine, pollution, apartheid, racism, weather and climate change etc.

Effects of Risk

If all these risks are not constantly and properly managed, it may lead to divergence of business to another country or put many businesses at risk of running at loss, and at individual or family levels it may result into migration of people and lives and property which will drastically affect the growth and development of the nation at whole.

Disaster Risk Reduction Framework

The purpose of risk management is to identify potential problems before they occur so that risk-handling activities may be planned and invoked as needed across the life of the product or project to mitigate adverse impacts on achieving objectives.

A number of authors have developed and applied specific industry risk management framework in which the value of their reports reside in the opportunity to explicitly attribute project success to the use of specific risk management activities such as risk identification, risk reporting, risk registration and risk allocation.

In this research, disaster risk reduction framework is considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development. The framework is composed of the following fields of action (as described in ISDR's publication 2002 'Living with Risk: a global review of disaster reduction initiatives', page 23):

- Risk awareness and assessment including hazard analysis and vulnerability/capacity analysis.
- Knowledge development including education, training, research and information.
- Public commitment and institutional frameworks, including organizational policy, legislation and community action.
- Application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking and financial instruments.

Risk Reduction Measures

These are various activities, projects and programs that the communities may identify assessing and analyzing the risks that they face. These measures are specifically intended to reduce the current and prevent future risks in the community.

The Essential Points Adopted in this Policy Cover

- a) A necessary shift in managing disaster from a traditional manner – emergency assistance or crisis management – to disaster, conflict and climate change risk reduction strategies.
- b) The general framework and activities of disaster risk management.
- c) Integration and mainstreaming of disaster, conflict, climate change and adaptability across all sectors through economic, social and environmental national recovery and development.
- d) A focus on strengthening community capacities and reducing vulnerabilities.
- e) Integration of gender perspectives.
- f) The need for attention to be given to children and youth in disaster in risk management.

Instruments for Disaster Risk Management

In order to reduce the risk of disasters, numerous players at the local and national levels need to cooperate with one another. These players include the government, public authorities, the private sector, scientists and academics and civil society. It is better the different elements of disaster risk management are linked together to form a single system, the better a country is able to prepare for an immediate threat and to respond if and when disaster strikes.

The following instruments come into play as part of development cooperation in this context:

- Risk analysis
- Prevention, mitigation, adaptation
- Emergency preparedness
- Disaster- resilient recovery
- Risk transfer
- Avoiding new risks

Objectives of Risk Management

- 1) To improve the achievement of corporate strategic objectives through the process of operational efficiency.
- 2) Enhancement of corporate knowledge
- 3) Keeping the image of the company and establishment of ideas and principles for continuous and systematic implementation of future events.
- 4) In order to showcase the understanding of a project change or danger in an activity opportunity and risk.

Importance of Risk Management

- 1) In order to deal with an expected or unexpected change or difficulty against corporate failure, loss, disaster and debt
- 2) To combat with loss of lives and property
- 3) To prepare for crisis and emergency
- 4) To achieve unified success and result; and for financial profitability in business.
- 5) To ensure conformity with ethical directives and professional codes standards.

Benefits of Risk Management

- 1) It improves corporate decision making through high visibility of risk exposures across the whole organization
- 2) It promotes achievement of corporate governance requirements and establishes clear ownership and accountability for risk and development
- 3) It enhances growth and development and tackles financial risks (fraud, credit, inflation etc.)
- 4) It also helps to uncover hidden costs and liabilities
- 5) It reduces or eliminates individual project and operational failure
- 6) Risk Management promotes teamwork and openness
- 7) It brings about fewer surprises, less panic, less firefighting.

Who are to Manage Risk?

Structured brainstorming and evaluation is a proven technique for identifying risks and getting a clear view of the relative significance. It relies on a carefully planned

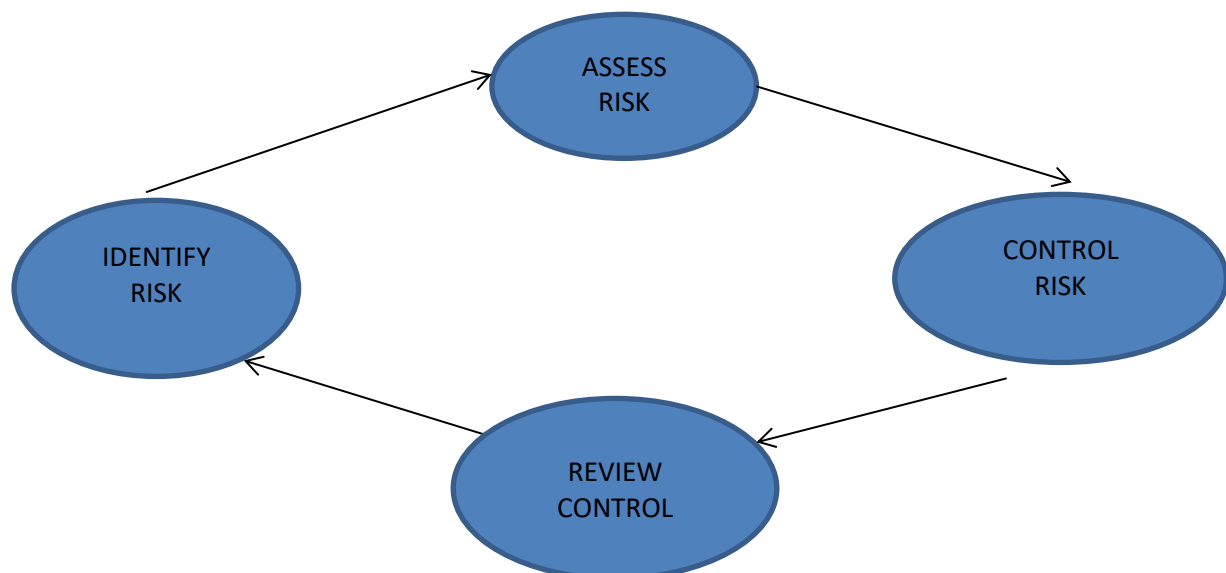
and executed workmanship process. Every individual and every organization manages risk. President, governors, ministers, political office holders, school headmasters, parents, classroom teachers and captains of industry can manage risk as all facets of life require risk management. Couples who want to live a happy married life should take into cognizance what are likely to constitute hazards to their happy living or break their homes.

How to Control Risk

- **For organization:** They are to request the help of risk managers for risk identification, minimization and control of the services and business.
- **For security issues/risks:** Risk managers must work hand-in-hand with security personnel to combat risk associated with crimes or terrorism as seen in the case of National Health Service.

It must be stated that to manage risk properly and adequately it must be handled by trained and qualified personnel as buttressed by Adeosun (2012:24). In several developed nations, RM is being embraced and embedded into the fabrics of their governmental machinery to drive the process of recovery, consolation and growth. RM is the restorative and salvation of every nations sector. This is the reason why “The Office of Government of Commerce of the United Kingdom applies risk management to governance, business and public life in general. To achieve this, they view ‘risk’ as uncertainty of outcome, whether positive opportunity or negative threat”.

Risk Management Process



Recommendation/Conclusion

Obviously, risk is a recurring factor at every facet of life, starting from the life of an individual to the national level. Therefore, risk management should be paid more attention to in our institution with a separate department/discipline as it helps in nation building so as to provide a more detailed method to the reduction of risks.

Government should as well provide, cultivate and use a proactive strategy so as to add great importance to the quality of life of every individual and help in the advancement of trade and commerce. Significantly, through maintenance and sustenance of the reading culture, we strive to desirably push for the institutionalization of the CULTURE OF RISK MANAGEMENT in education, health, politics, economy, trade and commerce, foreign affairs etc. The consequence of our neglect of proper risk management is the result of the state in the affairs of our national life.

References

- Adeosun, J.T. Risk Management is Strategic Tool for National Transformation. *The Risk Observer*. Sept. 2012: 24-30.
- Moradoff, N. Security Management and Risk Management. *The Risk Observer*. Sept. 2012: 22.
- Adegoke, A. 2012. *Responsibility in a WORLD OF RISKS AND UNCERTAINTIES*.
- Stoner, J.A.F. 1994. *Management* Japan: Prentice- Hall INC.
- ISDR 2004. Guiding Principles, National Platforms for Disaster Reduction, Geneva
- ISDR's Publication 2002 'Living with Risk: a global review of disaster reduction initiatives' (23) ADPCCBDRM – 11, 2003
- Abaraiuez. Linelda and Mursued, Zubair: Community Based Disaster Risk Management. ADPC, Thailand 2004 page 6-9
- UN International Strategy for Disaster Reduction ISDR (2004). Living with Risk; A global review of Disaster Reduction Initiatives. Geneva page 15.
- Desai, V. (2000), *Dynamics of Entrepreneurial Development and Management*.
- Management Accounting by Kajola, S.O. and Adedeji S.B. Published 1999

BUSINESS ETHICS AS A TOOL FOR ORGANISATIONAL GROWTH

Iorliam Ngunan Helen
Business Administration Department
Villanova Polytechnic, Imesi-Ile, Osun State.

Abstract

There is growing recognition that good ethics can have a positive economic impact on the performance of organizations. Many statistics support the premise that ethics, values, integrity and responsibility are required in the modern workplace. As a result of behavioral and financial scandals, corporate fraud and unethical issues, the importance of Business ethics in modern day business organization has been brought to light. The growth of business organization relies on its sound ethical code of conduct to guide both management and employees in its daily activities. The study, therefore, examined the relationship between business ethics and organizational growth. It also explains the concept of ethical code of conduct for a more productive workplace. The study was descriptive in nature. The result therefore showed that the application of ethical code of conduct is a by-product of organizational growth.

Keywords: Business Ethics, organizational growth, code of conduct.

1. INTRODUCTION

When the goal of commerce is profitability, there exists an inherent risk for business people to maximize their personal wealth, thus acting unethically. This moral hazard has been a permanent factor in business despite society's efforts to control or legislate the questionable behaviors of business organizations and individuals. Still, ethical lapses remain. As is the case with most things, only a small percentage of companies in the business world have been guilty of unethical behavior. The minority of unethical, dishonest and corrupt people have tarnished the reputation of the entire business sector, prompting the government to increase regulation and companies to develop comprehensive ethical programs and monitoring systems. Topics such as corporate governance, environmental sustainability and ethics officers are of ever-growing importance both within companies and the broader corporate environment. Dombin (2012) states that some individuals and business are tempted to act unethically, particularly in the short run, where there is a one-shot opportunity to "make a killing". He further states that in such case, the unethical individuals or organization gains while other individuals, companies, societies or future generation lose. Where business ethics code of conduct is lacking, there seem to be crisis, corporate fraud, oppression and falsification or misrepresentation of financial records which may lead to adverse effect on the state of the economy. Therefore, business ethics is a panacea for organization growth, if well formulated and directed to the core value of the business entities.

2. CONCEPT OF BUSINESS ETHICS

According to the Longman Dictionary, Ethics means as follows:

1. The study of the nature of moral principles, provisions and its foundations.
2. A set of principles and moral values.

3. Principles of behavior or literature that govern the individual or the group.
4. Straightness of actions Literature and judgments and ethics.

Accordingly, the concept of business ethics is relatively new compared to ethics (De George, 1987). Along with the process of globalization, business ethics has emerged as a hot topic both in the business and academic world (Bennington, 2007; Spence, 2000). Managers' belief that ethical policies would contribute to the long-term success of organizations which have brought ethics to the fore (Tekinay, 2003). Business ethics is an interdisciplinary academic field of study (De George, 1987), however this feature also makes it controversial. For this reason, there is no consensus among researchers as to the adaptation of the concept to organizational practices and the resolution of ethical dilemmas (Ferrell, Fraedrich, & Ferrell, 2008; Mauro, Natale, & Libertella, 1999). Business ethics tries to find answers to such questions as what behaviors are acceptable or unacceptable for a good working life (Ferrell et al., 2008; Sintonen & Takala, 2002) within the framework of a reciprocal relationship between ethical principles and organizations (De George, 1987). It is a form of applied ethics or professional ethics, that examines ethical principles and morals or ethical problems that can arise in a business environment. According to the definition of Svensson and Wood (2003), business ethics is the pursuit of understanding what can be considered acceptable about the activities of organizations operating in a particular culture at a particular time.

3. CODE OF CONDUCT

A code of conduct is a set of organizational rules or standards regarding organizational values, beliefs, and ethics, as well as matters of legal compliance that govern the conduct of the organization and its members. Organizational members are responsible for adhering to the code of conduct and will be held accountable for failure to do so. Most large businesses will have a code of conduct, which are often developed in response to legislation regulating business activities and behavior or some sort of ethical scandal. In its 2007 international Good Practice Guidance, "Defining and Developing an Effective Code of Conduct of Organizations" the international Federation of Accountants provided the following working definition:

"principles, values, standards, or rules of behavior that guide the decisions, procedures and systems of an organization in a way that:

- contributes to the welfare of its key stakeholders, and
- respects the rights of all constituents affected by its operations."

A code of ethics outlines the values and beliefs of an organization and ties them to an organization's mission and objectives. Specifically, it codifies the standards of ethical behavior expected of all employees and the values to which all members of an organization commit themselves to uphold when conducting business with internal and external stakeholders. As such, the code of ethics becomes a yardstick by which to measure the operational process and regulates the behavior of managers and employees, but it also sets long-term goals, communicates the company's values to the outside stakeholders, and motivates employees giving them pride in working for a company with clearly articulated, unequivocal values than simply a statement of a company's moral beliefs. A well written code is a true commitment to responsible

business practices in that it outlines specific procedures to handle ethical failures. Codes of ethics today address a variety of issues including work environment, gender relations, discrimination, communications and work reporting, gift giving, product safety, employee-management relations, involvement in the political sphere, financial practices, corruption, conflicts of interest and responsible advertising. In general, the process to develop and implement codes of ethics follow a series of considerations and decisions, which for illustrative purposes, can be grouped into the following six phases:

- i. **Purpose:** What objectives will the code of conduct serve and towards what end state will it be employed? Usually to answer such questions, companies conduct an ethical risk assessment as a means to decide how to get from the existing state to the desired ethical organization;
- ii. **Form:** Will the code be more directional or aspirational in form, or a hybrid of the two?
- iii. **Formulation Process:** Once the purpose and form are determined by which process the code of ethics will be formulated, particularly with respect to the consultation and consensus building process with stakeholders to be affected by code of ethics;
- iv. **Content:** Entails the written of ethical dimensions that will form part of the company's ethical culture;
- v. **Tone:** The tone with which the code is written and communicated plays a very important role in its effectiveness. The tone can range from a prohibitive to a more positive one that is supportive of its purpose;
- vi. **Implementation:** Ensuring that the code of ethics becomes real in practice and across all business operations is not a onetime effort that remains a written expression destined for a glassed showcase (Sullivan 2009: 19-25).

4. ETHICAL ISSUES IN BUSINESS ORGANIZATION

There are many ethical issues that can arise in the course of operating a business. A comprehensive understanding of the different types of ethical issues will help to identify and handle these situations responsibly to maintain core business values. According to Valon Lluka (2010), some of these ethical issues are as following

(a) Ethics of accounting information

- Creative accounting, earnings management, misleading financial analysis.
- Insider trading, securities fraud, bucket shop, forex scams: concerns (criminal) manipulation of the financial markets.
- Executive compensation: concerns excessive payments made to corporate CEO's.
- Bribery, kickbacks, and facilitation payments: while these may be in the (short-term) interests of the company and its shareholders, these practices may be anti-competitive or offend against the values of society.

(b) Ethics of human resource management

- The ethics of human resource management (HRM) covers those ethical issues arising around the employer-employee relationship, such as the rights and duties owed between employer and employee.

- Discrimination issues include discrimination on the bases of age (ageism), gender, race, religion, disabilities, weight and attractiveness. See also: affirmative action, sexual harassment.
- Issues surrounding the representation of employees and the democratization of the workplace: union busting, strike breaking.
- Issues affecting the privacy of the employee: workplace surveillance, drug testing.
- Issues affecting the privacy of the employer: whistle-blowing.
- Issues relating to the fairness of the employment contract and the balance of power between employer and employee: slavery, indentured servitude, employment law.
- Occupational safety and health.

(c) Ethics of production

This area of business ethics deals with the duties of a company to ensure that products and production processes do not cause harm. Some of the more acute dilemmas in this area arise out of the fact that there is usually a degree of danger in any product or production process and it is difficult to define a degree of permissibility, or the degree of permissibility may depend on the changing state of preventative technologies or changing social perceptions of acceptable risk.

