International Journal of Academic Research

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International Journal of Academic Research

ISSN: 2360-9909 | Volume 13, Issue 3 | January to December, 2022

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Automated Work Systems and Workplace Spirituality in Ministries of Culture and Tourism in South-South States of Nigeria

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Abstract: *The study purpose was to ascertain the relationship that exist between automated work system and workplace spirituality in ministries of culture and tourism in South-South States of Nigeria. The predictor variable is automated work systems (as a dimension of work systems) and the criterion variable is workplace spirituality (measured with punctuality, honesty, compassion and meaningful work). The study adopted a cross-sectional research design with individual employees as the unit of analysis. Additionally, the research used questionnaire as the research instrument which was distributed to 399 civil servants within the ministry of culture and tourism in the south-south region of Nigeria. Out of the 399 questionnaire distributed, 339 questionnaire were useful for data analysis. Data collected were analyzed using Pearson Product Moment Correlation with 0.05 level of significance with the aid of Statistical Package for Social Sciences (SPSS). The outcome of the data analysis showed that automated work system significantly impact punctuality, honesty, compassion and meaningful work, though with varies degree. Hence, we recommend among others that as automation work system becomes more rampant, the ministry of culture and tourism in the South-South, Nigeria will need to equip its workers to acquire essential skills to ensure they do not only survive but thrive in the future. This should involve the unlearning and relearning of skills in areas such as critical, innovative, and imaginative, high emotional intelligence, and complex problem-solving skill for the work of the employees to be more meaningful.*

Key words: *Automated Work System; Workplace Spirituality; Punctuality; Honesty; Compassion; Meaningful Work*

Introduction

The necessity to improve workplace spirituality is essential in the firm, as it play key parts in the attitude of the workers as it influence their work outcome and afterward, the firm productivity. Hence, Thompson (2019) stated that firms that embody spirituality are incline to enjoy improved productivity a lot more than others by 400%-500% with regards to investment profits and shareholder value along with enhanced market share. Workplace spirituality enhances employees' pleasant feelings, which reinforced their problem-solving abilities, creativity, and increased organizational efficacy and effectiveness (Schutte, 2016). Also, Duchon and Plowman (2005) indicated that in most companies, the divisions that have workplace spirituality possess enhanced work effectiveness. The reason is that spirituality enhances people's thoughts and strengthen a secured feeling in the direction of an improved work efficiency (Gawain, 2000). Workplace spirituality has been shown to integrate ethics, work value, and individual worth in a way that aids in reducing formal ethics rules and standards and moral control of the business's accruable cost toward a better employees' attitude reflected in the firm (Gull & Doh, 2004).

Spirituality in the workplace has possible relevance with the success of workers, firms, and the society at large as it connects the importance of workers with his or her activities and task, resulting in enhanced commitment with the firm and work fulfilment that provides firmness to firm as well as increasing performance (Milliman, Czaplewski, & Ferguson, 2003). More so, different scholars contend that workplace spirituality potentially point towards to improved functioning of staff, in the areas of their general support towards the job, higher productivity, improved judgment, as well as increased problem solving capabilities and overall more competent utilization of materials as well as human capabilities (Krishnakumar & Neck, 2002; Guillory, 2000). Consequently, Kinjerski and Skrypnek (2008) articulated that the implementation of workplace spirituality program is a relatively inexpensive method to increase worker's jobs fulfilment and commitment, thus the reduction of negative attitude towards the firm. By actually rewarding spiritual behaviour in the firm, technology is crucial in carefully identifying, tracking, and documenting such behaviours (Karakas, 2010). The necessity to design an effective work system such as automated work system has become so significant in today's work environment as one framework for improving compatibility, effectiveness, ease of performance, human well-being and quality firm's human resources (Karwowski, 2005).

Automation is irrevocably changing contemporary business world; from the way organization interacts within and outside and how it executes its functions. The global world of business has changed drastically due to technological growths. It has uttered how firms operate and how employees behaves and execute their given task (Cascio & Montealegre, 2016). Thus, it is now an effective pattern a firm adopts to meets ever increasing competitiveness arising from nowadays environment. Consequently, in nowadays rapidly changing environment, automation has now become a major strategy for managing competition (Frohm, Linsdrom & Bellgran, 2005) as the technology used in the firm plays an essential role in deciding the amount of goods or services produced. Automated work system is a crucial part of any organization as it reduces costs, improve customer satisfaction, and enhance operations and communications in the firm (Ratna & Kaur, 2016). The collaboration of technologies like internet, artificial intelligence, virtual reality, and expert systems, offers organizations an edge which result in offering high-quality products and more satisfactory services to customers, and making employees work smarter. Also, automated work system affects organization in different positive ways as it encourages and develop new opportunities for innovation both by allowing organizations to communicate more easily with suppliers, workers and customers; it lowers transaction costs; leads to higher production rates, improve productivity and it makes dialogue and interactions in and out of the firm easier (De Cremer, 2019).

Even though, automated work system is very beneficiary to the firm, it also have great benefit for workers. Employees' tasks descriptions will be eliminated from any monotonous tasks and will need less physical work as these are more easily performed by technologies which will give employees extra time to spend on jobs that need creativity as well as exhibit spiritual values such as meaningful work and compassion (Smids, Nyholm, & Berkers, 2019; He, 2018). Therefore, management have to create work system that enable the building of an encouraging work environment for workers and inspire workplace spirituality. Because the demonstration of spiritual virtues won't be attained without smooth and effective communication (often facilitated by technology). Automated work system is implemented to improve decision effectiveness and

reduce human error (Parasuraman, 2000) which can as well enhance the display of spiritual values by workers. Hence, the aim of this paper is to determine the extent at which automated work system will influence workplace spirituality in ministries of culture and tourism in South-South States of Nigeria.

Statement of the Problem

The Nigerian civil service has as its core values as integrity, meritocracy, discipline, professionalism, patriotism, impartiality and secrecy of government information, apart from where data are divulged conforms to the Act on Information Freedom (Osawe, 2015). Nevertheless, there exist a massive neglect of the above core values by the civil servants resulting to poor work outcome of the sector manifested through absenteeism, late arrival and early departure, corruptions, favouritism, and also arrogant and sometimes impatient in rendering effective and satisfying services to the public (Ikechukwu & Chukwuemeke, 2013; Anazodo, 2009); thus, the subsequent outcome of the civil service is the absence of workplace spiritual attributes such as punctuality, honesty, compassion, and meaningful work which has resulted in abysmal performance of the civil service. Consequently, the lack of workplace spirituality has become a recurring phenomenon and culture in the Nigeria civil service as such, the sector has been touted as being ineffectively organized, and improperly managed over the years that has in directly or indirectly led to the sector abysmal performance.

Aim and Objectives of the Study

The study aim is to determine the relationship between automated work systems and workplace spirituality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. Additionally, the objectives of the study are stated below:

  i. Examine the relationship between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.
 ii. Assess the relationship between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.
iii. Identify the relationship between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.
 iv. Determine the relationship between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

Research Questions

The following are the questions that guided this study

  i. What is the relationship between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria?
 ii. What is the relationship between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria?
iii. What is the relationship between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria?

iv.   What is the relationship between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria?