- Defective, addictive and inherently dangerous products and services (e.g. tobacco, alcohol, weapons, motor vehicles, chemical manufacturing, bungee jumping).
- Ethical relations between the company and the environment: pollution, environmental ethics, carbon emissions trading
- Ethical problems arising out of new technologies: genetically modified food, mobile phone radiation and health.
- Product testing ethics: animal rights and animal testing, use of economically disadvantaged groups (such as students) as test objects.

(d) Ethics in Marketing

Marketing ethics is the area of applied ethics which deals with the moral principles behind the operation and regulation of marketing. The ethical issues confronted in this area include:

- Pricing: price fixing, price discrimination, price skimming.
- Anti-competition practices like manipulation of supply, exclusive dealing arrangements, tying arrangements etc.
- Misleading advertisements
- Content of advertisements.
- Children and marketing
- Black Markets, grey markets.

5. THE IMPORTANCE OF IMPLEMENTING ETHICAL CODE

The primary purpose of a code of ethical conduct is to provide an organization with a clear benchmark for ethical behavior (CCAB, 2014). A well written code of ethics clarifies an organization's mission, values, and principles, linking them with standards of professional conduct. The code also articulates the values the organization wishes to foster in leaders and employees and in doing so defines

desired behavior. Additionally, a code encourages discussion of ethics and compliance, empowering employees to handle ethical dilemmas they encounter in everyday work. Therefore, among others, adopting a code of ethics in organizations helps in:

- Building a positive corporate culture
- Preventing innocent violation of ethics
- Providing a clear point of reference when enforcing corrective action
- Boosting consumer confidence
- Reducing financial liabilities

6. CONCLUSION

The main contribution that adoption of business ethics has on the business activities is that it saves to focus attention on the things that really matter; the relationship between business and the society, the production or rendering of goods and services for customer and client, the quality of working life experienced by employees regardless of rank and status, and the importance of the individual as a social agent (Smith and Johnson, 1996 (as cited by Hironen, 2004). This paper concludes that employee adherence to rules and regulations and the adoption of Business ethical code of conduct by an organization will enhance the organization's core values, beliefs and sets the right culture and a climate of integrity and excellence by so doing, helps the organization communicate its expectations to the employees to suppliers, vendors and customers leading to a successful business organization.

References

- Emad A. K, Yoshifumi .H, Abdullah B. O, Basman O.A (2014). The impact of business ethics in the competitive advantage (in the cellular communications companies operating in Jordan). *European Scientific Journal*
- Valon, L. (2010) Business Ethics: some theoretical issues, MPRA
- Augustine O.E., Osagie. L. O., Oghenero M. J., (2015). Business Ethics and Corporate Growth., *European journal of business and management.* 7, 15.
- Ann I. O., Itanyi .O., Wilfred .I. U.(2013). Business ethics as a tool for competitive advantage in the banking industry in Nigeria. *Social science journal*,35(1)
- Stuart C. G. (2005), Ethics Codes and Codes of Conduct as tools for promoting an ethical and professional public service: comparative successes and lessons. The world bank Washington, DC
- Jacob M., (2014) Ethics codes: History, Context, and challenges , Data and society Research Institute, 2014.
- Ugbogbo .S.N.(2016). Ethical issues in information. A Conceptual Approach. *Igbiniedion journal of Accounting/*

IGWEBUIKECONOMICS: THE IGBO APPRENTICESHIP SYSTEM FOR WEALTH CREATION

Prof. KANU, Ikechukwu Anthony, OSA

Rector

Villanova Polytechnic, Imesi Ile

Osun State, Nigeria

ikee_mario@yahoo.com

Abstract

The fundamental place that the economic factor occupies in human life, expressed in the fact that economic need is man's fundamental need, and the need that structures and explains social life has attracted the application of Igwebuike philosophy to economics. This study, therefore, aims at discovering the relationship between Igwebuike philosophy and the socio-economic categories of Igbo reality, with particular reference to the Igbo apprenticeship system anchored on the Igbo social structure of reality, the Igbo think-home ideology and the Igbo spirit of resilience. Using the philosophical idea of Igwebuike, this piece has established the centrality of Igwebuike in the Igbo apprenticeship system that has created wealth over the years for the Igbo, making the Igbo the most successful business men and women in Africa. The beauty of it is its simplicity. It is a system that does not take equity or require raising huge capital. It is driven by a human-platform and it works based on the Igwebuike philosophy that understands the other as a part of me, and thus making me responsible for the other. Beginning with the question of who the Igbo is, this paper has studied and unveiled the various dimensions of the Igbo apprenticeship system and the human platform or network that underlies its efficacy. For the purpose of this research, the Igwebuike indigenous method of research is employed. While establishing that Igwebuike philosophy is at the heart of the Igbo apprenticeship system of commerce, the paper argues that there is the need for the government to invest in this incubator system for the creation of wealth and for the tackling of the problem of unemployment.

Keywords: Igwebuikeconomics, Igwebuike, Incubation, Apprenticeship System, Ingratiation, Funding

Introduction

In a paper I presented in 2017 on *Igwebuikeconomics: Towards An Inclusive Economy For Economic Development* at the National Conference on Peace and National Development organized by the Centre for Peace Development, Veritas University, I emphasized the importance of economic factor in the construction of social life, for the reasons that economic need is man's fundamental need, and it is this fundamental need that structures and explains social life. There is, therefore, a nexus between the economic need of the human person and the social life of people. Thus, Kanu (2017) avers that:

Questions about the material assets and constraints of a society, how goods are produced to meet the needs of society, how the goods are distributed and the kind of relationship that emerges in the organization of production helps to understand the culture of society, its political institution and way of thinking (p.114).

The relevance of the economic need of man and its relationship with social life has attracted the attention of scholars of various levels and interest. Kanu (2017) observes that:

The level of economic growth has attracted the attention of scholars at various levels of discussions. These discussions have been centered on how to arrive at a prudent economic policy framework that would guide development agenda for many underdeveloped and developing economies. There is the need for every society, especially African nations, who are among the poorest in the world to revisit their economic policies and build economic institutions that would enhance the growth and welfare of its people (p. 115).

Beyond the study of general economic policies and strategies for economic prosperity, there has also been an increased interest in indigenous models or frameworks. It is this search for an indigenous economic policy for Africa's economic development led to the emergence of Igwebuikconomics, that is, the application of Igwebuik philosophy to economic development. This is a second paper on Igwebuikconomics with a particular focus on the Igbo Indigenous apprenticeship system for wealth creation. The historical and cultural background of the concept- Igwebuikconomics, makes a study of the Igbo historical-cultural background a better start up point.

Who are the Igbo?

Kanu (2012) avers that the Igbo people are a single people even though fragmented and scattered, inhabiting a geographical area stretching from Benin to Igala and Cross River to Niger Delta. They speak the same language which gradually developed various dialects but understood among all the groups. Their cultural patterns are closely related, based on similar cults and social institutions; they believe in a common Supreme Being known as *Chukwu* or *Chineke*. Two theories have emerged in response to the question of the origin of the Igbo. There is, the 'Northern Centre Theory' which, according to Onwuejeogwu (1987) posits that the Igbo migrated from five northern centre areas, namely: the Semetic Centre of the Near and Far East, the Hermatic Centre around Egypt and Northern Africa, the Western Sahara, the Chadian Centre and the Nok Centre. The second historical hypothesis is the 'Centre Theory of Igbo Heartland'. Jones (cited by Isichei 1976) observes that the early migrations of the proto-Igbo originated from the areas termed as the Igbo heartland, such as: Owerri, Okigwe, Orlu and Awka divisions.

Geographically speaking, Njoku (1990) posits that Igbo land is located in the South Eastern region of what is known as Nigeria. The southern part of Nigeria exhibits a wide variety of topographical features. It is situated within the parallels of 6 and 8 east longitudes and 5 and 7 north latitudes. As a culture area, it is made up of Enugu, Anambra, Imo, Abia and parts of the Delta, Cross River, Akwa Ibom and Rivers States of Nigeria. According to Uchendu (1965), in its status as an ethnic group, the Igbo share common boundaries with other ethnic groups: eastward, the Yakos and Ibibios; westward, with the Binis and the Isokos, Warri; northward, with the Igalas, Idomas, and the Tivs, and southward, the Ijaws and Ogonis.

Socio-politically, unlike the other tribes in Nigeria, who evolved a molithic centralized system of government, the Igbo distinguish themselves with a complicated socio-political structure which has been qualified as *republican*. The Igbo ethnic group is divided into clans, each clan is made up of towns; and each town is comprised of

villages. The village is the primary social unit constituted of families or kindred. The family is the nucleus of society. Politically, the lineage system is the matrix of the social units or organization and provides grounds for political and religious structures. The traditional concepts of political power and authority is structured and determined by their concept of *umunna* and the membership of the association based on elaborate title system. Economically, Aligwekwe (1991), avers that the traditional Igbo people were sedentary agriculturists. This delimitation of Igbo land as a culture area, helps to identify the cultural horizon for the study of the Igbo apprentice network.

The Fundamental Principles of Igbo Apprenticeship System

There are three fundamental principles that shape the Igbo apprenticeship system. These principles include the Igbo social construction of reality, the Igbo philosophy of resilience and the Igbo think-Home ideology.

a. Igbo Social Construction of Reality

A social construction of reality, according to Kuhn (1970), "is the entire constellation of belief, values, techniques and so on shared by the members of a give community" (p. 175). In the contention of Grenz (1966), "It is a belief system that prevails in a given scientific community at a given time in history" (pp. 54-55). The idea of Igbo social construction akin *mutatis mutandis* to Igbo worldview. Taking from Kalu (1978), it may be described as "a unified picture of the cosmos explained by a system of concepts which order the natural and social rhythms and the place of the individual and communities in them" (p. 39). It is, therefore, not surprising that Oguejiofor (2010), in his understanding of worldview, include ideas about both material and spiritual realities and their relative importance, the origin and destiny of humanity, the end of life and what is conducive to this end.

Among the Igbo of Nigeria, the life of a human person is circumscribed within the *urwa* (the world), which is composed of the physical and the spiritual, the abode of humans and spirits. In the contention of Oguejiofor (2010), these dimensions of the world are not separated or divided by chasm, but rather "there is interconnectedness between the two enabling contact between the deities and spirits, and human beings. This unitary conception of reality pervades the Igbo world in a remarkable way" (p. 21). The Igbo, therefore, does not see himself or herself as an individual without noticing immediately the need for the other. No wonder he often warns the other: *onye aghana nwanne ya* (No one should leave his brother/sister behind). This he expresses in proverbs such as:

- a. A person is a person because of other people
- b. Sticks in a bundle cannot be broken
- c. When spiders unite they can tie up a lion
- d. If one finger tries to pick up something from the ground, it cannot
- e. Behind an able man there are always other able men
- f. It takes a village to raise a child
- g. If you want to go fast, go alone, if you want to go far, go together
- h. I am because we are, and since we are, therefore, I am
- i. If a lizard stays off from the foot of a tree, it would be caught
- j. A tree does not make a forest

- k. If two or more people urinate in the same place at the same time, it would produce more foam
- l. When a bird builds its nest it uses the feathers of other birds
- m. One person is not the whole world
- n. It is by taking a goat around that you are able to sell it

b. Igbo Philosophy of Resilience

The Igbo world is not a bird of roses. It is a world of struggles that begins from birth, noticeable in the cry of a little child as soon as it is born. Circumscribed to the *uwuwa* (world), the human person is faced by difficulties and frustrations. Diseases like small pox, aids, leprosy, malaria, etc., are present vying for a central place in the human person. This makes survival in a tolerable way a major concern for the Igbo, and for Oguejiofor (2010), it to a large extent determines the Igbo attitude to life. Nwala (1998) avows that the desire for *ndu* life and its preservation in Igbo ontology is the *summum bonum* (the supreme good), and every other thing is expected to serve its realization. According to Kanu (2012) the prominent appearance of *ndu* in Igbo proverbs, parables and personal names projects the height of the value the Igbo race places on life and the need to make every effort for its preservation.

If the Igbo must qualify to live in the world of the ancestors, he needs to achieve personal success, which is economic, social, moral and biological (long life). Failure in any of these implies exclusion from the community of life, both earthly and otherworldly. This explains why the Igbo adapt themselves to any condition no matter how difficult to achieve their aim. Thus, the Igbo person sees life as a struggle in which he must put all he has in order to live a successful life. If the Igbo is seen working hard, competing and admire personal achievement, it is because these have great weight on his eschatological destiny. It is in this regard that Tempels (1952) writes:

No live code of behaviour is possible unless the meaning of life is sensed. There can be no will to determine life unless the ends of life are conceived. No one can pursue the way to redemption who has no philosophy of salvation (p. 10).

Given that this achievement must be personal, not based on those of your father or brothers, the Igbo develops a social and political ethos that is distinguished by egalitarianism and competitiveness. The spirit of the Igbo person was captured by Basden (1966) when he described Igbo immigrants to the west of the 1920s, "Whatever the condition, the Igbo immigrants adapt themselves to meet them, and it is not long before they make their presence felt in the localities where they settle" (p. ix).

It is this spirit that makes the Igbo to understand suffering, not only in a negative sense, but also as any kind of painful or difficult experience resulting from situations or painstaking efforts to achieve difficult objectives. It is in this regard that suffering is understood in terms of *opipia*, that is, penance, usually done to achieve spiritual heights, or *olu ike* or *olu siri ike*, that is, hard work, as in the case of a man who works at a cement industry, daily carrying about 500 bags of cement from one point to another, it is considered *ahuhu*, but for the purpose of raising money to take care of his family. In this case it also refers to *igba mbo* (making serious effort). This kind of suffering brings hope and does not lead to despair or destruction. The Igbo would say: *mmiri mmadu kwosara onwe ya adighi atu ya oyi* (the water a person pours upon

himself does not bring him or her cold). Hard work is at the centre of the Igbo spirit. Thus the Igbo would say: *onye obula choro ihe mara mma ga adi nkwadobe ikuchara ya okpofu n'ihu na o dighi ije oma na-ada ne'lu* (one who desires great things must be ready to work hard for them), in another proverb, the Igbo would say: *o bu naani ukwu gbara apiti na eri ihe guru ya* (It is only the leg that is soiled with mud that enjoys whatever it likes). This kind of suffering is not a curse but attracts blessings from the gods. Greatness is achieved through hard work.

c. The Igbo Think-Home Philosophy

The Igbo, even before the Nigerian Civil War has never forgotten home. There is an Igbo saying that goes this way: *aku ruo uno* (which means the wealth must reach home). If a person is known all over the world but not known in his home town then he is not known at all. If a person does not make an effort to return home, he or she is referred to as an *efuru efu* (which means the lost one). However, with the Nigerian Civil War, after which the property and wealth of the Igbo were seized by the Nigerian government, the Igbo were stranded and couldn't access anything and had to begin all over again, the philosophy of CHERUO UNO, which means "think home" became more popular among the Igbo.

Unlike other tribes that go to a town or state outside of their state of origin and claim citizenship of the state, the Igbo does not claim citizenship of any state except his home town. No matter where he travels to and no matter the number of houses he builds elsewhere, he ensures that he has a home in his village, even when there is no one to live there in his absence. Home is home for them and so they are at home for the celebration of festivals like Christmas, New Year, Easter, New Yam Festival. More interesting is that many who are not able to travel during these seasons have one Igbo association or the other to which they belong in the various cities where they live. Home is so important that, although the Igbo can be born in Lagos, Abuja, Sokoto, Katsina, Benue, Benin, etc., but when he or she dies, the corpse must be taken home. The corpse needs to get home to rest well.

The Igbo Indigenous Apprentice System

The Igbo apprentice system popularly known as 'Imu-Olu' (which means learning work) or 'Imu-Ahia' (which means learning trade) or 'Igba boy' (which means to serve) is a major factor in any discussion about the Igbo wealth creation or commerce. Maleke (2018) describes it as an "apprenticeship system that purports a responsibility established businessmen [the nurturer] in a town, street or locale to pick up teenagers-young adults [the apprentice] from their homes and give them an informally formal, but raw and practical, cutthroat business education" (n.p). This teenager might be a relative, sibling or non-relative from same region. He writes further that "The idea centres around taking them off the streets and the perilous tendencies of a idle mind to give them a purpose, worthy of emulation, so they can also continue the trend when they are established" (n.p). In the words of Crescent (2019):

The Igbo Apprenticeship System is an unpaid business apprenticeship/incubator model that lets people learn business from a master for a certain number of year (5-8) depending and at the end of their apprenticeship tenure, gets cash infusion and support to start their own business. There is no salary paid during the time of the apprenticeship tenure

but meals, clothing and t-fare are provided for by the master. When the years of learning are over, the boy is as good as his master.

It is a system of commerce that was with the Igbo before the Nigerian Civil War, with which they created wealth across the Nigerian nation. And even after the Civil War, when the Igbo world was crumbled following the terrible legacy of the war, marked by great poverty, halting of livelihood, scarcity of funds and human capital and hopelessness, it was the Igbo apprentice system that pulled majority of Igbo families out of poverty within two years after the Civil War, thus, turning their troubles into a model of financial prosperity worthy of study and adoption. Through the 'Imu-Ahia' system, many Igbo families took their financial destinies into their hands, and in spite of the 20 pounds policy of the of the Nigerian Government proposed by Obafemi Awolowo, which said that only £20 be given to every Igbo person to survive on regardless of what they had in the bank before the war. The rest of the money was taken by the Nigerian government. In spite of this unfavorable condition, the Igbo created wealth through her apprentice network that has continued to be a matter of intrigue speculation and wonderment for many.

This apprenticeship system of commerce is unique to the Igbo, and is anchored on her social structure and spirit of resilience. This is not to say that other cultural groups in Nigeria do not have their apprentice systems, but it is only to say that there is something unique about the *Imu-Olu* system of apprenticeship. For instance, among the Yoruba of Western Nigeria, at the end of the apprenticeship of a candidate, which usually lasts between two to three years, he or she pays the master a 'freedom fee', and purchases drinks and throws a party according to celebrate the end of his or her apprenticeship. This is an important part of the apprenticeship which has to be done before the candidate can begin to trade officially. After this party, the candidate is presented with a certificate to show that he or she has graduated. During these two or three years, the apprentice does not necessarily live with the master, and so the master does not necessarily have responsibility for the feeding, clothing and housing of the apprentice.

This is very different from the Igbo apprentice system. The apprentice is the son or daughter of the master. The apprentice therefore leaves his parents and comes to live under the care and supervision of an established business Igbo person who becomes his master and he the servant. He takes care of his master for the agreed number of years, and does every chore that the master assigns him. He serves his master not only in the shop or in relation to the business but at home as well, like washing of cars, cleaning the home, washing and ironing his master's cloth, etc. He has no right to travel home without the consent of the master, even if the parents live in the same city with the master. He must work hard to win the trust and favour of his master, as it is the master who would make an appraisal of his service in the growing of the business venture and in non-business related areas. At the end of the apprenticeship, the master gives the apprentice a take-off fund for the hiring or purchase of a shop, goods, equipment, where necessary and in some cases, accommodation for a given period of time. This take-off fund does not in any way mean that he ceases to collaborate with the master, the master still assists him or her with goods procurement to reduce overhead importation cost, knowing fully well that the apprentice has a weak purchasing power.

Through the different responsibilities that the master place son the apprentice, the master prepares him for the future. In what seems likes a tough time, the master exposes the apprentice to a future reality that is tough and only overcome through hard work. It is not in all cases that the master stays with the apprentice in the same shop or business premises, having gathered some experience, the master can decide to open a shop elsewhere, different from the location where he might be. In this case, the apprentice manages the business branch for the master, representing him at business negotiations and importation with foreign trade partners. This seeming independence of the apprentice in management does not only help the master expand his business and thus make more profit, it also helps the apprentice with an ownership mindset that gives room f or trust, building of his confidence and exposure, which is necessary for the apprentice if he must succeed in the future.

Once an apprentice graduates and is settled, he has a responsibility of doing for others back at home what his master has done for him. He, therefore, goes to the village and picks another apprentice who would serve him. Meanwhile, before his graduation, his master must have gone home and picked another apprentice who would learn the trade before his final graduation. It is thus a model that keeps engaging the young. The Igbo has a culture that frowns at the young roaming the streets in idleness. The apprentice system of the Igbo ensures that if a child is unable to go to school, instead of staying back at home, he learns a trade- usually the type of trade that his family people have been involved in. The two basic principles, according to Crescent (2019) that drives the Igbo apprentice system are:

1. Get every Igbo child busy with something and discourage laziness
2. Give helping hands to someone running a business and in turn transfer the knowledge to ward.

In spite of the absence of clearly written laws to guide the relationship between the master and the apprentice, this system has succeeded over the years. This success is based on a college of factors. The first reason why it succeeds is that the apprentice treads with caution, knowing fully well that if he fails or ruins his masters business, his own future would be ruined. He treads carefully in managing the affairs of his master and tries to prosper the master's business because he knows that his destiny is tied to the economic destiny of his master. This fear, according to Okoro (2018) engenders honesty during the years of apprenticeship as every established acts of theft, diversion of fund and flamboyant use and wastage of business finances terminates the arrangement. Second, while the apprentice does his best to avoid the termination of the apprentice arrangement, the master is also careful to avoid a bad labeling from his community where he has picked the son of a brother or relation. To dismiss the apprentice on grounds that are not substantiated or failing to keep to the terms of apprenticeship after the agreed number of years of service can incur the wrath of the community back at home.

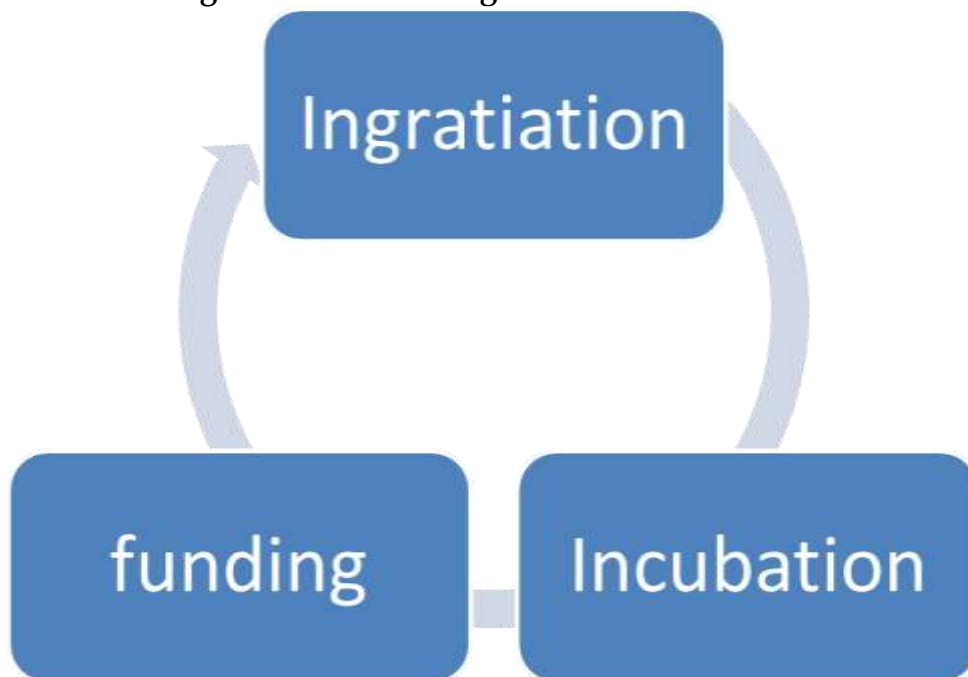
Thus, the Igbo apprenticeship system is not just an arrangement between the master and the apprentice, it is a community or family affair. Masters who are notorious for not settling their apprentice hardly get apprentice to work with them as the story is told of every master's treatment of his apprentice. And these stories, good or bad, last for generations among the members of the community or family. No wonder some

masters have more applications for apprenticeship than others. According to Okoro (2018), insincere masters run the risk of having their businesses or fortune ruined by the apprentice's personal deity, known as the *Chi*. This is why every master does his best to give a take-off package to the apprentice after the fulfillment of the agreed years of service. At this point of settlement the blessing of the master is indispensable. The blessing of the master is more important than the financial package, because the financial package without his blessing ends in ruin. At this point, therefore, the Igbo apprentice system takes up a spiritual dimension.

At the picking up point and settlement point, there are no written documents or court papers to sign. It is done in trust. According to Neuwirth (2018)"

The interesting thing is that nothing is in writing, it's all done on trust and credibility. The boy's family would usually come together and meet with the master at the commencement of the arrangement. And at the end of the apprentice period, the master will also bring the boy home and settle him in the presence of his family. Government cannot replicate that. They can only complicate it. (Ted, November 2018)

Diagram 1: Showing the Circle of the Igbo Model



It all begins with Ingratiation, which involves the processes of the master going to the village, picking a relation and introducing him to the system, their duties, roles and overall workings of the system. It is a period of orientation. This is followed by the period of incubation, which offers the apprentice the business spaces of learning to mature in the business, in co-creation, trainings and cultivation of business models. The incubation platform is full of risks and practical in nature. It is during this period that the apprentice is trained and nurtured. During this period, honesty, accountability and work ethic are core principles. The final stage is funding. This is when the master settles the apprentice to begin his own business. This is dependent

on the financial capability of the master and the commitment of the apprentice to the success of the business during the incubation period.

As the Igbo continue to create wealth in different parts of Nigeria, the apprentice system is at its base. Neuwirth (2018) visited the Alaba International Market in Lagos dominated by the Igbo and observed that:

This mutual aid economy still exists, and we can find examples of it in the strangest places. So, this is Alaba International Market. It's the largest electronics market in West Africa. It's 10,000 merchants, they do about four billion dollars of turnover every year. And they say they are ardent apostles of Adam Smith: competition is great, we're all in it individually, government doesn't help us. But the interesting reality is that when I asked further, that's not what grew the market at all. There's a behind-the-scenes principle that enables this market to grow. And they do claim – you know, this is an interesting juxtaposition of the King James Bible and "How To Sell Yourself." That's what they say is their message. But in reality, this market is governed by a sharing principle. Every merchant, when you ask them, "How did you get started in global trade?" they say, "Well, when my master settled me." And when I finally got it into my head to ask, "What is this 'settling?'" it turns out that when you've done your apprenticeship with someone you work for, they are required – required – to set you up in business. That means paying your rent for two or three years and giving you a cash infusion so you can go out in the world and start trading. That's locally generated venture capital. Right? And I can say with almost certainty that the Igbo apprenticeship system that governs Alaba International Market is the largest business incubator platform in the world. (Ted, November 2018)

The Igbo apprenticeship system has produced more millionaires and billionaires than the entire Nigerian University economic system has produced. Neuwirth (2018) observes that the Igbo multi billionaires were the products of this business incubator platform:

Innoson, Cocharis, Ibeto, Chikason, Ekenedilichukwu, are all from our great city of Nnewi. None of these may ventured anywhere near the gates of a secondary school, some didn't even finish primary school, but control multi billion dollar empires. It's starts with an apprentice system where a master takes a young boy of about 10 years, the boy serves his master for about 7 years. At the end of the 7 years, the master settles the boy with some capital. Most times depending on their relationship, the boy remains in the master's house even though he is now free, eats there and sleeps there for the next 2 years or so, to save money. In addition to the capital, the master also extends credit facilities to the boy and gives him goods on credit to sell. (Ted, November 2018).

These millionaires: Innoson, Cocharis, Ibeto, Chikason, Ekenedilichukwu are not just millionaires for themselves, they make millionaires every year through the apprentice incubator platform. The system is such that there is always a millionaire waiting to be born. It is a beautiful circle, with each circle preparing for the birth of a millionaire-who is either being ingratiated or incubated or funded.

Conclusion

This study is another effort at discovering the relationship between Igwebuiké philosophy and the socio-economic categories of reality. Using the philosophical idea of Igwebuiké, it has tried to establish its centrality in the Igbo apprenticeship system that has created wealth over the years for the Igbo, making the Igbo the most successful business men and women in Africa. The beauty of it is its simplicity. It is a system that does not take equity or require raising huge capital. It is driven by human-platform and it works based on the Igwebuiké philosophy that sees the other as a part of me, and thus making me responsible for the other. It is a human network that the Nigeria government can deepen through the provision of capital for Igbo business men and women. If government can deepen these human-platforms, she can comfortably fix the unemployment problem that is affecting the young and the economy of the country.

References

- Aleke, M. (2018). The Igbo apprenticeship system that builds wealth and started the incubation system, <https://www.pulse.ng/gist/imu-ahia-the-igbo-apprenticeship-system-that-builds-wealth-and-started-the-incubation/q50ps44>
- Aligwekwe, P. E. (1991). The continuity of African traditional values in the African society: The Igbo of Nigeria. Enugu: Snaap.
- Basden, J. T. (1966). Niger Ibos. London: Frank Cass.
- Grenz, S. (1966). A primer on post-modernism. William B. Eerdmans: Grand Rapid.
- [Gudtalent Chrisent](#) 2019, What Is Imu Ahia/Igba Boy - What The Igbo Apprenticeship Is, History, Thought and Terms. <https://www.entorm.com/opinion/imu-ahia-the-igbo-apprenticeship>.
- Isichei, E. (1976). *A history of the Igbo people*. London: Macmillan.
- Kalu, O. (1978). Precarious vision: The African perception of his world. O. Kalu (Ed.). *African cultural development* (pp. 28-41). Enugu: Fourth Dimension.
- Kanu, I. A. (2014). "Suicide in Igbo-African Ontology". *Developing Countries Studies*. Vol. 4. No. 5. USA. pp. 27-38.
- Kanu, I. A. (2014). "Suffering in Igbo-African Ontology". *Research on Humanities and Social Sciences*. Vol. 4. No. 5. pp. 8-13.
- Kanu I. A. (2017). Igwebuiké economics: Towards an inclusive economy for economic development. *Igwebuiké: An African Journal of Arts and Humanities*. Vol. 3. No. 6. 113-140.
- Kanu, I. A. (2012). The concept of life and person in African anthropology. In E. Ezenweke and I. A. Kanu (Eds.). *Issues in African traditional religion and philosophy* (pp. 61-71). Jos: Augustinian.
- Kanu, I. A. (2012). Towards an Igbo Christology. In E. Ezenweke and I. A. Kanu (Eds.). *Issues in African traditional religion and philosophy* (pp. 75-98). Jos: Fab Anieh.

- Kanu, I. A. (2019). "Collaboration within the Ecology of Mission: An African Cultural Perspective". *The Catholic Voyage*. Vol. 15. pp. 125-149.
- Kuhn, T. (1970). *The structure of scientific revolution*. Chicago: University of Chicago Press.
- Njoku, E. E. (1990). *The Igbos of Nigeria: Ancient rites, changes and survival*. New York: Edwin Mellen.
- Nwala, T. U. (1998). *Igbo Philosophy*. Lagos: Literained Publications.
- Oguejiofor, O. (2010). Globalization and the Resilience of traditional paradigms: The case of the Igbo of Nigeria. In A. B. C Chiegboka, T. C. Utoh-Ezeajugh and G. I. Udechukwu (Eds.). *The humanities and globalization in the third millennium* (pp. 15-25). Anambra: Rex Charles and Patrick.
- Okoro, C. (2018). What makes the Igbo Apprenticeship model tick and critical considerations before taking it mainstream. In <https://techpoint.africa/2018/11/07/igbo-apprenticeship-system-for-startups>
- Onwuejeogwu, M. A. (1987). *Evolutionary trends in the history of the development of the Igbo civilization in the culture theatre of Igbo land in Southern Nigeria*. A paper Presented during the Ohiajioku Lecture, Owerri.
- Robert Neuwirth 2018, Igbo apprenticeship system is world's largest business incubator platform – Robert Neuwirth reveals. <https://www.informationng.com/2018/11/igbo-apprenticeship-system-is-worlds-largest-business-incubator-platform-robert-neuwirth-reveals.html>
- Tempel, P. (1952). *Bantu philosophy*. Paris: Presence Africaine.
- Uchendu, V. C. (1965). *The Igbos of South East Nigeria*. London: Rinehart and Winston.

PERFORMANCE EVALUATION OF DISCRETE COSINE TRANSFORM (DCT) AND PRINCIPAL COMPONENTS ANALYSIS (PCA) FOR FINGERPRINT RECOGNITION SYSTEMS.

Olagunju, Mary Ponle
Department of Computer Science
Villanova Polytechnic Imesi-ile
Osun State, Nigeria
maryponle@gmail.com

Abstract

*Fingerprint recognition is the oldest biometric technique that criminal science has been using for more than 150 years. A typical fingerprint includes several singular points called minutiae (generally a number from 12 to 30) [1]. These specific points correspond to the places of ending, bifurcation or crossover of ridges and valleys of the finger. Extraction of the relative positions and orientations of these minutiae allows creating a specific signature for each user guaranteeing a secured identification. Conflicting report on the performance of the most widely adopted feature extraction techniques for fingerprint recognition remain an open challenge. Hence, this paper sets to conduct the performance of DCT and PCA for fingerprint recognition. The system was designed using MATLAB R2009b programming studio, Fingerprint images were acquired, the acquired images was compressed by breaking it into 8 X 8 blocks of pixels, working from left to right and top to bottom, the DCT was applied to each block to remove the redundancy between neighboring pixels. Each block is compressed through quantization. The array of compressed blocks that constitutes the image is stored in a drastically reduced amount of space. Training phase and testing phase was carried out on both processes of Discrete Cosine Transform (DCT) and Principal component Analysis (PCA) to obtain the time taken for both training and testing of the images, with 70*70, 75*75, 80*80, 85*85 as image resolution. The results show that the DCT exploits interpixel redundancies to render excellent decorrelation for most natural images.*

Keywords: Fingerprint, Discrete Cosine Transform, Principal Component Analysis, Verification, Recognition System.