Research Hypotheses
The following are the research hypotheses of the study

$H0_1$: There is no significant relationship between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

$H0_2$: There is no significant relationship between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

$H0_3$: There is no significant relationship between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

$H0_4$: There is no significant relationship between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

Literature Review
Theoretical Framework
The system theory was used as the underpinning theory that guided this study. Ludwig Von Bertalanffy, a biologist, was the first to employ the systems theory in the physical and natural sciences in 1968 (Mullins, 2011); nevertheless, researchers like Chester Barnard and Mary Parker Follet have also made significant contributions (Mullins, 2011; Lawal, 2012). A system is made up of interdependent, interconnected, and interrelated part working together to attain a goal and the parts becomes unworkable if they are separated (Miller, 2003). It therefore includes the working together of all involved parts to accomplish a given purpose. To better understand the organization and its employee, it is therefore necessary to holistically view the organization as a whole. Thus, a thorough examination of all aspects of the system is therefore necessary to discover the root cause of an issue. The theory plays an important role in the explanation and prediction of organizational behaviour that can be used as template to evaluate the robust nature of the organization and help describe the development, structure, and maintenance of human behaviours (McElreath, 1993). Systems theory, therefore, gives room to view the general work systems and employee behaviour vis-à-vis workplace spirituality; because systems theory highlights the conceptions of exchange, feedback and interdependence which are fundamental to organizational spirituality (Miller, 2003; Grunig, Grunig & Dozier, 2002).

Concept of Automated Work System
A work system is a system in which people and machines perform work (processes or activities) to produce products or services that meet the needs of both internal and external stakeholders (Alter, 2013). Also, work system referred to where human being is a worker performing a specific operational task or function within a particular environment (Smith & Carayon 2000). A typical business organization accomplishes its workload by developing a sequence of responsibilities that are performed and executed as required. It allows everyday tasks to function in a coordinated manner and provide a basic framework to achieve given goals (Markus, Majchrzak & Gasser, 2002). Furthermore, automated work system involves the progressive

transfers of regulating and controlling functions from humans to technical systems (Hubka & Eder, 1988). Likewise, Wisskirchen, Biacabe, Bormann, Muntz, Niehaus, Soler and von Brauchitsch (2017) defined automated work system as a system which utilizes technological tools that allows successful functioning of the organization's activities towards goals attainment. This technological tool involves the adoption of electronic monitoring and surveillance tools, expert system, information, and communication technologies and artificial intelligence. Thus, automation work system is a work system that infuse digital capabilities into nearly all facets of work (Timonen & Vuori, 2018). It emphasizes computerization of work process that may be full or partial automation (Chandhok, 1994). Full automation involves the overhauling of the overall method within the firm and replacing them with technologies which is most time not a reality as there should be a moderation or intervention of humans in any work system to be successful while partial automation involves the combination of human and technology in the functioning of the firm. Consequently, two form of automated work system exist that organizations can adopt vis-à-vis full and partial automation. Organizations that have rigid tasks which entail rigidity in decision making and low probability of failure can adopt full automation; conversely, however, in organizations that makes decision in unstable environments with many external and changing constraints, higher levels of automation are not advisable, thus partial automation (Sarter & Schroeder, 2001; Endsley & Kaber, 1999).

An essential aspect of automated work system is information and communication technologies which have changed all sphere of organization direction and operation as employee are interconnected through network of computers and other information gadgets for easy operations of the firm. Automated work system is very essential and necessary in handling vast quantity of information for providing faster, accurate, precise, and efficient information within the firm. Subsequently, Wisskirchen et al. (2017) stated that, the utmost palpable gain of automation is that it helps to enhance efficiency as it reduces labour cost. Also, technologies are not influenced by exhaustion, emotions, and illness as it can work round the clock (Webster & Ivanov, 2020). Additionally, He (2018) articulated that technology like artificial intelligence could have several advantages in the firm especially the department of human resources in selecting and accessing applicants.

Concept of Workplace Spirituality

Workplace spirituality promotes individual sense of fulfillment via transcendence (Giacalone & Jurkiewicz, 2010). It portrays the experience of workers who are zealous about and energized by their own work, find meaning and worth in their jobs, feel they can freely express themselves at work, and feel connected with their co-workers (Kinjerski & Skrypnek, 2004). Ashmos and Duchon (2000) expressed that spirituality at work does not refer to an individual who obtains a particular belief system but refers to workers who recognize that one's heart and spirit must be present at work not just the physical body. More so, Brown (2003) expressed that spirituality in the workplace is not essentially related to religion, instead, it is about the individuals' self-exploration into the worth of life to pursue new support at that spiritual level. Workplace spirituality inculcates best practices of interconnectivity that brings about a feeling of trust between people involved in a particular work practice, which subsequently instigate cooperative feelings and lead to an overall organizational ethics driven by motivation, shown by a positive response, and unity and harmony among them, consequently, uplifting the cumulative

performance of the workers, and in turn aiding organizational excellence (Afsar & Rehman, 2015; Asgari, Ahmadi & Jamali, 2015). It focused more about tolerance, humility, patience, the feel of interconnectivity, purpose, and acceptability of the mind to the norms of the organization, integrated jointly to shape personal values (Afsar & Rehman, 2015). It therefore, means demonstrating behaviours or attitude related to godliness in the workplace. That is, a worker does not necessarily need to belong to any religious organization like Christianity or Islamism before he or she can demonstrate right qualities. So how do we identify a spiritual person? It is not by going to church or by going to mosque that makes one spiritual in the workplace but by demonstrating virtues that has transcendence quality and rightly required for the successful attainment of the establishment's objectives and goals. Furthermore, the measures of workplace spirituality used in this study includes punctuality, honesty, compassion, and meaningful work (Petchsawanga & Duchon, 2009; Jurkiewicz & Giacalone, 2004) which are discussed below:

Generally, punctuality is about showing up when one says he or she will show up. Employee punctuality reflects the person's curiosity and commitment towards people, relationships, job, and organization (Dudycha, 1997). It is the ability of doing something at an appointed period of time (Aloumedjo, 2018). Consequently, it is a strict observance in keeping engagements and promptness (Kanekar & Naz, 2013). Also, punctuality is the feature of being able to execute a required task or fulfil an obligation before or at a previously designated time (Bacal, 2002). Thus, being punctual not only refers to coming to work or for meetings/appointments on time, but also timely execution of a given task. Punctuality is a spiritual trait, which is more than just being on time. It is an interesting attitude of an employee which drives the employee behaviour towards the job and organization. The beauty of this virtual spiritual attitude is that it not only reflects the employee's interest but also a huge motivating factor for others to act accordingly. Punctuality is not only about arrival time in the morning, but also about returning from lunch or break. When a worker is accepted to work for an organization and accept pay from them, he or she entered a work contract with them. Therefore, he/she has an obligation to be at work regularly and on time. Organizations do not just hire workers to give away money: they hire them for their competences to contribute to the growth of the establishment evidenced by the attainment of organizational goals and objectives. Regardless of how unimportant an employee work may look, if an organization is paying a worker for that job, it is significant to that organization and should in return get their money's worth.

Honesty means integrity, trustworthiness, reliability, sincerity, genuineness, transparency, and truthfulness. Honesty is connected to the concept of morality where morality involves truth-telling, being trustworthy and just in all circumstances (Milton, 2015). It therefore implies that an honest person is one who stick to the cause of being true to his or herself including others. Additionally, honesty is very necessary to individuals, groups, organizations, and the society, as it drives the operations of the organization. Irrespective of the varying cultural diversities of people in the work environment across the globe, honesty is a vital quality which all employees should possess (Somera & Holt, 2015). This implies that honesty isn't a factor for certain organization or country, but it encompasses the whole organization whether small or large, government agencies or private organization as well as multinational organization. Without honesty, basic business functions cannot be performed, particularly in today's business environment. More so, compassion is a relational process in response to the suffering of another,

that involves the noticing, feeling, sense-making as well as taking of action to assuage such suffering (Dutton, Workman, & Hardin, 2014). Kanov et al. (2003) defined compassion as an empathetic emotional response to another person's pain or suffering that moves people to behave in a manner that will either ease the individual's condition or make it more bearable. The show of compassion and its effects is not only limited to the persons the kindness is shown, but also leads to positive reactions between witness or those present to see firsthand the compassionate deed that was performed. The show of compassion by employees shapes the decision making of those experiencing pain which aids to build the name of the establishment as well as promotes the organization as caring. It therefore helps to ease anxiety and enhances sufferer's obligation to the organization. Furthermore, Rosso, Dekas and Wrzesniewski (2010) expressed that meaningful work is experienced as particularly significant and holding positive meaning for an employee. It is about the way employees or workers relates with their daily job at an individual level (Milliman, Czaplewski, & Ferguson, 2003). It involves working on a task that is considered important, stimulating, and that fulfills the worker's needs (Ashmos & Duchon, 2000). When a work offers more than material rewards, individual will feel that his or her work is meaningful which will motivate the worker to invest more energy and more joy in the workplace (Duchon & Plowman, 2005). It, therefore, empowers the worker to express themselves and develop a valid reason for why they are in the workplace. The idea of meaningful work has to do with organizational work that generates a feeling of happiness, which binds employees to a greater good and to those things the employee's views as important in life.