1.0 Introduction

Biometrics technology is based on using physiological or behavioral characteristics in personal identification, and can easily differentiate between an authorized person and a fraudulent impostor, fingerprint recognition is the oldest biometric technique and criminal science has been using it for more than 150 years [1]. A typical fingerprint includes several singular points so called minutiae (generally a number from 12 to 30). These specific points correspond to the places of ending, bifurcation or crossover of ridges and valleys of the finger. Extraction of the relative positions and orientations of these minutiae allows creating a specific signature for each user guaranteeing a secured identification.

The Discrete Cosine Transform (DCT) is a Fourier-related transform similar to the discrete Fourier transform (DFT), but using only real numbers. It is equivalent to

a DFT of roughly twice the length, operating on real data with even symmetry “since the Fourier transform of a real and even function is real and even [2]”, where in some variants the input and/or output data are shifted by half a sample, by comparison it is discovered that Discrete Cosine Transform is superior over other image transforms. More especially the two linear transforms: the Karhunen-Loeve Transform (KLT) and Discrete Fourier Transform (DFT).

The principal advantage of image transformation is the removal of redundancy between neighboring pixels. For example, someone with a web page or online catalog that uses dozens or perhaps hundreds of images will more than likely need to use some form of image compression to store those images. This is because the amount of space required to hold unadulterated images can be relatively large in terms of cost. The major concern of this research is to be able to extract, acquire, and store fingerprint image at a reduced size with low image redundancy level, with the assessment of the discrete cosine transform and principal components techniques.

2.0 Review of Related Works

Several works have been done in the field of biometrics and some of them take advantage of the DCT and PCA for feature extraction and image transformation develop several applications. Dale *et al.*, (2007) introduced a model based on Discrete Cosine Transform (DCT) for fingerprint matching, which divided the transformed image into different blocks, calculate the standard deviation of each block and form a feature vector of all blocks. Recognition rate of 100% is obtained for a typical threshold value [3] Ani *et al.* (2008) extracted global features from the fingerprint images based on DCT [4]. Similarly, Tewari *et al.* (2014) used DWT, Fast Fourier transform (FFT) and DCT to extract feature from the fingerprint images. Karna *et al.* (2008) has proposed a fingerprint recognition method based on normalized cross correlation. The method correlates the common region of two fingerprint images by the image rotation and scaling.

Wei *et al.* (2009) has proposed quadrangle based matching algorithm. The quadrangle is composed of two ridge lines that connect two minutiae points with the associated two ridge points. The line matching has been emphasized. The local quadrangle set is formed using the type, the length of the basic ridge lines and angle between the basic edge and the ridge. The fake pairs are removed by considering correlation among pairs. The fingerprint matching is done using the shrunk set. Xiao long Zheng *et al.* (2008) has presented a minutiae scoring method which considered various aspects influencing the quality of minutiae. The image quality is described from three aspects viz: the global factor, the block image quality factor and the neighborhood detailed structure. These three factors were investigated and combined by the product rule and linear weight. The minutiae score was incorporated into fingerprint matching by checking the scores of corresponding minutiae pairs.

3.0 Material and Methods

The system is designed as a windows application program, executable on any windows platform and was designed using MATLAB R2009b programming studio. The analysis of this application is divided into two, namely training phase and testing phase which was carried out on both processes of Discrete Cosine Transform (DCT)

and Principal component Analysis (PCA). In order to develop a robust and reliable computational model we need a benchmark dataset to train and test the system. For this purpose, we select *FERET* Fingerprint Image Database Version_5.0 to evaluate, containing equal number of instance for both left and right hand classes, all the images are stored in *BMP* format.

A. Preprocessing

The image is first processed to improve the quality and prepares it to next phases of the system. This module automatically reduces every image to $X*Y$ pixels, can distribute the intensity of images in order to improve fingerprint recognition performance.

B. DCT Compression

There are several methods of image compression available today. These falls into two general categories: lossless and lossy image compression. The JPEG process is widely used form of lossy image compression that centers around the Discrete Cosine Transform. The DCT works by separating images into parts of different frequencies. During a step called Quantization, where parts of compression actually occurs, the less important frequencies are discarded, and only the most important frequencies that remain are used to retrieve the image in the decompression process. As a result, reconstructed images contain some distortion, these levels of distortion can be adjusted during the compression stage.

The Compression Process

The following is a general overview of JPEG process.

1. The image is broken into 8×8 blocks of pixels.
2. Working from left to right, top to bottom, the DCT is applied to each block.
3. Each block is compressed through quantization
4. The array of compressed blocks that constitutes the image is stored in a drastically reduced amount of space.
5. When desired, the image is reconstructed through decompression, a process that uses the Inverse Discrete Cosine Transform (IDCT).

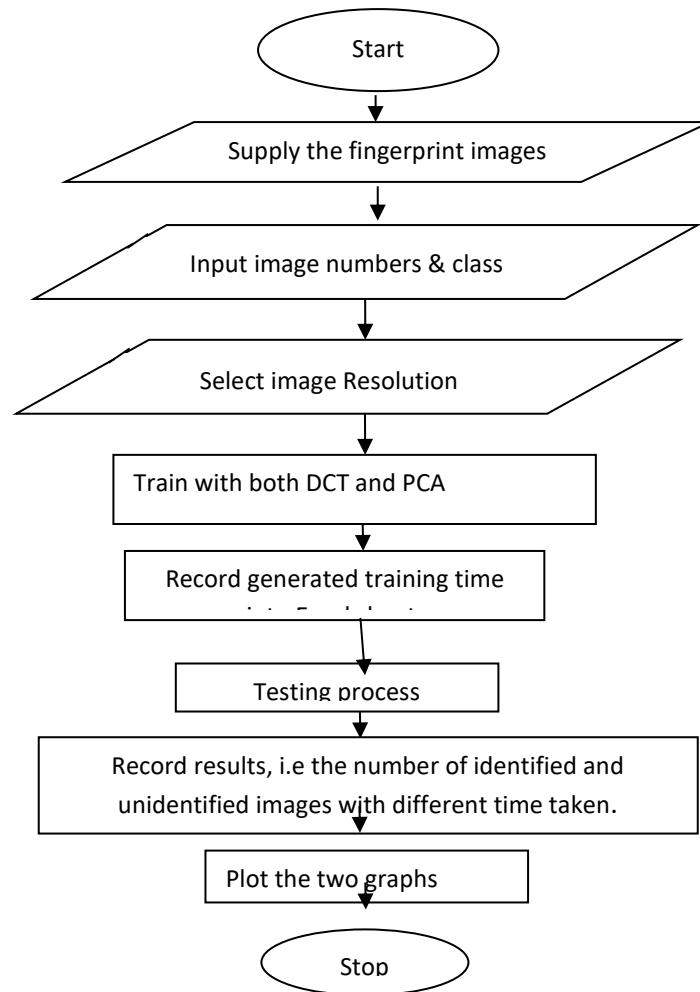


Fig 1: Flowchart showing the operational processes

C. Fingerprint Library Formation

Fingerprint images are stored in a fingerprint library in the system. Every action such as training set or Eigen face formation is performed on this fingerprint library. The fingerprint library is further divided into two sets - training dataset (60% of individual image) and testing dataset (rest 40% images).

D. OPERATION PHASE

The operation phase can be best explained using the below Graphic User Interface (GUI). At this first stage, the graphic user interface (GUI) is waiting for user to supply the value information on which operation is to be performed. First and foremost, the user must provide the number of images to be trained, these numbers of fingerprint images must have been stored earlier in the database. The image class field denotes the total numbers of fingerprint images to be processed, while each image field denotes the numbers of samples collected for an individual fingerprint.

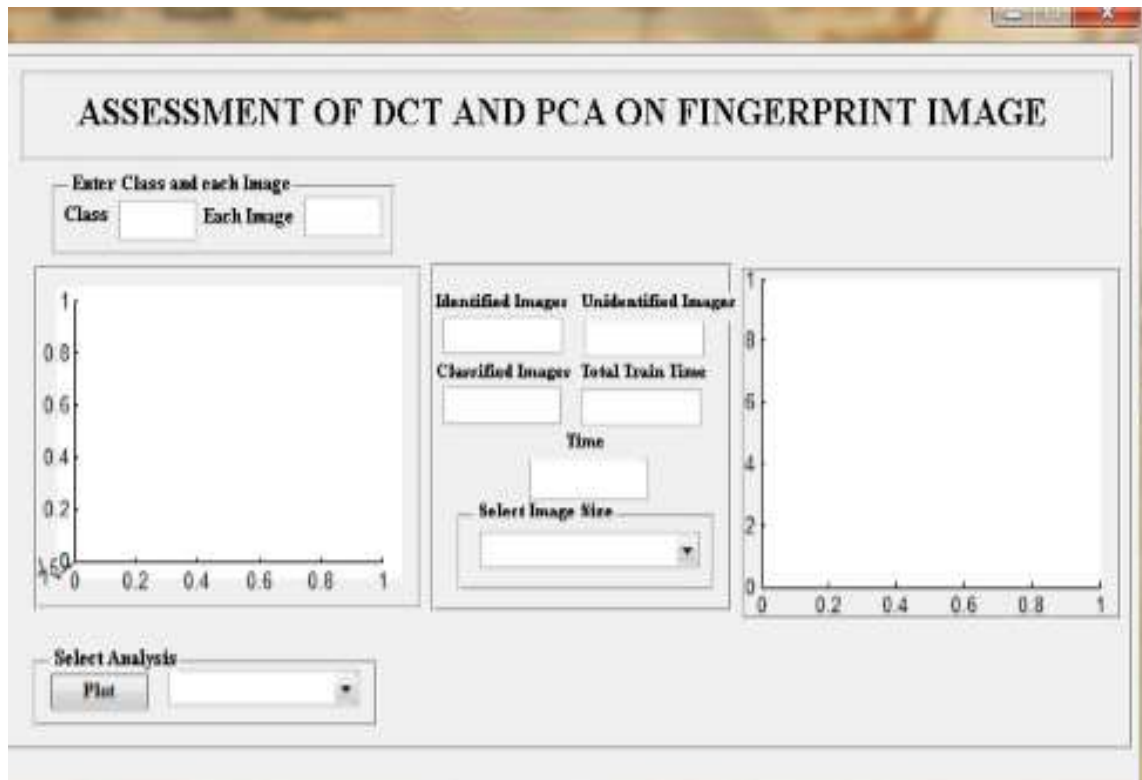


Fig 2: Operation phase of the System

E. TRAINING WITH PCA AND DCT

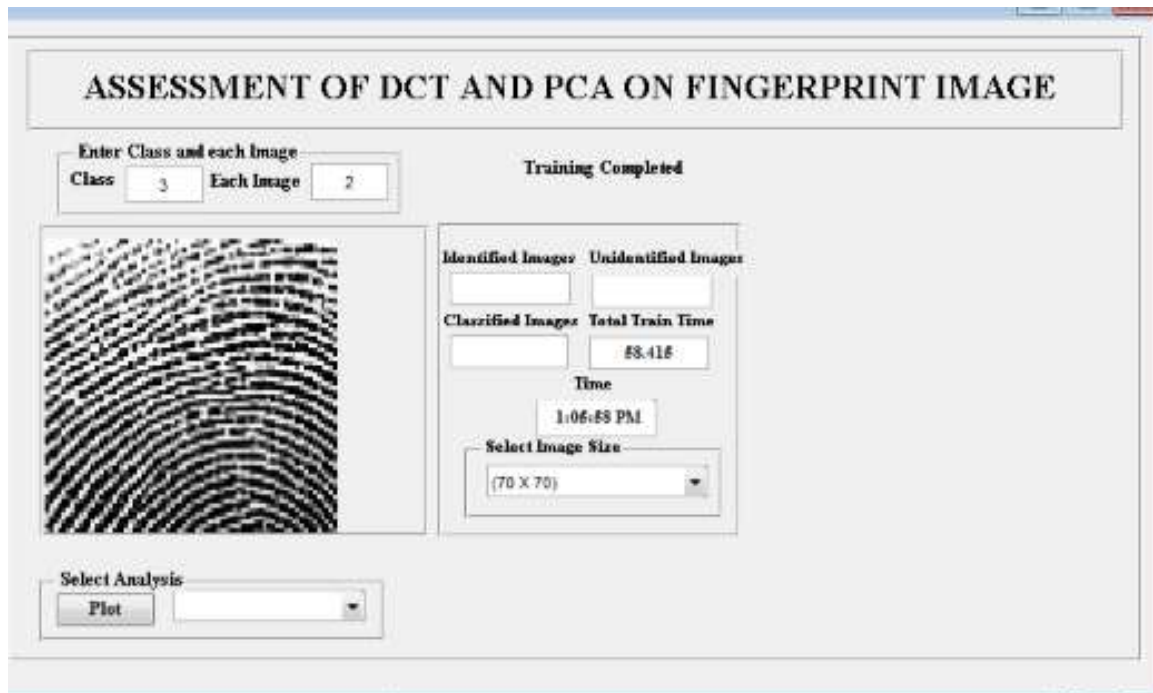


Fig 3: Training Phase of the System

In this section the option Train with PCA or DCT must be selected from the menu box of the application thereby the application runs the PCA or DCT analysis on the number of selected images in the database as shown in the left panel (Figure 3) the application and the equivalent result i.e total time taken is generated, recorded and displayed on the screen as well.

F. TEST OPERATION

This process is carried out for both the PCA and DCT, which generate their equivalents results. For the test operation to be carried out the test button is selected from the menu on the application (Figure 4), then the application does the testing and tells us the number of identified images, the numbers of unidentified images, the classes of the images and the total time taken to train those images.



Fig 4: Testing Phase of the System

3.0 Results and Discussion

Series of experiments were performed on the assessment system for the Discrete Cosine Transform (DCT) and Principal Component Analysis (PCA) methods, using fingerprints images at varying resolutions. As the series of experiments are being carried out, the equivalent results for each is automatically generated and recorded in an excel sheet (Figure 5).

	A	B	C	D	E	F
1	ASSESSMENT OF DCT AND PCA ON FINGERPRINT IMAGE					
2	FOR PCA					
3	Image Size	Dimension	Total Training Time	per Image size		
4	70 x 70	1	0.045			
5	75 x 75	2	1.588			
6	80 x 80	3	3.584			
7	85 x 85	4	5.268			
8						
9	FOR DCT					
10	70 x 70	1	1.299			
11	75 x 75	2	1.368			
12	80 x 80	3	1.84			
13	85 x 85	4	5.068			
14						

Fig 5: Image of the Result generated

From the above set of data stored in the excel sheet, the results of the experiments is tabulated below.

Table 1: PCA Train and Test Results

DIMENSIONS		PCA TOTAL TRAIN TIME (Sec.)	PCA TEST RESULT	
Image size	RESOLUTIONS		IDENTIFIED	UNIDENTIFIED
1	70*70	0.045	2	1
2	75*75	1.588	3	0
3	80*80	3.584	3	0
4	85*85	5.268	3	0

Table 2: DCT Train and Test Results

DIMENSIONS		DCT TOTAL TRAIN TIME (Sec.)	DCT TEST RESULT	
Image size	RESOLUTIONS		IDENTIFIED	UNIDENTIFIED
1	70*70	1.299	2	1
2	75*75	1.368	3	0
3	80*80	1.840	3	0
4	85*85	5.068	3	0

Results obtained shows a total training time of 1.299 for image size of 70 * 70 and a total training time of 1.368 for image size of 75 * 75, 1.840 for image size of 80 * 80, 5.068 for image size of 85 * 85 for DCT training of images and training time of 0.045

for 70 * 70, 1.588 for 75 * 75 and 3.584 for 80 * 80, 5. 268 for 85 * 85 respectively for PCA training of images, the PCA test time is 2.5 for 75 *75, 4.7 for 80 * 80, 5.2, and for 85 * 85 is 5.85 seconds respectively, while that of DCT is 0.3 for 70 * 70 pixels, 0.4 for 75 *75, 2.3 for 80 * 80, and 2.7 seconds for 85 * 85 respectively. In this paper, we have represented a new fast DCT based fingerprint recognition method based on PCA. PCA can be regarded as a very fast algorithm with a more or less high robustness and DCT is used for time reduction of recognized output images. The performances of DCT are almost comparable with those of PCA but with a higher computing time. So finally, we conclude that the combination of PCA with DCT offers better rates of recognition.