Methodology
This study adopted a cross-sectional research design with individual employees as the unit of analysis of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The South-South region of Nigeria include Edo, Delta, Bayelsa, Rivers, Akwa-Ibom and Cross River State. Additionally, the research used questionnaire as the research instrument which was distributed to 399 civil servants within the ministry of culture and tourism in the south-south region of Nigeria. The choice of respondents from each ministry was determined via cluster sampling technique with each ministry representing a cluster. Out of the 399-questionnaire distributed, 339 questionnaire were useful for data analysis. Data collected were analyzed using Pearson Product Moment Correlation with 0.05 level of significance with the aid of Statistical Package for Social Sciences (SPSS). The research instrument consists of four respond choices with point scales ranging from 1 to 5 indicating strongly disagree, disagree, indifference, agree and strongly disagree respectively. The independent variable is automated work systems as a dimension of work system (Alter, 2013); it is thus used as a uni-dimensional variable while the measures of workplace spirituality been the dependent variable is punctuality, honesty, meaningful work, and compassion. (Petchsawanga & Duchon, 2009; Jurkiewicz & Giacalone, 2004). We used face and content validity to make sure the instrument measured what it intended to measure while the reliability of the instrument was done through Cronbach Alpha and the result reveals 0.935, 0.895, 0.847, 0.906 and 0.963 for automated work system, punctuality, honesty, compassion, and meaningful work respectively.

Data Analysis and Result
Automated Work System and Punctuality
The analysis below shows the relationship between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

Table 1: Relationship between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

variables	n	r	df	crt.r	p-value	Remarks
automated work	339	0.936	337	.1045	0.000	Significant
Punctuality						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 1 revealed the nexus between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The outcomes revealed a very strong and positive nexus between automated work system and punctuality with r (337) = 0.936, crit. .1045, p = 0.000 < 0.05). It means a direct connection exist between automated work system and punctuality. Consequently, stated hypothesis is rejected, thus, there is strong/significant connection between automated work system and punctuality of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The corresponding scattered graph is shown below:

Figure 1: Scattered Graph of automated work system and punctuality.

4.4.10 Automated Work System and Honesty
The analysis below shows the relationship between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

Table 2: Relationship between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

variables	n	r	df	crt.r	p-value	Remarks
automated work	339	0.852	337	.1045	0.000	Significant
Honesty						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 2 revealed the nexus between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The outcomes revealed a very strong and positive nexus between automated work system and honesty with r (337) = 0. 852, crit. .1045, p = 0.000 < 0.05). It means a direct connection exist between automated work system and honesty. Consequently, stated hypothesis is rejected, thus, there is strong/significant connection between automated work system and honesty of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The corresponding scattered graph is shown below:

Figure 2: Scattered Graph of automated work system and honesty.

Automated Work System and Compassion
The analysis below shows the relationship between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

Table 3: Relationship between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

variables	n	r	df	crt.r	p-value	Remarks
automated work	339	0.430	337	.1045	0.000	Significant
compassion						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 3 revealed the nexus between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The outcomes revealed a moderate and positive nexus between automated work system and compassion with r (337) = 0. 430, crit. .1045, p = 0.000 < 0.05). It means a direct connection exist between automated work system and compassion. Consequently, stated hypothesis is rejected, thus, there is strong/significant connection between automated work system and compassion of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The corresponding scattered graph is shown below:
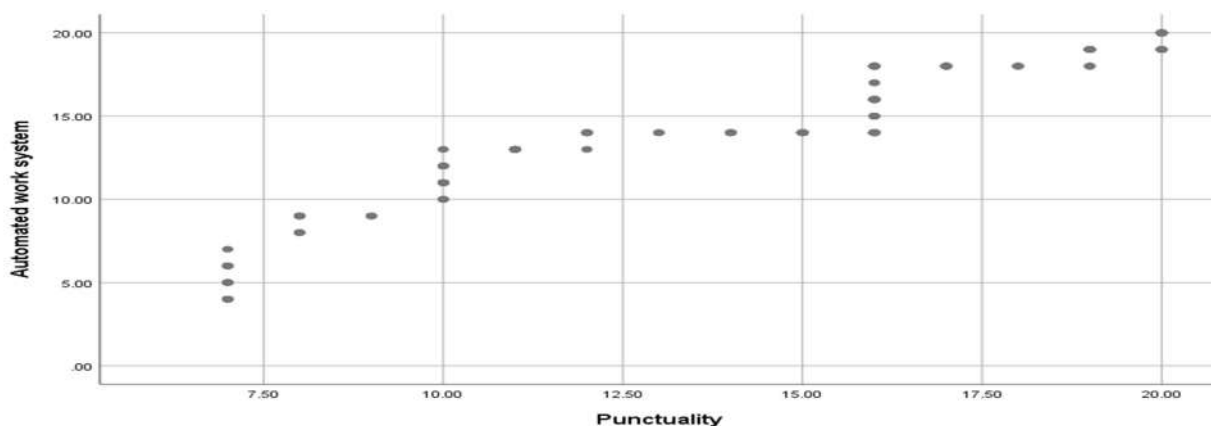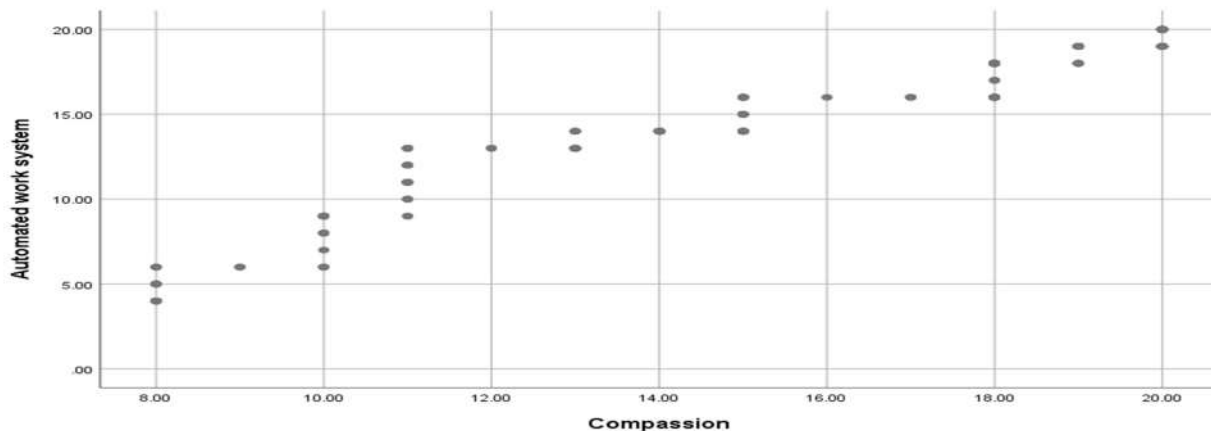

Figure 3: Scattered Graph of automated work system and compassion.

Automated Work System and Meaningful Work
The analysis below shows the relationship between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

Table 4: Relationship between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.

variables	n	r	df	crt.r	p-value	Remarks
automated work	339	0.978	337	.1045	0.000	Significant
Meaningful work						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021

Table 4 revealed the nexus between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The outcomes revealed a very strong and positive nexus between automated work system and meaningful work with r (337) = 0. 978, crit. .1045, p = 0.000 < 0.05). It means a direct connection exist between automated work system and meaningful work. Consequently, stated hypothesis is rejected, thus, there is strong/significant connection between automated work system and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The corresponding scattered graph is shown below:
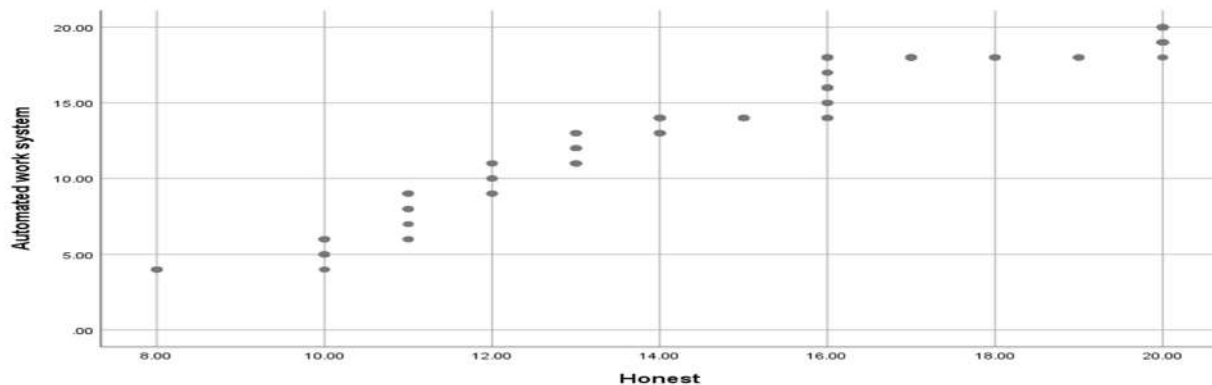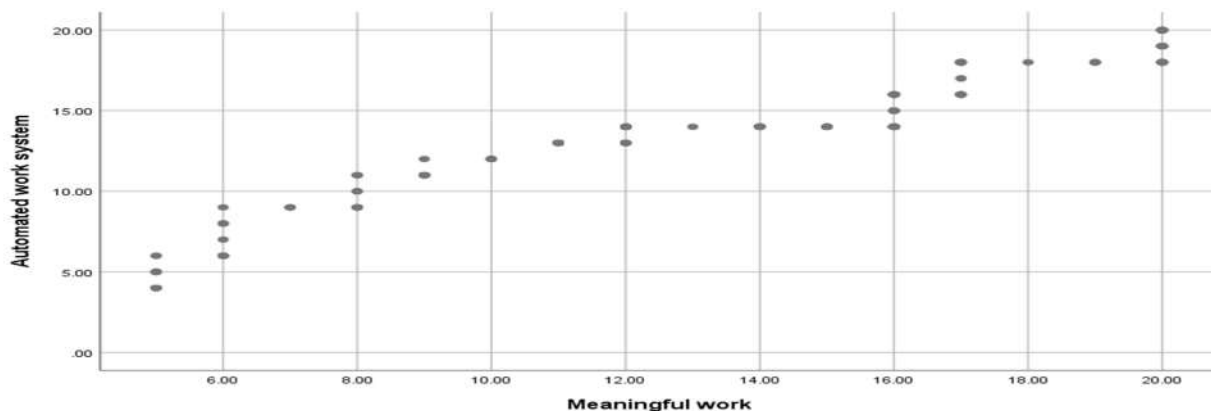

Figure 4: Scattered Graph of automated work system and meaningful work.

Discussion of Findings
From the empirical analysis between automated work system and workplace spirituality vis-à-vis punctuality, honesty, compassion, and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria.; the study showed that automated work system significantly influences all the criterion variables which are also discussed accordingly. Automation through technology helps ensure a decrease in errors made by manual systems. Having efficient attendance management system in place, along with dependable and precise data, the manager knows exactly when workers showed up, at which branch, and the time spent being productive. In time past, attendance recording was done manually with employees

having to sign in and out daily, supplying information like names, employee ID, date, time, signature, particularly where employees' enumeration is calculated on number of days and hours put to work. This manual system takes petite or no considerations on impersonation, falsification, and risk of losing information in event of misplacement of attendance records, theft, or disasters such as fire outbreak or flood (Kadry & Smaili, 2010) which is among key issues facing the civil service in Nigeria; thus, the necessity for automated work system. The automated work system helps to check employee's punctuality and regularity to duty while monitoring useful hours put to work. It, therefore, encourage a safe and easy method of checking attendance of workers within the firm, minimizing or even eliminating impersonation and falsification of days and time of reporting to duties by employees. Because considering the limited possibility of human capability of handling multiple operations simultaneously does not only requires a full-fledged team to warrant timely and precise recording of time checks and attendance logs, but there is great chance of erroneous and misleading data entries that might turn out a setback in respect to the firm's interest.

Automated work system tool like biometric attendance system is a unique essential technology for ensuring employees arrives at work timely as it aids in verifying employees attendance resulting in less attendance and payroll disputes (Adewole, 2013). Its application enables organization to identifies employees' bodily features like fingerprints, hands, eyes, or facial features; thus, a worker becomes the lone source of information which eventually helps to averts fraud like and one employee punching for another. Unlike the conventional methods, when attendance sheets are used for workers record the time of coming and leaving the office which was mostly biased and not reflecting the real record of workers attendance. With this technology, all the above biases have been clearly phased out since that employee who arrive at workplace personally is directly capture by the biometrics machine and by that moment, the time and day is recorded on computer data and which cannot be changed. So, being late is greatly avoided and when a worker is absent, the action to lie over it, is as well avoided. Consequently, it is very crucial for firms to automate their operations especially that of attendance recording to achieve precision and efficacy of recordings. Automated work system will aid in the elimination of erroneous or compromised data entries and keeps a just and real-time record checks, work hours and workers' productivity. This helps ensure a smooth flow of the firm's function and keeps a track of worker's punctuality in the firm. Without automated attendance system to manage diverse working schedules, it could disrupt operations, costing the organization lots of finances and effort in replacing the absent or late workers to execute a given tasks.