REFERENCES

- 1) MP Dale, MA. Joshi, and MK. Sahu, "DCT Feature Based Fingerprint Recognition", Int'l. Conf. on Intelligence and Advanced Systems 2007, pp .611-615.
- 2) M. S. Al-ANI, and M. Al-Aloosi, "Biometrics Fingerprint Recognition using Discrete Cosine Transform (DCT)", Int'l. Journal of Computer Applications, Vol. 69, No.6, 2013, pp.44-48.
- 3) K. Tewari, and RL. Kalakoti, "Fingerprint Recognition Using Transform Domain Techniques", VESIT, Int'l. Technological Conference-2014, pp. 136-140.
- 4) Deepak Kumar Karna, Suneeta Agarwal and Shankar Nikam "Normalized Cross Correlation Based Fingerprint Matching," *Fifth International Conference on Computer Graphics, Imaging and Visualization*, 2008, pp 229-232.
- 5) Honglei Wei, Danni Liu and Changyou Guo "Fingerprint Matching Based on Quadrangle," Second International Congress on Image and Signal Processing, 2009, pp 1-4.
- 6) Xiaolong Zheng, Yangsheng Wang, Xuying Zhao and Zheng Wei, "A Scheme of Minutiae Scoring and its Application to Fingerprint," *Proceedings of the Seventh World Congress on Intelligent Control and Automations*, 2008, pp 5917-5921.
- 7) Nikolay P., Vladimir L., Karen Egiazarian², Jaakko Astola² (2005) *Discrete Cosine Transform Based High Quality Image Compression* pp1-9
- 8) Syed A. (2003) *DCT theory and application* Department of Electrical & Computer Engineering Michigan State University Vol 13. pp 3-4
- 9) Anil K Jain, Jianjiang Feng, Abhishek Nagar, and Karthik Nandakumar, "On Matching Latent Fingerprints," *IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops*, 2008, pp. 1-8.

SOCIAL MEDIA AND BEHAVIOURAL CHANGES OF ELECTORATES DURING 2015 PRESIDENTIAL ELECTION IN NIGERIA.

¹Oladimeji Simon Pinheiro, ²Olusoji Samson Olatunji, ³Sunday Samson Owolabi

¹ Department of Mass Communication
Interlink Polytechnic, Ijebu-Jesa, Osun State, Nigeria
otunbasop1980@gmail.com

² Department of Mass Communication, The Polytechnic, Ibadan
sojioustimilehin@gmail.com

³ Department of Mass Communication, The Polytechnic, Ibadan
owoflowsam@gmail.com

ABSTRACT

The use of social media to rally support during electioneering process is no longer in doubt, to advance the conversation and mobilize political supports. Social media has become a strong political tool for campaigning strategists. Nigerian politicians indeed, have taken their campaigns to the social networking sites and other online platforms while the electorates also have embraced the platform as a vehicle of activities for political engagement, within the election period, political aspirants were disposing of all means to gear up their support based beyond traditional forms of media, following the realization that electioneering process requires more than just handshake and physical persuasion. The study was anchored on the theoretical framework of technological determinism, it explains new media technologies in communication that it would soon determine social changes, turning the world into a global village. Also, grounded on the Agenda-setting theory of the mass media, the theory opined that the media set agenda for the public to follow. The study adopted quantitative research approach, surveyed 150 respondents purposively drawn from Students of Mass Communication Department, Interlink Polytechnic, Ijebu-Jesa, Osun State, and used the questionnaire as instrument of data collection. The percentage method was also used to analyse data. Findings of the study show that usage of social media for electioneering greatly influenced the electorates behavior towards voting pattern for their preferred candidates during 2015 general election. Also, it revealed that, the two leading political parties in Nigeria did use the social media much in the electioneering campaigns of the 2015 elections, and the candidates of the two leading political parties utilised the social media and other platforms to engage the electorates more than traditional media. Lastly the activities they disseminated in the social media bordered mainly on announcement of programmes, personalities of the party flag bearers and their manifestoes. The researcher recommended more proactive and continual use of the social media platforms by the Political Aspirants, leading political parties and all registered parties in Nigeria.

Keywords: Electorates, Social Media, Electioneering. Campaigns, Aspirants

1. INTRODUCTION

Before the advent of social media, the mass media have been used as veritable tools for information dissemination during elections. They have been used to propagate

ideas often known as propaganda and as instrument of political mobilization. The information projected by the different media of mass communication alongside other societal factors influence voter's choice(s) during electioneering. Mass media in the context of this work are understood as constituting social institution created to perform, as required by the society, identifiable task of information, interpretation, education and entertainment. In performing these roles, they employ technologies of communication such as radio, television, internet, newspaper and magazine to communicate message to a large, heterogeneous, anonymous, and scattered audience. Furthermore, the media (print and electronics) in Nigeria especially have always been strong tools of sensitization and mobilization of people towards democracy even in the dark days of brutal military dictatorship (Ajayi, 2007). However, their reach was limited by such factors as government intimidation and harassments, logistics, limited resources and their elitist ownership and control. But with the widening of communication media space through improved technology, information dissemination and sensitization of people now have a widespread, immediacy and more diligent follow up of events. This is as a result of their easy accessibility and availability irrespective of social status. Even with the cheapest mobile phones one can still access some social media platforms at information reasonable cost for information, education and entertainment. Fundamentally, the media exists as an organ of information sourcing and dissemination, social enlightenment and mobilization, these functions set the media apart as an important factor in the relationship between the government and the governed, thereby making them indispensable for good governance, the deepening of democracy, societal growth and development generally. (Olujide, Adeyemi & Gbadeyan, 2010).

However, the evolution of social media is a major factor in the 21st century that has change the nomenclature in the interaction, communication and sharing of information between people throughout the world. Social media most often refers to as activities that integrate technology, telecommunication and social interactions, and the construction of words, pictures, videos and audio. This interaction and the manner in which information is presented, depends on the varied perspectives and building of shared meaning among communities, as people share their stories and experience (Wattal *et al.* 2010; Kaplan & Haenlein, 2010). Some of the popular and widely used social networking sites include Facebook, YouTube, Twitter, Blogs, Myspace, LinkedIn, Whatsapp among others.

In addition, internet-based communication has equally started to gain importance in Nigeria particularly and Africa in general. Both mobile phones and the internet provide exciting new opportunities for one-to-one as well as one-to-many communication, the much reported rapid spread of mobile connectivity and services, as well as different forms of public and share internet access like social media have allowed a growing number of people who may not have access to a computer or a fixed connection to take part in " the global conversation. (Andre Michel, 2010). Thus, the use of social media in politics has continued to grow in many parts of Africa including Nigeria since the 21st century.

For instance, 2011 general election marked a significant milestone in the use of social media for political communication in Nigeria. Mosreso, 2015 witnessed a massive use of social networking sites like Facebook, Twitter, Youtube, Blogs in the general

election in Nigeria. Due to their participatory, interactive, and cost-effective nature, social media have become veritable and significant instruments for political campaign engagement and mobilization among others. Thus, the place of social media in rallying political support is no longer in doubt. Eledan (2011) stated that; politics is not a spectator sport and now people have more and easier ways to get involved, Nigeria voters have the opportunity to participate and potentially help design a new conversation at the political level, something that has not been possible for years in the political landscape in Nigeria.

The above assertion acknowledges a new media platform for politics in Nigeria. In the past, the politicking process has been dominated by the use of conventional mass media, regardless of the obvious disadvantage of providing one-way non-interactive message to a large audience. However, the latest resort to the use of “old” and new media for political communication has added impetus to the electorate/candidate relationships due to the interactive nature of the new media. Just as social media has opened a dialogue between business and consumers, its value is apparent to those in political office, whose work and professional survival hinges on the needs and perception of their constituents. As it stands, the social web according to Farrell and Drezner (2008) is ripe with opportunities for candidates and office holders alike to connect with voters, foster transparency, and even spar with opponents in the same ways they have been in the conventional media for hundreds of years. As a results, the potentials of social media appear to be most promising in political context as they can be an enabler for more participation and democracy. According to Creighton (2005), Public participation is the process by which public concern, needs and values are incorporated into governmental and corporate decision-making. E-participation focuses not only on this process but also on using the internet as an additional or exclusive instrument to create dialogs between the elected and the electorates.

Social media have enhanced the use of various platform for political intention to be known to the targeted audience, in creating and disseminating political messages in the recent times in Nigeria. The 2015 general elections held in April was characterized by an appreciable use of the new media especially the use of facebook for political advertisement and election campaigns. The adoption of former president Goodluck Jonathan the use of Facebook in his presidential election decided campaign and actually became the first Nigeria to adopt such strategy that has increasingly made an inroad into our electoral process and in overall political environment. Whereas there are some arguable positions that application of social media has no influence on electorates decision on whom to vote for neither does it make impact on the electioneering processes.

It is on this trend, this study investigated on how the use of social media has influence the behvaioural changes of the electorates towards 2015 general election.

2. RESEARCH QUESTIONS

The following research questions were posed for investigation;

1. Does the social media influence electorates choice of political party candidates during 2015 general election in Nigeria?
2. Was the popularity of presidential candidates during the 2015 presidential election influence by their social media usage?

3. Does social media influence behavioural changes of electorates during 2015 presidential election in Nigeria?
4. How does political campaign messages on social/traditional media influence Nigerian electorates' choice of votes?

3. THEORETICAL FRAMEWORK

This paper was anchored on the Agenda-setting theory of mass communication, which could be traced back to Walter Lippman (1922), cited in Edegoh and Asemah (2014), who suggested that the media were responsible for the pictures in our heads. Cohen (1963), cited in Edegoh and Asemah (2014) further articulated the notion of agenda-setting role of the mass media when he argued that the media may not always be successful in telling people what to think, but they are successful in telling what to think about. The work of Lang and Lang (1966), cited in Asemah (2011), contributed in reinforcing this notion by arguing that the mass media pay attention to certain issues: they are constantly presenting objectives, suggesting what individuals should think and have feeling about. Maxwell McCombs and Donald L. Shaw note in their writing in 1972 that in choosing and displaying news, editors, newsroom staff and broadcasters play an important part in shaping political reality (Asemah, 2011; Edegoh and Asemah, 2014).

The Agenda-setting theory of the mass media holds that the media set agenda for the public to follow. According to the theory, the media dictate what issues (agenda) that should be considered most important by the society. Agenda-setting theory believes that the media predetermines what issues the audience should think about (Edegoh, Ezebuonyi and Asemah, 2013).

This theory is relevant to the study at hand in that the mass media (generally) and the social media (specifically) set political agenda, particularly during electioneering campaign period, which voters are bound to follow. Political parties in Nigeria (in general) and the two frontline political parties (PDP and APC) could harness the potentials of the social media to determine political issues that voters should think about.

The study is also grounded on the Technological determinism Theory. The concept, technological determinism theory explains the setting of this study. The theory which was propounded by Marshall McLuhan (1964), a Canadian Communication Scholar, who observed new media technologies in communication would soon determine social changes, turning the world into a global village. He believes socio-political, economic and cultural changes are inevitably based on development and diffusion of technology. McLuhan argued technology undoubtedly causes specific changes on how people think, how society is structured and the form of culture created. This theory portends that, given the emergence of internet and its adoption and relevance in mobilizing people for political activities, there is bound to be an impact on the electoral process and overall political environment. Communication is the basic tenet of technological determinism theory. The theory seeks to explain social and historical phenomena in terms of the principal determining factor (Technology). The theory states that communication technologies in general are the prime causes of changes in society.

Reinforcing this position, Chandler (1995) affirms that technological determinists interpret technology in general and communication technologies in particular as the basis of society in the past, present and even the future. However, as far as communication is concerned, we are increasingly dealing with a world without frontiers. The amazing technological revolution, which McLuhan was so fascinated about, has not stood still, same goes to the people that handle the process and what they do (Oliver, 2011). According to Baran (2004:22), technological determinism is the thinking in some quarters that it is machine and their development that drive historical, economic political and cultural changes. There is however, a perspective to technological determinism, which sees technology as more neutral and claim the way people use it is what gives it significance. This perspective that accepts technology as one of the many factors that shape historical, economic, political and cultural changes is ultimately determined by how much power it is given by the people and cultures that use it (Baran, 2004). These two perspectives of technological determinism pose an important question: are we more or less powerless in the wake of technological advances like internet? If we are at the mercy of technology as the former perspective argues, the culture that surrounds us will not be of our making, and the best we can hope to do is to make our way reasonably well in a world outside our own control. But if these technological advances are indeed neutral and their power resides in how we choose to use them as maintained by the latter perspective, we can utilize them responsibly and thoughtfully to construct and maintain whatever culture we want. In relation to this study therefore, the theory presupposes that since there are other countervailing factors that restrain and shape the effect or influence of new media, the latter perspective of this theory is more appropriate in this study.

4. LITERATURE REVIEW

Concept of Social Media

Social media is the collective of online communication channels dedicated to community-based input, interaction, content-sharing and collaboration. Websites and applications dedicated to forums, micro blogging, social networking, social bookmarking, social curation, and wikis are among the different types of social media. Social media can be defined as a collection of internet-based applications that expand the ideological and technological foundations of Web 2.0 and that permit the creation and exchange of user-generated content (Kaplan & Haenlein, 2010). Social networking sites are the interface between people and social media, and for many the "Internet" is synonymous with social networking sites (Hinton & Hjorth, 2013). One of the most interesting characteristics of social media is represented by the term "user-generated content", which refers to different forms of media content, publicly available and created by end users (Kaplan & Haenlein, 2010).

4.1 A SIGNIFICANT MILESTONE IN THE USE OF SOCIAL MEDIA AS A POLITICAL PLATFORM IN NIGERIA

The emergence of social media has changed the way in which political communication takes place in most countries of the world, including Nigeria. Political institutions such as politicians, political parties, foundations, institutions, and political think tanks are using social media, Facebook and Twitter, as a new way of communicating with

voters. Individuals and politicians alike are able to voice their opinions, engage with their network, and connect with other likeminded individuals (Kearney, 2013).

However, the active participation of social media users has been documented as an increasingly important element in political communication, especially during political elections (Eli & Arne, 2015). Users are able to connect directly to politicians and campaigns and engage in political activities in new ways. By simply pressing the like button on Facebook or by following someone on Twitter, users have the ability to connect in new ways. Thus, the option for users to share, like, or retweet political messages instantaneously has opened up a new avenue for politicians to reach out to voters. Politicians in their bid to use social media for elections were mindful of the developments and the new vista of consciousness in the practice of citizen journalism in Nigeria. In the last decade, the rise of Facebook, YouTube, MySpace, Blogs and other social networking sites has witnessed citizen journalists armed with video camera and beginning to show up everywhere. Following this, politicians wanted to check the negative publicity that may come from any of the networks by reaching out to sites and blogs that can affect their prospects (Eledan, 2011). The former Nigerian President, Goodluck Jonathan joined the fray when at the 26th convocation ceremony of the University of Port Harcourt, he promised that he would open a Facebook Page to interact with millions of Nigerians and also said: As I said on that day, there is an unchangeable power of good in the Nigerian nation and her youth and through this medium. I ... want Nigerians to give me the privilege of relating with them without the trappings of office.

To achieve this dream of reaching out without the bureaucracies associated with his office, he set up the web page (www.goodluckjonathanfor2011.com) that is similar to Facebook on September 15, 2010 and thereafter declared his interest to contest for the number one person in the country. President Jonathan, apparently aware of the tremendous impact of social networking sites, chose to bid his electoral fortune through digital interface. The former Governor of Lagos State, Raji Fashola was also one of the social media savvies. His Facebook page draws a lot of accolades on his performances, and points out things Lagosians want to see or change. Other candidates like Nuhu Ribadu of ACN and some Governors joined the bandwagon with varying degrees of impact. Whereas dependence on the traditional media for political campaigns will certainly be noticeable and cannot be completely discarded, modern trends of the New Media seem to be eroding the gains of the traditional media. As the new media gradually reshapes the advance phase of political strategists and marketing experts are quick to wonder whether newspapers, TV, Radio and other traditional media forms still command the degree of relevance that made them indispensable in the years past for developing credible form of political communication. Nigeria with a population put at over 150 million and about 60 million active young voters, near 43 million internet users and approaching 80 million mobile connections, political campaign managers are sure to have tested their abilities in finding new media methods to get their political message out faster, easier, cheaper and stronger (Eledan, 2011). The new media is useful not only for mobilizing voters, but also in integrating all other facets of campaigns, including rally, organizing and delivering campaign messages to potential voters on a consistent basis, at relatively low or no cost to them. However, Facebook, Twitter and other social networks

reinforce political messages and build online and offline support that will help drive interesting debates about any politicians and the party. The new media according to Flew (2008) was also to a large extent useful to the electoral umpire - INEC, numerous international and local observers, the traditional media operators and ordinary people who monitored the election and in checking electoral fraud. It also provides easy access to needed evidence by the Tribunals. The participatory nature of social media encourages contributions from everybody, provides opportunity for feedback from every interested person, it blurs the line between the media and the audience, changing the shape from MEDIA to "WEDIA" (p.4).