Furthermore, organization can encourage honest behaviour by adopting automated work system. By rewarding honest behaviour in the firm, as technology is crucial in carefully identifying, tracking, and documenting such behaviours. Honesty and a willingness to converse with employees through technologies are powerful qualities that have huge encouraging effect on employee sentiment and engagement. Because honesty and transparency won't be attained without smooth and effective communication (often facilitated by technology). Automated work system is implemented to improve decision effectiveness and reduce human error (Parasuraman, 2000) which can as well enhance human reliability and morality. For instance, if an employee knows that the manner, he does his or her work is been monitored by technology, he will act in an honest way in carrying out his assignment efficaciously. More so, Dutton, Worline, Frost and

Lilius (2006) expressed that the future course of the organization must lay emphasis on compassion-driven approaches through which information and communication technologies (automated work system) would influence organizational and employee performance. Today, we are in an age when workers always want to feel needed, connected, and empowered to help others out of pain toward achieving their life's purpose (Ruskin, Seymour & Webster, 2016). Consequently, today organizations are achieving this fit by using automated work system such information system as the needed engine to drive and facilitate human connection and caring in the firm (Bacq, Hartog & Hoogendoorn, 2016). Hence, organizations are today adopting information and communication technologies to facilitate decision-making driven by compassion rather than by just trying to enhance profitability (Moizer, 2018). Raman and McClelland (2019) expressed that to improve the exhibition of compassionate attitude within the firm, firms need to focus on using information system to increase efficiencies in activities that support compassion pathways to allow workers to have clear guidelines, on when their help are needed. For long time, organizations have asked humans to act like machines. Now, technology allows for automation to do much of those works, and what's left is asking human labour to do what is truly human. Consequently, along with higher cognitive skills, finely tuned social and sophisticated emotional skills, creativity, innovation, advanced communication, negotiation, leadership, adaptability, empathy will be enhanced within the firm (Oh, Yang & Kim, 2014). Furthermore, as automation reduce routine and mundane events within the firm, what remains for workers is to tackle heuristic tasks; the complex, creative tasks on which humans outperform machines (Kim & Kim, 2017), thus, employees will have enough time to add meaningful contributions and assist others. Although, automation work system may be costly to firm, its adoption to design compassion-supported system would aid employees' feeling of been valuable which result to better motivation and firm's commitment (Raman & McClelland, 2019). In nowadays work culture of busyness, turbulence, and complexity, giving fellow employees support has become more essential. We live in a world of busyness as today people are so preoccupied with own tasks with no time to care for themselves, let alone their colleague down the corridor as the workplace is gradually becoming transactional and dehumanized. There is therefore need to enhance compassionate behaviour among workers within the firm through effective automated work system.

Furthermore, Ratna and Kaur (2016) expressed that automated work system technology like information technology positively affects job satisfaction which can consequently affect employee meaningful work. Automated work system provides more job flexibility, which leads to giving employees the liberty to choose when and where to work (Towers, Duxbury, Higgins & Thomas,

2006) this can make the workers work more meaningful. Additionally, scholars like Spant Enbuske (2019); Holland, Cooper and Hecker (2015) discovered that the application of communication technologies within the firm can increase accessibility and efficiency which can play a key role in enhancing meaningful work of workers. Sometimes, employees spend lots of time at jobs that they inescapably do not enjoy, which causes lots of meaninglessness and disengagement as most workers constantly perform repetitive tasks. When employees perform jobs that gives them time pursue their intellectual interests, they will be able to attach purpose and meaning to their work. Thus, the necessity of automated work system as more repetitive task

and works that require non-linear thinking, non-human interaction, and non-creativity could be easily automated giving more room to employees in performing more works that enhances meaningfulness in work. Consequently, automation could help employee solve the issue of workers disengagement (Ratna & Kaur, 2016). Because, when workers don't need to worry about completing mundane tasks that can instead be done more efficiently by technologies, employees will have enough time to be creatively involves in other meaningful work. Work nature has continuously shifted due to technological advancements (Forman, King, & Lyytinen, 2014). This change in work content has lots of inferences for workers especially in finding meaning. Consequently, the way workers' jobs are designed can significantly shape how they experience meaning in their work (Stein, Wagner, Tierney, Newell & Galliers, 2019; Grant, 1991). The introduction of automation in the firm can be a starting point from which employees introduce alterations to their tasks and relationships at work in a personally meaningful way (Montargot & Lahouel, 2018). This enables workers to take advantage of the unique knowledge they have on their works and themselves to craft their jobs in a manner that create more meaningfulness.

Conclusion

This study provides a positive and significant relationship between automated and work system of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. From the findings, it is obvious to conclude that automated and work system is very essential in enhancing workplace spirituality vis-à-vis punctuality, honesty, compassion, and meaningful work of civil servants within the Ministry of Culture and Tourism in the South-South Region of Nigeria. The necessity to enhance workplace spirituality is highly needed today like never as the corporate setting is changing rapidly and most employees are exhibiting counterproductive behaviour. This is because workplace spirituality assists employee in recognizing their job's meaningfulness and purpose, fostering inner connection through cultivating long-lasting associations with the workplace, and finally aligning individual beliefs with corporate standards needed for organizational goal attainment.

Recommendation

The following are the recommendation from our findings

1. It is necessary for the ministry of culture and tourism in the South-South, Nigeria to automate their operations especially that of time and attendance recording to guarantee the accuracy and efficacy of recordings, as it does not merely reduce jobs at the management's end but also enhances the punctuality of staff.

2. As automation work system becomes more rampant, the ministry of culture and tourism in the South-South, Nigeria will need to equip its workers to acquire essential skills to ensure they do not only survive but thrive in the future. This should involve the unlearning and relearning of skills in areas such as critical, innovative, and imaginative, high emotional intelligence, and complex problem-solving skill for the work of the employees to be more meaningful.

3. We also recommend that automated work system technologies such as fingerprint biometric should be deployed in the ministry of culture and tourism in the South-South, Nigeria to monitor the punctuality and honesty of employees. Also, the ministry should always ensure that the technology function.

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Enhancing Workers' Productive Behaviour through the Show of Love by Leaders

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Abstract: *The purpose of this paper was to examine the relationship between leaders' love (as a dimension of leaders' workplace spirituality) and workers productive behavior (vis-à-vis employee ambidexterity, work happiness, job satisfaction, and employee commitment) of deposit money bank in South-south, Nigeria. We adopted the cross-sectional design as the research design method and the unit of analysis was at the individual level of employees in managerial and non-managerial cadre in the head offices of DMBs in the region. The study adopted questionnaire as the research instrument distributed to 367 respondents as the sample size from the study population of 7598 employees. Data collected was analyzed using Pearson Product Moment Correlation with 0.05 level of significance given the choice of the confidence interval of 95%. Our findings revealed that leaders love significantly and directly influence workers productive behavior vis-à-vis employee ambidexterity, work happiness, job satisfaction, and employee commitment respectively. We therefore recommended among others that leaders of DMBs should formulate and implement policies and practices such as a warm smile, a kind note that foster greater affection, caring, compassion, and tenderness among workers.*

Key words: *Leaders Love; Workers Productive Behavior; Employee Commitment; Ambidexterity; Work Happiness; Job Satisfaction*

Introduction

No organization in today's business world can operate effectively and efficiently except its employee exhibit productive behaviour towards the attainment of the organizations' goals. However, over the years employees have experienced dissatisfaction in the organization including DMBs in Nigeria that have affected their productive behaviour. Consequently, this dissatisfaction employees experienced in the organization have led to increase employee turnover and other related unproductive workers behaviour. In recent years, the DMBs just like other organizations have experienced important transformations in their internal organizational structure such as structural changes, downsizing, and layoffs which have created climate where employees experience low self-esteem and negative work behaviour such as increased turnover (Brandt, 1996; Driver, 2005). The cost an organization incurs due to employees turnover is numerous especially the knowledge lost with their exit (Choudhury & Giri, 2013; Ramlall, 2003). Given this reason, it is very essential to explore every means to making sure employees demonstrate productive behaviour where they work. Accordingly, it is in the benefit of the organization and mangers to inspire and enthuse workers to exhibit and sustain productive behaviour such as employee ambidexterity, work happiness, employee commitment and satisfaction in the firm. As all business enterprise globally need highly performing employees' productive behaviour to attain pre-set aim, deliver specialized products and attain and enhanced the general performance of the organization.

Employees need the will, power, and ability to create new norms and routines while also being able to carry out and improve on existing ones in order to display productive behaviour. This is where the show of love by leaders comes into play. Warmth, tenderness, and a sense of belonging are the foundations of love. Humans are born with a natural need to give and receive love, and this urge is innate in all humans. Loving others is a decision that every leader can make since it doesn't change through time, circumstance, or context (Nishant & Anil, 2018) as it plays a significant role on his or her moral character in terms of humility, appreciation, forgiveness and altruism. In order for a leader to be trusted, he or she must first be loved. This is due to the fact that when one is shown love, he or she feels peaceful, at ease, and joyful. In today's workplace, strong leaders build connections with their followers based on true and honest affection. Thus, Kouzes and Posner (2017) expressed that love is a valuable asset in leadership. The key to great leadership is that leaders are able to demonstrate to their followers and employees that they really care about them via their deeds rather than their words. Effective leaders, according to Buber and Kaufmann (1971), develop a personal connection between themselves and those they lead by showing a real affection for those they lead. Leaders express their devotion by sacrificing themselves for their followers' safety. As a leader, love is all about self-sacrifice and selfless service. A leader's ability to win others is based on his or her ability to give freely through love. Because love constantly look for the best in others, and it is devoted to helping them achieve their full potential (Fromm, 2000).

The affection of a leader is crucial in ensuring that an employee's potential is recognized and realized. When leaders show love, they are able to motivate their employees to grow and develop, according to Kouzes and Posner (1992). The negative feelings of fear, wrath, failure, and pride are extinguished when leaders concentrate on other ware fare which is centered on care and concern (Fry, 2003). Thus, the best ways to ensure that employees exhibit productive behaviour and become productive at work is for leaders to treat them as if they were members of their own family. The desire to serve others is a hallmark of a leader who really cares about the well-being of those under his or her care. As a result, leaders that demonstrate love to their followers are better able to impact their lives and offer value, which in turn improves their employees' productive behaviour. A leader who understands the importance of building connections with his or her workers in showing love to them has a unique chance to boost employee loyalty and commitment. As a result, Covey (1992) expressed that fostering a culture of love, trust, and compassion amongst workers may help them become more committed to the organization as a whole.

Our workplaces would become the same places we dread if the robots takes over if leadership were less about love (Peck, 2002). Because of the warm and welcoming atmosphere brought about by the show of love by leaders, workers are more likely to have a good view of their jobs and the organization as a whole. Thus, employees who are shown love by coworkers and bosses perform better. But this is a rare trait among bosses. Employees must be shown the virtue of care and concern if they are to display beneficial work habits like employee happiness, satisfaction and commitment. But despite the fact that love is so strong, natural and innate to all humans in this planet, many people have resisted the idea of a love-based leadership model despite the fact that love transcends all borders of race, religion, and geography (Dierendonck & Patterson, 2015). Thus, the aim of this study is to examine the role leaders' love play in enhancing workers productive behaviour of DMBs in the South- South Region of Nigeria.

Aim and Objectives of the Study

The aim of this study is to examine the relationship between love and worker productive behaviour of DMBs in South-South Region of Nigeria. More so, the specific objectives of the study are to:

  v.   Examine the relationship between love and employee ambidexterity of DMBs in South-South Region of Nigeria.

 vi.   Determine the relationship between love and work happiness of DMBs in South-South Region of Nigeria.

vii.   Ascertain the relationship between love and job satisfaction of DMBs in South-South Region of Nigeria.

viii. Examine the relationship between love and employee commitment of DMBs in South-South Region of Nigeria.

Research Questions

  v.   What is the relationship between love and employee ambidexterity of DMBs in South-South Region of Nigeria?

 vi.   What is the relationship between love and work happiness of DMBs in South-South Region of Nigeria?

vii.   What is the relationship between love and job satisfaction of DMBs in South-South Region of Nigeria?

viii. What is the relationship between love and employee commitment of DMBs in South-South Region of Nigeria?

Research Hypotheses

$H0_1$: There is no significant relationship between love and employee ambidexterity of DMBs in South-South Region of Nigeria.

$H0_2$: There is no significant relationship between love and work happiness of DMBs in South-South Region of Nigeria.

$H0_3$: There is no significant relationship between love and job satisfaction of DMBs in South-South Region of Nigeria.

$H0_4$: There is no significant relationship between love and employee commitment of DMBs in South-South Region of Nigeria.

Literature Review
Theoretical Framework

The underpinning theory used in this study is the expectancy theory postulated by Vroom in 1964. The main idea of this theory is that individuals join organizations having some expectations and if their expectations are met, they will remain with the organization. Vroom's inference showed that the choices made by people when they are faced with a situation are based duly on psychological events that may happen jointly with their behaviour (Niraj, 2009). The expectancy theory depends on knowing that individuals are motivated to behave in manners that produce wanted and esteemed results (Kreitner & Kinicki, 2007). Consequently, if employees see the exhibition of spiritual virtues or values such as the sincere show of love by their leaders as a path headed towards the accomplishment of their sets objectives, workers will begins to exhibit better positive work outcome, contrarily, if their superiors show awful behaviour that can

thwart the achievement of their objective, they are bound to display pessimistic work result. That is, workers can modify their conduct in the work setting based on expected fulfillment of esteemed objectives set by them.

The Concept of Love

Love is used as a dimension of leaders' workplace spirituality. Leaders' workplace spirituality empowers internal spiritual practices which assists the leader with establishing a climate that add esteems to peoples' life (Fry, 2005). These practices give a leader an expectation for endurance with respect, a dream to succeed throughout everyday life and philanthropic love for other people. Workplace spirituality therefore provides the powers, whether extrinsic or intrinsic to a leader, which stimulates excitement and tirelessness in order to attain a specific goal (Fry & Altman, 2013). It includes paying keen attention to helping others in order to complete a task as a team, no matter how enormous or little the task seems to be. Furthermore, like other concepts in organizational behavior, love has a wide range of meanings. Compassion, kindness, and affection are all qualities that may be shown via the expression of love. As a virtue or strength, it represents human compassion, kindness, and caring (Seligman, Steen, Park, & Peterson, 2005). In other words, love is an expression of genuine regard for another person, and it makes life worthwhile. Loving oneself or others is described by Kouzes and Posner (1992) as having a sense of care or profound regard for oneself and others, as well as believing in oneself and others enough to support them in becoming their best selves. Love is sacrifice and the ability to listen, respect, sympathize, and affirm which motivate people from all walks of life (Covey, 1989). Everywhere you look, you'll see the universal and timeless energy of love. For those who are really in love, life is worth living. Love recognizes that relationships with others are important and that establishing personal connections is a good approach to better relate to others, indicate to them that we are true and real, and motivate them to begin searching for the best in themselves.

It's rare to hear the word "love" used in the workplace, yet it has a significant impact on productivity and morale of employees. The happier and more content workers are, the more love they feel at work. It's possible to describe love as a great sense of self-satisfaction, harmony, and kindness that results from genuine care, concern, and appreciation towards oneself and others (Fry, 2003). For both leaders and members, the psychological and emotional advantages of unconditional love and care are enormous. Stress, anger, and fear may all be conquered by the love you have for one another. As a result, it fostered a sense of community among members, which serves as a source of inspiration and motivation for their work. Leaders and workers must work together to convey their care and concern for one another, to protect each other, and to exhibit empathy and compassion even in the most challenging of situations (Burns, 2010). Leaders are encouraged to actively seek out ways in which they may build and strengthen their employee connections. In the workplace, love is frequently discouraged, but it should be promoted. You don't have to be attracted to each other in order to exhibit love in the workplace. It's about kindness, caring and the expression of true concern. When leaders treat their people like human beings, they show their love for them.

Love is a modest and sincere show of concern, interest, and appreciation for oneself and others that is selfless, loyal, unconditional, and genuine (Fry, 2003). Giving and receiving unconditionally is part of unconditional love. Fear, wrath, failure, and pride all stem from the fear of losing something valuable or not getting what one deserves (Reave, 2005). This fear may either be an unconscious response or a deliberate choice, and it can be addressed by separating

want from need via true love. These feelings may be healed with love. The key to successful leadership has been revealed by Burns (2010), who said that love is the last ingredient. By their deeds, spiritual leaders show their followers that they really care about their well-being.