More so, the use of social media in 2011 elections apart from its merits also witnessed varying degrees of abuses ranging from outright deception to ignoring of people's questions on both Facebook and Twitter by the candidates and their representatives. The unlimited freedom the social media permits led to flagrant abuses in form of hate messages and unethical practices. Close to election date, text messages purportedly written by some candidates were flying indiscriminately to people's mobile phones.

4.2 THE CHALLENGES IN THE USE OF SOCIAL MEDIA AS A POLITICAL PLATFORM IN NIGERIA

In spite of the numerous advantages of social media advantages in fostering politics, democracy and good governance in Nigeria, they equally have their challenges. No doubt, social media platforms can be misused in disseminating unfiltered/unverified information, hate messages and rumours which are inimical to strengthening democracy. The increasing use of social media and other online tools has indeed led to greater privacy, monitoring as well as regulation challenges (Ekwe, *et al*, 2011 as cited in Ajayi & Adesote, 2015). For instance, a viral video of immoral conduct or lurid sex photo can instantly infect a political campaign or career, dooming it to untimely termination. Anonymity of sources makes it difficult for strict regulation, monitoring and prosecution of illicit acts. This makes it a vulnerable instrument for perpetuating fraudulent acts. It also promotes piracy. This is partly because the question of copyright and intellectual property are more complex and difficult to define and even more difficult to regulate online. Similarly, images and sounds can be digitally manipulated, so truth and reality are difficult to ascertain. Social media is addictive in nature, making work/life balance hard to achieve. With the new technologies, users get more than they bargain for because of their information overload and social network overload. Kidafa, Odoemelam and Elechi (2011) observe that "regulating traditional media in the face of issues like obscenity, copyright, right to privacy, was upheaval (sic), but have become more difficult with the emergence of social media". How to effect censorship without being seen as abridging rights and derailing democracy is a dilemma for the politicians and government officials. It is also important to reflect on the ways that ICTs are actually being used to counter democratic processes, because so doing can help develop understanding of the policies that need to be in place to resist such actions. There is increasing understanding that it is not just companies and governments that can use social media for negative purposes, and that individuals and small groups could use it for bullying, digital monsterring, or violent actions, not to talk of fraudulent or criminal activities (419 in local parlance). Another challenge is the issue of relatively low penetration and

access in the country. Writing on penetration of new media in Africa, Osuala in Adibe and Odoemelam (2011) notes that: The diffusion of new technologies in Africa is still at a snail speed such that the gap between the information reached by developed countries and African countries continue to increase everyday..... Africa has 13% of world population but only 2% of the world telephone lines and 1% internet connectivity. Consequently, most African countries have not been able to reap the abundant benefits of the global information revolution in many areas of life.

4.3 SOCIAL MEDIA AS A TOOL OF COMMUNICATION FOR POLITICAL CANDIDATES

Social media offers a variety of avenues through which political candidates can communicate with people. In fact, social media is known to have been used widely by politicians to either create awareness or to make people see them as accessible and credible (Austin, 2008). Over the last 30 years the nature of communication has undergone a substantial change and it is still changing. Email has had a profound effect on the way people keep in touch. Politicians in recent times have used this means to reach out to their audience, creating impressions which they believe would be favourable to them. Using emails, communications are shorter and more frequent than when letters were the norm and response time has greatly diminished. Instant messaging has created another method of interaction, one where the length of messages is shorter and the style of the interaction is more conversational (Goldstein and Freedman, 2002).

Broadcast technologies like Twitter transform these short bursts of communication from one-on-one conversations to little news (or trivia) programs: which we can tune in whenever we want an update or have something to say. Online communication tools also have the potential to increase our awareness of the movements of our professional or social contacts. Twitter, for instance, offers us an update of things people we know happen to be doing at a particular point of time. This phenomenon has been referred as social proprioception by Thompson (2007), named after the physical quality of proprioception that tells a creature where its extremities are by the reception of stimuli produced within the organism. Social proprioception tells us where the nodes of our community are and provides a sense of connectedness to and awareness of others without direct communication. Internet is the third place where people connect with friends, build a sense of togetherness. Increasingly, a computer with an Internet connection is the locus of a range of interactions in a variety of media and a gateway to an array of social spaces for work and play.

Social networking sites like Facebook and MySpace and virtual environments like Second Life and World of War craft have become online meeting spaces where users – members, residents, or players – can interact and express themselves. They offer a way to keep in touch with existing communities that users belong to offline, such as social and professional groups. They also make it possible for people who would not normally communicate more than a few times a year to keep in touch – politicians could interact with their teeming supporters on a daily basis, giving their supporters a sense of belonging through the online community itself. Sites like YouTube and Flickr represent another forum for online communication that is centered on sharing, preference, and popular culture. Whether it is as simple as checking back to see what

other comments have been added to yours or as involved as attending a workshop or presentation in a virtual world, the nature of the attraction lies in the connections between people that these online spaces afford.

4.4 THE RISE OF SOCIAL MEDIA IN POLITICAL CAMPAIGNS

The internet platforms that are collectively called social media have created virtual communities by employing communication technology that allows for brief, targeted, and instantaneous messaging. Although social media is tremendously popular and widely used, it is not new to the Internet. With the widespread adoption of personal computers in the mid-1990s, services such as chat rooms, newsgroups, and instant messaging were among the early attractions for users of the World Wide Web (Thurlow, Lengel & Tomic, 2004). What is new, however, is the attention that has been given to expanding forms of social media – YouTube, Facebook, Tumblr, and Twitter – as a means of not only creating virtual communities, but as a way of instantly communicating and moving to action members of these communities. Previously, messages on these sites have been considered trivial by providing a means of either marketing to targeted groups or posting statements describing ordinary personal activities. Social media in the second decade of the 21st century, however, it has evolved to delivering not just frivolity, but serious social and political messages, giving calls to action that have aroused both protest and revolution.

Senator Barack Obama's successful 2008 presidential campaign established social media as an integral part of the campaign toolbox. (Tumasjan, Sprenger, Sander & Welp, 2012). Facebook, YouTube and especially Twitter were used to let Obama supporters know how he felt about important issues. These social network sites have become significant virtual communities in his campaign, being used frequently and giving legitimacy to their influence in the political arena.

4.5 SOCIAL MEDIA AND ELECTIONEERING CAMPAIGNS

The social media are both accessible and inexpensive to all users, be they, in the case of electioneering campaign, the candidate that will contest in an election or the electorates. This explains why Dhuraj (2013) opines that social media refer to the many relatively inexpensive and widely accessible electronic tools that enable any one to publish and access information, collaborate on a common effort, or build relationships. These platforms provide 24hours access to anyone who owns an account with any of the many social networking sites. The use of social media to scout for votes is much more inexpensive compared with using newspapers or the electronic media of television or radio since the candidate does not need to pay a dime to reach his/her supporters. Social media could also be accessed at anytime and anywhere using all kinds of hand-held devices at the disposal of users of internet such as smart phones. It is also very easy for the candidate to respond to queries from political followers as quickly as possible using social media than any other media. Social media are therefore much more useful to politicians for electioneering campaign purposes in terms of reach, cost, accessibility, convenience, and so forth. However, there is a large body of research-based evidence that social media are particularly suited for reaching young people especially in political communication;

that social media may not be effective in reaching other categories of people in a given national population (Essential Media Poll 2012; Chen and Vromen, 2012).

Chen and Vromen (2012) submit that social media function to facilitate increased access to opinion sharing online, greater demonstration of media selectivity through the reposting of materials online and the democratisation of editorial behaviour through social filtering. In line with this submission, Bruns (2005) asserts that social media platforms such as Twitter have demonstrated to be active spaces for elite-public interaction and “talking back” to sites of power (political, economic, media); others such as Tumblr and Pinterest have shown themselves as valuable places for “gate watching”: the scrutiny and citizen-centric curatorship of media content. Facebook and others have been very important sites for micro-activism (Marical, 2012, cited in Chen and Vromen, 2012) and the formation of alternative spaces or counter publics for democratic discussion (Dahlberg, 2011). For these reasons and many more, politicians have turned to social media in their quest to reach electorates.

The prominent position which social media is currently occupying among media of electioneering campaigns was a product of the 2008 presidential election of the United States of America in which Barrack Obama took the world by surprise through effective use of social media platforms for his political campaigns. Since then social media took the centre stage in political campaign activities. Ufen (2014) brilliantly identifies the three stages of campaigning and their features that could be discerned from the Western world:

In the West, three stages of campaigning can be discerned, and these have depended—inter alia—on the phase of technological evolution. Initially campaigning was characterised by mass events, rallies, and face-to-face communication among party members and voters. Consultants were not important in comparison with canvassers and other party activities. In the second phase, mass media, especially television, played a decisive role. Large-scale opinion polls were sources of feedback, specialist consultants were gaining prominence, and campaigns were organised nationally by the central party apparatus with party-based salaried professionals. TV debates, press conference, and ‘pseudo-events’ were central to campaigning. During this second, modern stage, catch-all parties trying to mobilise voters across all categories replaced the mass-integration or mass-class parties of stage one. The ties between citizens and parties were weaker in the second stage, and party activities at the grass-roots level lost their previous importance. At the same time, charismatic personalities and the central party apparatus in general became focal points for voter mobilisation. The current, third stage, of campaigning began in the late 1980s and early 1990s and refers to post-modern or ‘American style’ electioneering. In this stage, parties use new communication technologies such as the internet and public relations consultants who base their findings on sophisticated opinion polls and focus-group interviews. Campaigning is much more targeted and business-like. Consultants are quite independent from the traditional party leadership. The so-called electoral-professional parties are said to be the typical organisational outgrowth of these developments.

With the emergence of social media and their revolutionary impact on electioneering campaign and other forms of human communication, the metamorphosis is still on.

However, one thing is clear; the changing nature of the media of political campaign and, indeed all forms of human social communication has greatly improved.

4.6 THE 2015 GENERAL ELECTIONS

The civil society deployed the arsenal of social media effectively to disseminate information during the 2015 general elections in Nigeria. According to Elegbede (2015), during the period of campaign, tweetmeets and hangouts were the in-thing within Nigerian online socio-political networks. Hashtags such as #MeetGej, #FeBuhari, #MarchoutJonathan, #WhyiwillvoteGEJ, #MarchforBuhari, #GMB15, #LagosForYou and #IHavedecided were promoted by politicians and their supporters; while #NigeriaDecides, #Nigeria2015, #iPledgeToVote, #MyPVCnow, #GoVote, #VoteNoFight, etc were promoted by civil society groups to increase citizens' awareness and participation (see also Suntai and Targema 2015).

During the voting process, pictures and videos floated on Facebook and Whatsapp accounts of party agents who were caught in the act of buying voters with money and some other grants as well as the issue of underage voting in some states, prompting immediate action by INEC. Similarly, during the collation of results, citizen journalists and the civil society never spared any effort to update the public on the nature of results in the various states across the federation (Oseni 2015).

5. METHODOLOGY

The survey research design method was used to execute the study. The study utilized the instrument of the questionnaire to collect data for the study. In collecting data for the study, primary and secondary sources were used. For the primary data, the questionnaire was used as an instrument to elicit response from the respondent.

The study population is made up of Mass communication Department, students of Interlink Polytechnic, Ijebu Jesa, Osun state. The study considered only students in HND I and II level and this formed the sample frame and it was purposively selected for the study. The decision was influenced by two reasons, the department is communication based and communication- oriented. So students of the department are presumed to be familiar with the tools of communication and the different social networks.

The simple random sampling techniques was used in the administration of questionnaires to respondents. A total of 150 respondents were given copies of the questionnaires to fill across the levels, i.e 50 respondents were selected in each level. The instrument had three sections; while section A with 6 items was designed to obtain respondents' demographic data, section B and C with 26 items was designed to generate data to answer the study's research questions. The percentage method and frequency tables were employed as analytical tools

6. DATA PRESENTATION

Table 1: Sex of Respondents

Sex	Frequency	Percentage
Male	67	44.7
Female	83	55.3
Total	100	100%

Table 1 on sex of the respondents reveal that 44.7% of the respondents were males and 55.3% were females. The reason for the disparity in the male-female participants' ratio in the study was because a greater number of females have passion for the profession and eager to be a partisan in politics thus, male students are more politically enlightened than the female.

Table 2: Age of respondents

Sex	Frequency	Percentage
Below 20 years	45	30%
21 – 30 years	67	44.7%
31 – 40 years	23	15.3%
41 – 50 years	9	6%
51 years and above	6	4%
Total	100	100%

Table 2 on the age characteristics of the participants in the study indicate that 30% were aged below 20years , 44.7% were between 21-30years, 15.3% were within the age bracket 31-40years, 6% indicated that they were within 41 – 50 year' category while 4% were in the 51 years and above" age bracket.

Table 3: Respondents' marital status

Marital Status	Frequency	Percentage
Single	135	90%
Married	15	10%
Total	150	100%

Table 3 shows data obtained to establish the marital status of the participants in the study. The table reveals that 90% of the respondents were single while 10% were married. The participants in the study were therefore, made up of more Male students than Female Students.

Table 4: Respondents' Occupation

Occupation	Frequency	Percentage
Traders	8	5.3%
Civil Servants	17	11.3%
Students	103	68.7%
Self-employed	22	14.7%
Total	150	100%

Data in table below on respondents' occupation show that majority of the participants in the study were students (68.7%), followed by self-employed (14.7%), civil servants (11.3%), the trader (5.3%), while students made up the bulk of participants in the study.

Table 5: Respondents academic qualification

Academic qualification	Frequency	Percentage
WAEC	50	33.3%
OND	100	66.7%
Total	150	100%

Data on academic qualification of the respondents indicate that 33.3% had secondary school, while 66.7% has OND. The majority of respondents had post-secondary school academic

6.1 RESEARCH QUESTIONS ONE:

Does the social media influence electorates choices of political party Presidential candidates' during 2015 general election in Nigeria?

TABLE 6

ITEMS	YES	%	NO	%	UNDECIDED	%
Was your choice of president Goodluck Jonathan/General Muhamadu Buhari during the 2015 presidential election influenced by the use of social media	92	61.3	36	24	22	14.7
Was your voting pattern during the 2015 presidential election influenced by social media usage	46	30.7	75	50	29	19.3
	Radio	%	Television	%	Facebook/WhatsApp	
Which of the media has influence the electorate decision in voting in 2015 presidential election	67	44.7	44	29.3	39	26

As shown in the table above, 61.3% of the respondents believed that the choice of their presidential candidates was influence by the high extent of usage of social media during the electioneering campaigns of the 2015 general elections and 24% indicated that they were not agreed to that position However, 14.7% were undecided. Also, on the voting pattern of the electorate during the presidential election, 30.7% agreed that electorates were influenced in their voting behaviour, while 50% did not agree, only 19.3 % of the respondents could not ascertain their position. Lastly, it was indicated that 44.7% of the respondents still believe that social media still influence the decision of the electorate during 2015, 29.3 believe electorate decision in voting were still influenced by television and 26% indicated that social media also influenced the electorate voting decision. We could deduce from data in table 9 that the majority of social media users in Anambra State are of the opinion that the candidates of PDP and

APC made more use of the social media for political communication in the electioneering period of the 2015 general elections than their political parties did.

6.2 RESEARCH QUESTIONS TWO:

Was the popularity of presidential candidates during the 2015 presidential election influence by their social media usage?

TABLE 7

ITEMS	YES	%	NO	%	UNDECIDED	%
Do you think that the two presidential aspirants were popular because they utilized social media in their political campaign	73	48.7	57	38	20	13.3

Data in table 10 were obtained to determine whether the popularity of presidential candidates during the 2015 presidential election influence by their social media usage. Data indicate that 48.7% of the respondents said “Yes” while 42% disagreed by saying “No”, while 13.3 were undecided. By implication, the majority of respondents indicated that social media influence the popularity of presidential candidates during 2015 presidential election

6.3 RESEARCH QUESTIONS THREE:

Does social media influence behavioural changes of electorates during 2015 presidential election in Nigeria?

TABLE 8

ITEMS	YES	%	NO	%	UNDECIDED	%
Does social media platforms mostly used by electorates for political participation	121	80.7	15	10	14	9.7
Does the social media influence behavioural changes of electorate decision in voting in 2015 presidential election	56	37.3	72	48	22	14.7

Data in table 8 were obtained to answer research question three. As shown in the table social media has not really influence behavioural changes of the electorates during 2015 general elections (37.3%), say yes (48%) indicated No and only 14.7% were undecided.

6.4 RESEARCH QUESTIONS FOUR:

How does political campaign messages on social media influence Nigerian electorates’ choice of votes?

TABLE 6

ITEMS	YES	%	NO	%	UNDECIDED	%
Does the message received through social media	52	34.7	77	51.3	21	14

influence your behaviour of a preferred candidate voted for						
Has the understanding of political messages on social media influence your choice of preferred candidates voted for	81	54	54	36	15	10
How many Nigerian youths ever sent/received information through social media	73	48.7	6	4	71	47.3

Research question four was designed to ascertain the level of message received through social media how it has influenced electorate's behaviour of a preferred candidate voted for. As indicated in table 6, the respondents posited that 34.7% says yes while 51.3% did not agreed and 14% were undecided. It could be inferred from data available for research question four that the message received through social media has not really influence behaviour of the electorates of a preferred candidate voted for during 2015 presidential elections.

7. FINDINGS OF THE STUDY

The findings of study revealed the following;

1. Social media influence electorates choice of political party presidential candidates during presidential election of 2015.
2. Relatively, usage of social media increased the popularity of the presidential candidates during 2015 presidential election.
3. The findings also established that social media did not have a large influence on behavioural changes of electorates' voting pattern.
4. Campaign messages received through social media has not really influence the electorates choice of voting pattern.

8. CONCLUSION

The fact has been established that, social media will continue to integrate people's daily lives and that it is fervently used by electorates, politicians, political parties and people worldwide, and it has played a significant impact on voting behavior of the Nigeria electorates. Overall, the discrepancy in the findings exploring the relationship between social media use and political participation, together with the interesting characteristics of the Nigerian presidential elections of 2015, given the unprecedented extensive use of social media in the political realm of the country, represented the motivation of exploring this topic in depth.

The study found that the conversation on forum allows the electorates to follow the political candidates on Twitter, Facebook and WhatsApp actively engage in political discussion by expressing their views and opinion. As some researchers argue that the

reasons why people use media (for news or for entertainment purposes) are very important in explaining political participation, the authors of the paper further proposed, that given social media's interactive nature, the activity levels related to political issues (social media use for political activities) are even more influential. As social media remains a relatively new and unexplored field, there is a need for further research on its implications for the political arena. All things considered, shortly put, the findings of this report show that social media use had a relative impact on Nigerian electorates' political participation, during the presidential elections of 2015, and despite the paper's limitations, the results bring a contribution to existing research in political communication.

REFERENCES

- Baumgartner, J.C and Morris, J.S (2010) *"MyFaceTube Politics, Social Networking Web Sites and Political Engagement of Young Adults."* 2010 SAGE Publications. Volume 28 Number 1, 24-44
- Bennett, W. L. (2008). "Changing citizenship in the digital age", p. 1-24, Cambridge, MA: The MIT Press
- Carlisle, J.E and Patton, R.C (2009) *"Is Social Media Changing How We Understand Political Engagement? An Analysis of Facebook and the 2008 Presidential Election"* Political Research Quarterly, Vol. 66, No. 4 (December 2013), 883-895
- Wallsten, K. (2007). Agenda Setting and the Blogosphere: An Analysis of the Relationship between Mainstream Media and Political Blogs. Review of Policy Research, 24(6), 567-587
- www.bec2014.ro/rezultate-finale-16-noiembrie [Accessed, April 20, 2015; 12:35]
- www.emoderation.com/social-media-fast-facts-central-and-eastern-europe [Accessed May 1, 2015; 10:17]
- www.internetworldstats.com/eu/ro.htm
- www.pewinternet.org/2015/01/09/demographics-of-key-social-networking-platforms-2
- Aparaschivei, P. (2011). The use of new media in electoral campaigns: analysis on the use of blogs, Facebook, Twitter and YouTube in the 2009 Romanian presidential campaign. *Journal of Media Research*, 4(2), 39-60.
- Amuchie, Max (2012), Social Media Critical to Success, says Jega
<http://www.businessdayonline.com/NG/index.php/news/111-politics/37726-social-mediacritical-to-success-of-2011-elections-says-jega>.
- Asuni, Judith B. and Farris, Jacqueline (2011), *Tracking Social Media: The Social Media Tracking Centre and the 2011 Nigerian Elections*. Abuja: Shehu Musa Yar'Adua Foundation
- Ekine, Sokari (2010), *Use and Abuse of Social Media in Nigerian Elections*

[http://www.newint.org/blog/majority/2010/10/21/use-and-abuse-of-social-media-in- Stroud, Natalie J. \(2008\), "Media Use and Political Predispositions: Revisiting the Concept of](http://www.newint.org/blog/majority/2010/10/21/use-and-abuse-of-social-media-in-Stroud,Natalie%20J.%20(2008),%20%22Media%20Use%20and%20Political%20Predispositions:Revisiting%20the%20Concept%20of%20Selective%20Exposure%22,%20Political%20Behaviour%2030(3):341-366.nigerianelections/)

[Selective Exposure", *Political Behaviour* 30\(3\): 341-366.nigerianelections/](http://www.newint.org/blog/majority/2010/10/21/use-and-abuse-of-social-media-in-Stroud,Natalie%20J.%20(2008),%20%22Media%20Use%20and%20Political%20Predispositions:Revisiting%20the%20Concept%20of%20Selective%20Exposure%22,%20Political%20Behaviour%2030(3):341-366.nigerianelections/).

Gillin, Paul (2008), "New Media, New Influencers and Implications for the Public Relations Profession", *Journal of New Communications Research* II (2).

Harwood, Asch (2011), Nigeria's First Facebook Election

<http://www.movements.org/blog/entry/nigerias-first-facebook-election/>.

Omokri, Reno (2011), How Social Media and the Youth Helped Achieve Credible Elections in Nigeria, paper delivered at the Atlantic Council, Washington D.C. on April 19

[http://www.nigeriavillagesquare.com/articles/guest-articles/how-social-media-and-the-youthhelped-](http://www.nigeriavillagesquare.com/articles/guest-articles/how-social-media-and-the-youthhelped-achieve-credible-elections-in-nigeria.html)

[achieve-credible-elections-in-nigeria.html](http://www.nigeriavillagesquare.com/articles/guest-articles/how-social-media-and-the-youthhelped-achieve-credible-elections-in-nigeria.html).

IMALANYI (DISLIKE, ENVY) THE BANE OF IDOMA PROGRESS AND GROWTH.

ONMOKE SYLVESTER.

Department of Christian Religious Education
Benue State College of Education, Oju.

Benue State

fronmoke@gmail.com

ABSTRACT

Imalanyi is as old as human race; it resides in every component of the land and largely at home with Idoma. Since Nigeria's Independence until this political dispensation, prominent Idoma sons and daughters have featured at different stages but could not impact progress and growth at the home front. Largely, imalanyi is at play leaving Idoma nation near retardation. Progress and growth have eluded us. To further worsen matters an Idoma ascending the ladder of greatness is vehemently dislodged by fellow Idoma using popular but divisive adage "ANUFOFONU N'IDOMA MA' NE?" (Is he the only man born to the idoma?) Imalany would rather have a non-Idoma strive above a fellow brother or sister. The implication leaves the Idoma person merely at lower ladder of life, near servitude always and at all places. Those who rise are nonchalant towards others who come seeking for help. Our youths refuse to be apprentice and so disregard the well to do, always alluding: Anu ge bi um ona? (Does he feed me?). Imalanyi is used to blackmail, back-stab and destroy others. This work shall attempt to conscientise Idoma on the ills of Imalanyi and finally draw a conclusion by inviting all to avoid and condemn Imalanyi, so that we can foster growth and progress of Idomas and Idoma land.

INTRODUCTION

*"Imalanyi has destroyed the careers and talents of gifted people
across the land leaving every rising star jittery about the future....*

— Joseph Omaku

Imalanyi is a universal phenomenon, other tribes have it too. The Idoma people like other tribes developed Imalanyi beyond expectation; it has been imbibed into every facets of existence. Well, many Idoma sons and daughters are now frightened and so begin to ask when shall we overcome such maladies, so that our kiths and kins will see growth and progress everywhere in the land?

Historically Imalanyi has been with the human race since time immemorial bedeviling the whole of humanity. The Holy Bible records events of Imalanyi in very many ways (1) Envy and Jealous is at the root in Cain's murder of his brother Abel (Gen 4:3-8). (2) Imalanyi is responsible for the sending away of Hagger and her son Ishmael by Abraham (Gen 21: 9-14) as demanded by Sarah. (3) Joseph's plight, his sale into slavery was imalanyi at work as brothers conspired against him, (Gen 37:26-28). (4) Imalanyi was at work when Esau's blessing was bestowed on Jacobs instead by his aged-blind father (Gen 27:20-29). (5) The peak of Imalanyi is when Jesus was betrayed and killed by the Jews because of the powers, miracles and wonders he accomplished.

Imalanyi is at its peak in modern Idoma society and so many people have become its casualties, many have lost elections, some dismissed from work and others out-rightly refused employment etc. the syndrome of pull him/her down is synonymous with Imalanyi syndrome in Idoma land. Business cannot thrive, educational and academic excellence are thwarted reputably and jeopardized not by strangers but by Idomas. The scenario pointed above is as Joseph Omarku (1970:1) explained was responsible for the ineffectiveness of the so many well positioned Idomas' inability to lift the land upwards out of poverty and create jobs for the teeming youths.

The power and exacting influence of Imalanyi on Idoma has become so synonymous with the tribes' inability to unite, achieve a common goal and execute collective ventures, here Idoma always fail. It is therefore in line with this disturbing phenomenon of Imalanyi, it has become a cultural trait among Idoma that this paper wishes to examine the destructive trends and problems generated against the growth and progress of Idoma land.

CLARIFICATION OF TERMS

I shall examine the words, Envy, Dislike, Growth and Progress as used herein.

- (A) Envy: Envy connotes the feeling of wanting something that someone else has.
- (B) Dislike: connotes the feeling of not wishing other people well.
- (C) Growth: according to Rudoly Muller (1982) the availability of facilities that were hitherto not found in a given place is known as growth. It comes with the good-will of the provider and the receiving place.
- (D) Progress: it is synonymous with development, this has no single same concept put forward it includes "equitable distribution of goods and services. According to Ijiga P. (2019:10) he stressed that progress is the ability of the people to lead a modern civilized existence through access to facilities as good roads, health, water and education.

Growth and Progress are seen as development so to Aremo (2004:23) development is multi dimensional progress involving major changes of social structures, popular attitudes and national institutions, as well as economic growth, reduction of inequality and eradication of absolute poverty.

The above implies that growth and progress enveloped as development would involve a prospective transformation which improves and sustain the general well-being of the citizenry (Apenda and Adegas 2006: 194). As can be drawn from above, Idoma citizenry and Idoma land have not been transformed neither has the life of the people improved nor is there any sustenance and general well being of the people. All we notice in most Idoma settlements are vicious cycle of poverty, characterized by lack of portable drinking waters, poor housing, roads and educational facilities. It appears that the Idoma even aggravate matter for themselves as they do not appear to imitate the progressive styles from their neighbors. The best Idoma can copy from their neighbors are the negative aspects such as Imalanyi, witchcraft, cultism, defiant attitudes and blackmails.

Taken from the above analysis, growth and progress may be seen as a holistic concept. Central to this would be the betterment of lives of individuals and groups in relation to societal resources and values.

PRACTICAL REALITIES OF IMALANYI AMONG THE IDOMA

Imalanyi or Envy has become the bane of Idoma progress and growth. Most Idoma are now aware of its dangerous effects on their wheels of development but they seem unable to break free from its shackles. Imalanyi has been the cause of disunity for Idoma.

While it is apt to propose as many people would want us to understand that Imalanyi is not peculiar to Idoma, we can quickly add that Imalanyi is practiced by virtually all people of the world. However, the level of Imalanyi among the Idoma is most prevalent and unique in the sense that an Idoma only practicalizes his Imalanyi on fellow Idoma, with a basic aim of bringing him or her down. Ada Ugah (2000:34) vehemently laments that:

An Idoma does not wish to have another Idoma to progress or grow. Every effort can be done to block a fellow Idoma from attaining fame, wealth, position, prestige, land or massive produce.

This Envy is manifested in the many communal clashes that are executed in Idoma, affirming the above assertion. Hence, farm produce, animals and assets are destroyed without precaution. Explaining the rationale for this negative attitude, Ada Ugah (2006:62) asserts that it is the bold-face presented by the Idoma to portray himself as a detribalized Nigerian who has detached himself from his kith and kin. This is a paradox; the simple explanation is the fact that Idoma are unequaled in the act of Imalanyi.

The most amazing manifestation of Imalanyi pertains the desires of all Idomas to be at the top at the same time or to be at the base line altogether. They employ the destructive Imalanyi to the surprise of on-lookers. Hence, Christianity as a moderating force has not succeeded in inculcating into the Idoma any of the enviable beatitudes, thus, they do unto others that which they would not want done to them.

EFFECTS OF IMALANYI ON IDOMA PROGRESS.

The records are visible, Idoma sons and daughters have benefitted from lucrative appointments in Nigeria beyond all our neighbors. We are a minority but have held outstanding offices in the land. The effects of Imalanyi have not allowed such to translate in progress or growth for Idoma land. The effects of Imalanyi on the development of Idoma are to say the least catastrophic. Imalanyi jeopardizes the physical, structural, economic and political progress of Idoma land.

According to Adegga (2004:228) wealthy Idoma who have the means to establish industries, factories etc abroad or in other parts of Nigeria should establish such in Idoma land. This would offer employment and teach youths graduating annually from school. This could have in turn brought progress and growth to Idoma land.

Imalanyi according to Adegga (2004:229) as properly understood has deprived Idoma of unity. Idoma unity seems to have lost its appeal. Imalanyi is the basis for most of the intra personal and inter-clan crises which are common in Idoma land today. Seeing the lists of the impacts of Imalanyi on Idoma as mentioned above, it is time the Idoma look into this degrading phenomenon which we generally have come to accept as cause of disunity, underdevelopment and backwardness. Idoma as a matter of necessity have to sacrifice Imalanyi on the altar of reason. We are poor enough to

avoid any self impoverishment. We might remain poor and uneducated, unclassified citizenry.

TAMING IMALANYI

Imalanyi could be tamed as proposed herein the way forward out of our present predicament in Idoma land. Ada Uga (2000:22) vividly declared that:

from one generation to another, without remorse Imalanyi has caused great stir between clans, families and neighbors across Idoma land, retrogression, destruction of values and even death is what we have harvested...

By personal assessment, Imalanyi has served no useful purpose to the society; Idoma must cease practicing Imalanyi in any form. Clannish sentiments, ugly rivalry and maladious behavior are responsible for the lack of progress and growth in Idoma land. Imalanyi has fueled so much sectionalism, nepotic tendencies and gross lack of love nowadays.

Furthermore, the celebrations of Ej'aje, Ej'alekwu and other traditional festivities are clannishly embarked on at the expense of national Idoma celebration at one front. Imalanyi has encouraged and promoted lack of respect for the traditional institution to an extent that we live as though we were autonomous self ruled nation.

On its part the Idoma traditional council should firmly take a firm stand by calling to order prominent Idoma sons and daughters who ride advantageously on the wings of Imalanyi to drag our progress and growth to the mud. This might deter others from engaging in Imalanyi. While on the other hand, those who do well should be praised and honored.

Collectively, Idoma should embrace love as they had done in the past. Our ancestors migrated together, shared the parcel of land, harmoniously direct together in love. Wars were waged against common enemies, not amongst themselves. Above all, Idoma should learn to be happy with progress of their kith and kin, because Idoma, adage has it that "Oyine Oche w'oche" a king's brother is also a king. Thus, since it is natural for persons who love to progress in life, would generally rejoice with those climbing up the ladder of success.

CONCLUSION

This paper attempted to examine the phenomenon of Imalanyi among Idoma, this has been achieved herein. Imalanyi affected the development of Idoma land. Imalanyi is responsible for the disunity in the land. Industrious Idoma sons and daughters have not been sufficiently encouraged and supported by those who have the resources to do so. Idoma individuals and Idoma land in general should imbibe positive tenets for greater unity, progress and growth of the home front, otherwise development will elude them for eternity.