Workers Productive Behaviour

Workers' productive behaviour has to do with the attitude or conduct of the workers that is relevant to the realization of organizations goals and objectives (Kuvaas, 2006). It is an outcomes of activities performed by the workers in the organization. It clarifies the different behaviour a worker display in the workplace towards the accomplishment of the organizational goals. Positive worker productive behaviour is very significant in achieving and keeping a proficient and powerful organization. The fundamental source of success lies not in such a lot of innovation, however in devotion, quality, responsibility and the capacity of employees to exhibit positive behaviour in the workplace (Jafarnazhad & Shahaee, 2007). Accordingly, leaders have to ensure they empower their employees to exhibiting positive productive behaviour in the organization. In summary, worker productive behaviour involves the various possible ways an employee is likely to turn out in the workplace vis-à-vis the action or attitude display by workers that is needed for the attainment of organizations objectives such as employee ambidexterity, work happiness, job satisfaction and commitment. Employee ambidexterity, according to Kobarg, Wollersheim, Welpe and Sporrle (2015), refers to a person's willingness to engage in risky or unusual activities. It involves the capacity of an employee to engage and switch between paraxial tasks. An ambidextrous worker step up and look for opportunities outside the workplace, collaborate and team up with others, strive to build internal connections and do a variety of duties that will benefit the organization (Gibson & Birkinshaw, 2004). A person who is ambidextrous is someone who is always working to improve their talents, understanding, and aptitude. Additionally, an ambidextrous worker is exploratory and exploitative in nature. In other words, ambidextrous personnel are referred to as those who are capable of efficiently managing opportunities from the business environment. It is therefore an employee ability to switch between tasks in a given situation with ease at the individual level of their cognition (Good & Michel, 2013).

Furthermore, work happiness is a sense of excitement and inspiration about one's job that is essential to employee performance in the workplace (Diener & Biswas-Diener, 2008). An employee's capacity to focus on their job is boosted by positive emotions such as happiness. A person's mentality opens up when they are engaged and delighted with their work, allowing them to think more clearly. When a person is able to think clearly, a wide range of ideas will occur to them. Outrage and negative pondering may be alleviated by happiness, which enables an individual to think more creatively (Bowling, Eschleman & Wang, 2010). When a person's mind is occupied with happy thoughts, there is no room for negative thinking. Thus, if negative emotions like pity and depression are a recurrent presence, they should be promptly replaced with more positive ones. The reason for this is simple; individuals learn best when they are in a favorable mental state. An emotional state of mind that results from an assessment of one's job insight is described as satisfaction (Mathis & Jackson, 2002). That is to say, it is a feeling of well-being brought on by a person's gratitude for their vocation or previous work experiences (Nerkar, McGrath & Macmillan, 1996). Such an emotional state is the result of looking back on one's work history and seeing how rewarding and fulfilling it has been throughout time. This indicates that when workers' expectations are fulfilled, they will be more satisfied with their job, and vice versa. Worker satisfaction is seen as fulfilment employees experience about the various

components of their employment (Bowling *et al.* 2010). According to him, in addition to intrinsic satisfaction, which refers to how an employee feels about the work itself, employers should also consider extrinsic satisfaction, which refers to how an employee feels about aspects of the working environment that aren't part of the job description. More so, according to Beheshtifar and Hosseini (2013), employee commitment is how much an employee relates to the organization and its requirements in order to foster development by showing a strong interest in it. An organization's commitment to its employees is a sign that its employees are satisfied with the organization's policies. Organizations that successfully satisfy the expectations of their workers will see a rise in employee loyalty. Thus, the organization's commitment to its objectives comes from providing an environment that encourages workers to reach their full potential, which in turn allows the organization to decide on an incentive for its workers in order to increase the organization's ability to achieve its goals.

Methodology

The study was carried out in DMBs operating in the South-South States of Nigeria that included Edo, Delta, Bayelsa, Rivers, Akwa-Ibom and Cross River State. We adopted the cross-sectional research design as the research design method and the unit of analysis was at the individual level of employees in managerial and non-managerial cadre in the head offices of DMBs in the region. The study adopted questionnaire as the research instrument distributed to 367 respondents as the sample size from the study population of 7598 employees in the head offices of the 19 DMBs in South-South Region of Nigeria. The questionnaire was a five point Likert structured questionnaire which consist of four questions and 5 respond choices with point scales ranging from 1 to 5: 1-strongly disagree; 2- disagree; 3- indifference; 4- agree and; 5- strongly disagree for each of the variables covered in the study. Leaders' love (dimension of leader's workplace spirituality: Bouzari & Karatepe, 2017; Youssef & Luthans, 2007) was used as a one-dimensional variable as the predictor variable while workers productive behavior was operationalized using employee ambidexterity, work happiness, job satisfaction, and employee commitment (Delbecq, 1999). The validity of the research instrument was further tested using face and content validity. More so, Cronbach's Alpha was used in testing the reliability of the research instrument showing a Cronbach's Alpha greater than 0.7; leaders love has 0.826, employee ambidexterity has 0.914, work happiness has 0.922, job satisfaction has 0.974, and employee commitment has 0.927 Cronbach's Alpha value. Furthermore, a total of 319 retrieved questionnaire were useful which were used for data analysis using Pearson Product Moment Correlation with 0.05 level of significance given the choice of the confidence interval of 95%.

Data Analysis and Result

Relationship between Love and Employee Ambidexterity

The relationship between love and employee ambidexterity of DMBs in South-South Region of Nigeria is analyzed below:

Table 1: Relationship between Love and Employee Ambidexterity of DMBs in South-South Region of Nigeria

variables	n	r	df	crt.r	p-value	Remarks
Love	319	0.916	317	.1045	0.001	Significant
Employee Amb						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 1 revealed the relationship between love and employee ambidexterity of DMBs in South-South Region of Nigeria. The results revealed a very strong positive significant relationship between love and employee ambidexterity: $r (317) = 0.916$, crit.r = .1045, $p = 0.001$, ($p < 0.05$). It implies that a direct relationship exist between the two variables, suggesting that DMBs in South-South Region of Nigeria with leaders that demonstrate love reported high employee ambidexterity, hence, the hypothesis is rejected. Consequently, love significantly affects employee ambidexterity. Attached is the scattered graph.

Figure 1: Scattered graph between leaders love and employee ambidexterity.
Relationship between Love and Work Happiness
The relationship between love and work happiness of DMBs in South-South Region of Nigeria is analyzed below:

Table 2: Relationship between Love and Work Happiness of DMBs in South-South Region of Nigeria

variables	n	r	df	crt.r	p-value	Remarks
Love	319	0.921	317	.1045	0.001	Significant
Work Happiness						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 2 revealed the relationship between love and work happiness of DMBs in South-South Region of Nigeria. The results revealed a very strong positive significant relationship between love and work happiness: $r (317) = 0.921$, crit.r = .1045, $p = 0.001$, ($p < 0.05$). It implies a direct relationship exist between the two variables, suggesting that DMBs in South-South Region of Nigeria with leaders with high love also reported high workers happiness, hence, the hypothesis is rejected. Consequently, love significantly affects employee work happiness. Attached is the scattered graph.

Figure: Scattered graph on leaders love and employee work happiness.