TECHNOLOGY IN ENTREPRENEURSHIP MANAGEMENT

Oni B.O

Department of Computer Science

Villanova Polytechnic, Imesi-Ile

P.M.B. 001 Imesi-Ile Osun State

Email: topeomoologo@gmail.com

ABSTRACT

Technology in entrepreneurship is an investment in a project that assembles and deploys specialized individuals and heterogeneous assets to create and capture value for the firm. Technology entrepreneurship lies at the heart of any important debates including those around and growing firms, regional economic development, selecting the appropriate stakeholders to take ideas to markets, and educating managers, engineering and scientists. This work is carried out in a way to identify the themes that dominate the technology entrepreneurship literature. This study provides a definition of technology entrepreneurship. What distinguishes technology entrepreneurship from other entrepreneurship types (e.g.) social entrepreneurship, small business management, and self-employment which is the collaborative experimentation and production of new products, assets, and their attributes, which are related to advances in scientific and technological knowledge and the firms asset ownership right.

Keywords: Technology, Entrepreneurship, Self-employment

Introduction

Technology entrepreneurship in a production of raw material is a vehicle that facilitates prosperity in individual firms, regions and nations (at large). The study of Technology Management Development in Production of some raw materials. Therefore, it serves as an important function beyond satisfying intellectual curiosity. Previous definitions from the literature do not explore and identify the ultimate outcome of technology entrepreneurship management, the target of the ultimate outcomes, the mechanism used to deliver the ultimate outcomes; in or the nature of the independence between technology entrepreneurship and scientific (managements) and technological advances.

Moreover, a new definition should explicitly link technology entrepreneurship to the theory in (food and raw material production) entrepreneurship theory and management theory. Technology in entrepreneurship management in the production of raw materials is examined, and various definitions of technology entrepreneurship is proposed and its distinguishing aspects discussed. The last section provides the conclusions. Overview of (literature or methodology research).

Technology in entrepreneurship can help in various ways: It educates and encourages launch of new ventures, also technology in entrepreneurship refers to processes by which entrepreneurship use resources and technical systems through collaborative exploration and experimentation to pursue opportunities. Technology has important effects on business operations. No matter the size of your enterprise, technology has both tangible and intangible benefits that will help you to make more money and

produce the results your customers are demanding for. Technology infrastructure affects the culture, efficiency and relationships of a business.

Entrepreneurship can be used in the following ways:

1. It can be used in the manufacturing of goods and services such as raw materials.
2. Improving the customer care services.
3. It is used in transportation.
4. It can be used in human resources management.
5. Technology is also used to improve their services or products as a way of gaining competitive advantage.

Key Findings in Relation to Technology in Entrepreneurship Management.

1. The majority of technology in entrepreneurship articles are published in journals not contributed to technology in entrepreneurship management. To include more journals in the list of "good journal", dropped the requirement that the journal be included in the financial Times Top 45 journal's list. When we released the criteria for a "good entrepreneur". They are: Research Policy (1) R&D management (4) Journal of Business Venturing (3) International Journal of Technology management.
2. IEEE Transactions on Engineering management (1) Entrepreneurship Theory and Practice.

These findings suggest that technology in entrepreneurship is still relatively new field of study. The number of scholars publishing articles about technology entrepreneurship in top journals remains quite small according to (Landenberg and Foss, 2011).

Technology entrepreneurship is about investing in and executing the firms' projects, not just recognizing technology or market opportunities.

These findings suggest that technology entrepreneurship is still a relatively new field of study. The number of scholars publishing articles about technology in entrepreneurship in top journals remains quite small

Existing definitions:

Six definitions of technology entrepreneurship were found in the 93 articles reviewed:

1. Organization, management, and risk bearing of technology based business (Nicholas and Armstrong; 2003)
2. Solutions in search of problems (Venkataraman and Sarasvathy, 2000)
3. Establishment of new technology ventures (Jones-Evans, 1995)
4. Ways in which entrepreneurs manage its resources and structures to exploit a merging technology opportunities (Liu et al., 2005)
5. Joint efforts to interpret ambiguous data, joint understanding to sustain technology efforts, and persistent, coordinated endeavor to accomplish technological change (Jelinek, 1996)
6. An energy that is distributed across different kinds of actors, each of which involved in technology and, in the process, generates inputs that result in the transformation of an emerging technological path.

(Garud and Karnoe, 2003).

The definitions found on literature suggest that technology entrepreneurship is about:

1. Operating small business owned by engineers or scientists
2. Finding problems or applications for a particular technology
3. Launching new ventures, introducing new applications, or exploiting opportunities that rely on scientific and technical knowledge
4. Working with others to produce technology change.

The proposed definition of technology in entrepreneurship is based on four elements:

1. **Ultimate outcomes:** value creation and capture are identified as two outcomes of technology entrepreneurship because the sources that create value and the sources that capture value may be the same over the long run.
2. **Target of the ultimate outcomes.** The firm is identified as the target organization for which value is created and captured.
3. **Mechanism used to deliver the ultimate outcomes.** Investment in a project is the mechanism mobilized to create and capture value. A project is a stock of resources (i.e., specialized individuals and heterogeneous assets) committed to deliver the two ultimate outcome types for a period of time.
4. **Interdependence of the mechanism with scientific and technological advances.**

The individuals involved in a project influence and are influenced by advances in relevant scientific and technological knowledge. External and internal individuals and organizations co-produce the project's outputs.

When compared to the definitions identified in the previous section:

1. It emphasizes that technology in entrepreneurship is about creating and capturing value for the firm through the projects that combine specialists and assets to produce and adopt technology
2. It highlights the collaborative experimentation and production of new products, new assets, and their attributes, which are intricately linked to scientific and technology advances and the firm's asset ownership rights
3. It specifies that technology entrepreneurship may entail projects that search for problems or applications for a particular technology, launch new ventures, introduce new applications, and exploit opportunities that rely on scientific and technical knowledge provided that their ultimate outcome is to create and capture value for the firm
4. It clarifies that technology in entrepreneurship is not about the general management practices used to operate small businesses owned by engineers or scientists or just about small businesses.

Differentiating Aspects of Technology Entrepreneurship Management:

There are at least five differentiating aspects of technology entrepreneurship in the definition proposed above

1. How technology entrepreneurship differentiates from other entrepreneurship type.

The interdependence between scientific and technological change, as well as the selection and development of new products, assets, and their attributes, differentiate technological in entrepreneurship management from other entrepreneurship types. Technology in entrepreneurship management has more to do with collaborative production based on a shared vision of future changes in technology. The existing entrepreneurship literature, however, describes an entrepreneur as:

- i. An alert individuals discovering an existing opportunity
- ii. An innovative individual who shakes the economy out of its previous equilibrium.
- iii. An experienced individual making judgments about an unknowable future.
- iv. An individual who believes she has lower information costs than others.
- v. An individual with certain personality traits. A shared vision of change in technology influence why, when, and how a firm create and capture value. important to develop shared views of change in technology.

2. Eliminating the existing method of the entrepreneurship literature.

The proposed definition eliminates three biases of entrepreneurship research:

- i. Concentration on new firm formation;
- ii. Focus on individual entrepreneurship;
- iii. Over-attention to opportunity discovery

Technology entrepreneurship is about collaborative production decisions, not about a single individual making or delegating decisions. So this will also help to create and capture value for the firm. The specialized individual and assets can be held by a single entrepreneur manager or can be distributed.

Technology in entrepreneurship involves specialized human resources, tapping into their skills and ability to collaboratively explore and explicit scientific and technological change to benefit the firm. Technology entrepreneurship is best understood as a joint-production phenomenon that draws from a team of specialized individuals from multiple domains, some or all of whom became embedded in the technology path they try to shape in real time individual or the inventions they introduce. It is about managing joint exploration and exploitation, where each individual has role and responsibilities in collaboratively and cooperatively moving forward toward accomplishing shares.

3. A more theoretically rigorously and practical definition:

Considering technology entrepreneurship as an investment in a project rather than a subjective opportunity allows it to be accessed in more theoretically rigorous and practical terms. The proposed definition links technology entrepreneurship to an amount of money (i.e. investment in the project). Ideas are more parlor games until money is part of a project (Rothberg, 1985).

4. Linking technology entrepreneurship to the theory of sustainable competitive advantage:

Technology entrepreneurship and the resource-based view of sustainable competitive advantage are interdependent because they are both concerned with how to create and capture value. Both pay explicit attention to how resources that embody technology scientific advances creates and capture

values while technology entrepreneurship applies to any firm with project that rely on advances of science and technology, the resource-based view applies to those few firms that are continuously successful.

5. Linking technology entrepreneurship to the theory of the firm

The technology entrepreneurship domain and the theory of the firm are interdependent through the specialized individuals and heterogeneous assets committed to a project for the purpose of creating and retaining value for the firm.

The specialized individuals and heterogeneous assets in the project's stock of resources can be considered reference points in the theory of the firm. The theory of the firm aims to explain why firms exist, what determines their structure, and what drives their different actions and performances.

The proposed definition emphasizes the importance of technology in entrepreneurship in enabling specialized individuals to develop combinations of assets and their attributes in order to create and capture value for the firm. An 'asset' refers to an economic resources that is owned or controlled by the firm and is used to create and capture value for the firm. An asset can be thought of as a bundle of attributes defined by their characteristics, functions, and potential uses. The term 'heterogeneous assets' refers to a set of assets that lack uniformity in composition or character.

The aspect of technology in entrepreneurship management in which the need to pay particular attention are identified. These aspects are:

- (i) The interdependence between scientific and technological change and the selection and development of combinations, assets, and assets attributes;
- (ii) Biases in the existing entrepreneurship literature;
- (iii) Conceptualization of technology in entrepreneurship as an investment in a project, rather than opportunity recognition of venture formation and
- (iv) Links among technological entrepreneurship, the theory of sustainable competitive advantages, and the theory of the firm.

TECHNOLOGY BUSINESS INCUBATION CENTERS, (TBIC's)

Part of the NEEDS programme of the Obasanjo administration included the creation of jobs education facilities with special emphasis on Technology Business Incubation Centers (TBIC's). The goal is to promote and engage the semi-formal productive sectors of the economy:

According to information at the beginning of 2000 about 70% of the population of Nigeria are engaged either in the informal sector, the Agricultural sector, or small and medium enterprises (SME's). Such an important sector of the economy has access only to the most rudimentary technology, information and processes. As part of the transformation agenda, the government wanted to diversify the economic base and mainstream the informal sector while strengthening its linkages to the rest of real sector by increasing the local value addition and share of manufactured goods in total exports.

Under NEEDs I and II, the institutional and policy framework for this was being established through Small and Medium Enterprise Development Agency of Nigeria, (SMEDAN), Technology Business Incubation Centers, (TBIC's) and small and Medium Industries Equity Investment Scheme, (SMIEIS).

In summary, the TBIC's aim to provide conducive environments for nurturing start – ups and survival of value added and technology –related manufacturing.

2. Explain the Types, And Sources of Materials Used In both Manufacturing and Service Industries;

3. Explain the Types and Sources of Plants and Machinery Used In Small Scale Industries;

LOCALLY AVAILABLE RAW MATERIAL BY POSSIBLE USES AND PROCESSING EQUIPMENT REQUIRED, AND POSSIBLE MARKETS

Table 1 shows the uses, processing equipment for major agricultural raw materials

S/No.	Raw Materials	Product/possible use	Processing Equipment required	Possible Market for products
1.	Maize	- corn flour, corn flakes, animal feed, baby food, starch and derivatives, pharmaceuticals, confectionery - Alcohol -adhesives, industrial chemicals - corn oil - particle board manufacturing	- Milling plant with deduster, grinder, sifter - distilling equipment, fermentation tanks - chemical extractors, concentrators oil extraction plant chaff compressor and compactor	- local and foreign food and drug manufacturers - local and foreign distillers - paper and allied products manufacturers - furniture makers
2.	Rice	- breakfast cereals, animal feeds, baby foods, confectionery, flour mills -malting and brewing - parboiled rice - particle board manufacturing	- Milling plant with deduster, grinder, sifter - Malt production plant, fermentation tanks - boilers, washers, driers - Chaff compressor and compactor	- food and drug manufacturers -local and foreign distillers -food packaging and retailing companies - furniture makers
3.	Cow pea	- livestock feeds - Thickener in baby foods	- bean flour mills, dedusters, sifters, etc.	- livestock farmers, private individuals

		-domestic consumption as food		- local and foreign baby food and other manufacturers - individuals and households
4	Soya bean	- composite flour - baby food, cereals, livestock feeds - confectionery - protein concentrate - edible oil	-deduster, dryer/steamer, milling machine, packaging - crusher/oil extractor and refining plant	- local and foreign baby food and other food manufacturers, - animal feed mill -domestic consumers, food and drug manufacturers
5	Groundnut	- edible oil, margarine - peanut butter - cosmetics- soap, perfumes and creams - animal feed - baby food, cereals	- steamer, milling machine, crusher/oil Extractor, mixer/blender - washer, driers, grinders, mixers - deduster, animal feed mill	- pharmaceutical companies, vegetable oil manufacturers - local and foreign baby food and other food manufacturers -pharmaceutical companies - farmers - Food processing plants.
6	Cassava	- starch (textile finishing) - livestock feed - alcohol - adhesives - garri - confectionery	- cassava mill (washing, weighing scales, drier, pelleting machine, peeler, packaging machine), mixers, packaging machines	- agro-allied industry -domestic consumption -local garri manufacturers -Chemical manufacturers.
7	Cocoa	- cocoa butter - wine and beverages - cocoa powder/ash - confectionery - livestock feeds - suppository - detergents	- cocoa mill, grinder, steamer, dryer - distilling units (grinder, steamer, dryer) - cocoa butter manufacturing plant	- cosmetics manufacturers - food and drug manufacturers - bakeries

8	Kolanut	- beverages - stimulants - wines - dyes - soft drink - concentrates	Distilling units (grinder, steamer, dryer)	- export market for products - local beverage manufacturers - domestic consumers
9.	Coconut	- edible oil - cosmetics, soap - furniture and fibre units - confectionery - animal feeds - vinegar - decorations - charcoal	- oil extraction units - crushers, - blender, - furniture making equipment - charcoal chamber	- export market for products - local pharmaceutical and confectionery industries - domestic consumption
10.	Oil palm (Fruit and Nut)	- edible oil - margarine - substitutes for cocoa butter - confectionery - coffee whitener - palm wine - fertilizers - soap/detergent - cosmetics - yeast	- oil mill - hammer mill - crushers - oil extractors, - boilers Pulp compactors -drums, moulds, -mixer	Local and international pharmaceutical, cosmetics and confectionery manufacturing industries, furniture makers, distillers, domestic consumers

Conclusion

Over the last four decades, technology entrepreneurship has become an increasingly important global phenomenon. It is perceived as necessary for growth, differentiation, and competitive advantage at the firm, regional, and national levels. Technology entrepreneurship appeals mainly to leaders and top management teams of small and large firms who use technology to create, deliver, and capture value for their stakeholders. Technology in entrepreneurship also appeals to personnel of regional economic development agencies that attract investments in productive technologies and talent to a particular geography. The primary function of technology in entrepreneurship is to assemble a combination of specialized individuals and heterogeneous assets in order to create and capture value for the firm through collaborative exploration and experimentation. The combination, of some of the assets, or the assets 'attributes may be unique. The initial combination may change over time. In this article, the literature on technology entrepreneurship was classified into eight themes. The literature search revealed that most of the articles on technology entrepreneurship appeared in journal not considered to be the technology innovation/ entrepreneurship domain. The article offered a definition for technology

entrepreneurship. A better definition of technology entrepreneurship can help improve its performance, increase its relevance, and establish it as a legitimate domain of inquiry in its own right. This definition needs to identify and incorporate the various distinctive aspect of technology in entrepreneurship and its link to the existing domains of economics, entrepreneurship, and management. The definition, including the corresponding features and links, requires particular attention from scholars and practitioners.

The aspects of technology in entrepreneurship to which we need to pay particular attention are identified. These aspects are:

1. The interdependence between scientific and technological change and selection and development of new combinations, assets, and asset attributes.
2. Biases in the existing entrepreneurship literature.
3. Conceptualization of technology in entrepreneurship as an investment in a project, rather than opportunity recognition or venture formation.
4. Links among technology entrepreneurship, the theory of sustainable competitive advantage, and the theory of the firm.

References

IEEE Transactions on Engineering Management (1) Entrepreneurship Theory and Practice. (Landenberg and Foss, 2011).

Organization, Management, and Risk bearing of Technology based business (Nicholas and Armstrong; 2003)

Solution in search of problems (Venkataraman and Sarasvathy, 2000)

Establishment of new Technology ventures (Jones-Evans, 1995)

Ways in which Entrepreneurship exploit a merging technology opportunity (Liu et al., 2005)

Joint efforts to interpret ambiguous data and joint understanding to sustain Technology efforts (Jelinek, 1996)

How to generate inputs that result in the transformation of an emerging Technology (Garud and Karnoe, 2003)

Considering Technology Entrepreneurship as an investment (Rothberg, 1985).