Relationship between Love and Job Satisfaction

The relationship between love and job satisfaction of DMBs in South-South Region of Nigeria is analyzed below:

Table 3: Relationship between Love and job satisfaction of DMBs in South-South Region of Nigeria

variables	n	r	df	crt.r	p-value	Remarks
Love	319	0.919	317	.1045	0.001	Significant

Job satisfaction

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 3 revealed the relationship between love and job satisfaction of DMBs in South-South Region of Nigeria. The results revealed a very strong positive significant relationship between love and job satisfaction: r (317) = 0.919, crit.r = .1045, p = 0.001, (p < 0.05). It implies a direct relationship exist between the two variables, suggesting that DMBs in South-South Region of Nigeria with the exhibition of love by leaders reported high job satisfaction, hence, the hypothesis is rejected. Consequently, love significantly affects job satisfaction. Attached is the scattered graph.
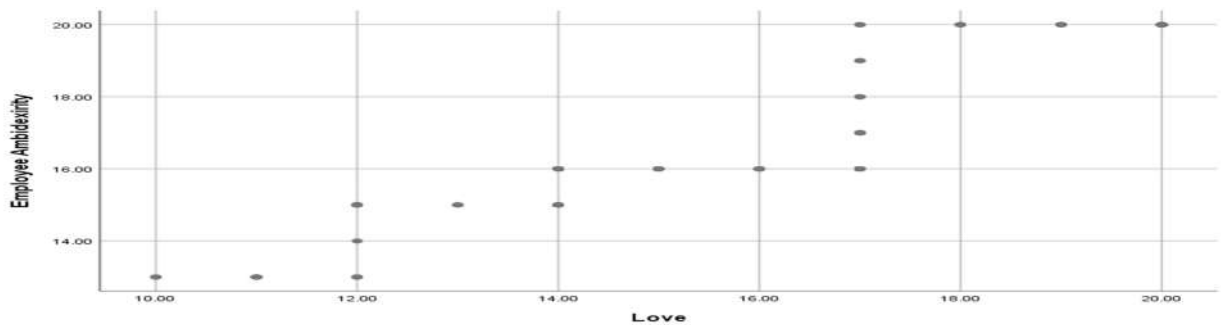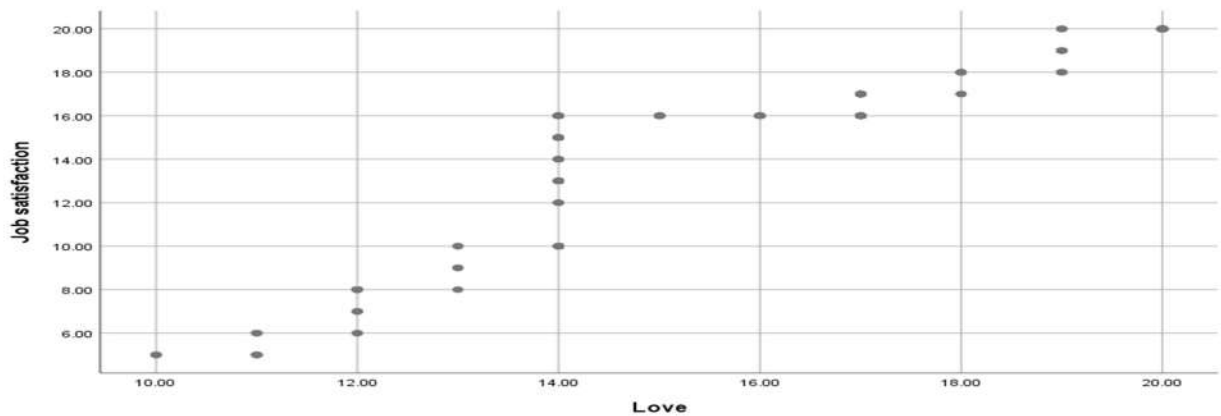
Figure 3: Scattered graph on leader's love and job satisfaction.

Relationship between Love and Employee Commitment

The relationship between love and employee commitment of DMBs in South-South Region of Nigeria is analyzed below:

Table 4: Relationship between Love and Employee Commitment of DMBs in South-South Region of Nigeria

variables	n	r	df	crt.r	p-value	Remarks
Love	319	0.908	317	.1045	0.001	Significant
employee commitment						

P< 0.05; significant at 0.05 level of significance
Source: Field Survey Data, 2021.

Table 4 revealed the relationship between love and employee commitment of DMBs in South-South Region of Nigeria. The results revealed a very strong positive significant relationship between love and employee commitment: r (317) = 0.908, crit.r = .1045, p = 0.001, (p < 0.05). It implies a direct relationship exist between the two variables, suggesting that DMBs in South-South Region of Nigeria with leaders showing love have high employee commitment, hence, the hypothesis is rejected. Consequently, leader's love significantly affects employee commitment. Attached is the scattered graph.

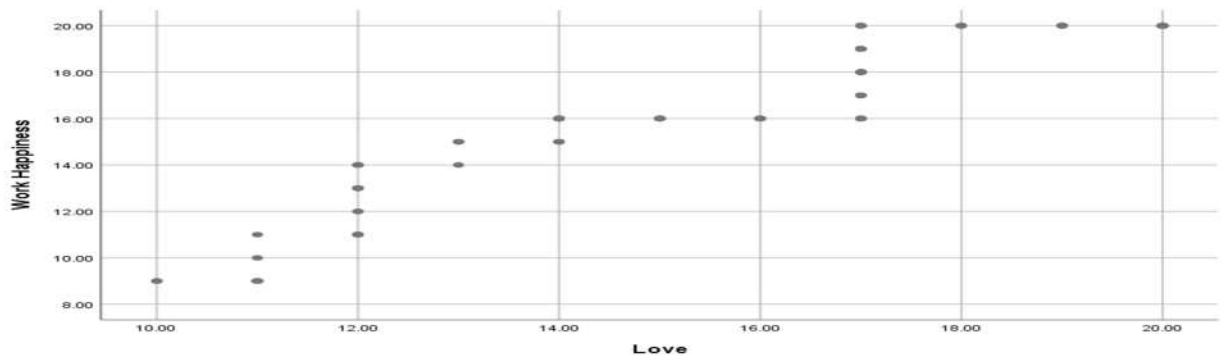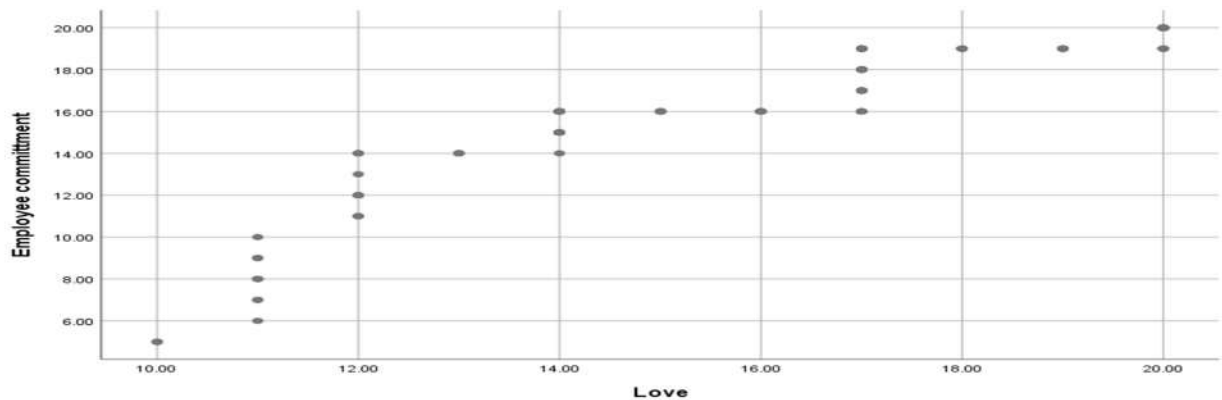Figure 4: Scattered graph on leader's love and employee commitment.

Discussions of Findings

Based on the analysis of data in this study, employee ambidexterity, work happiness, job satisfaction and employee commitment of DMBs in the South-South region of Nigeria is significantly and directly affected by leaders' expressions of love to their workers. It does not matter the role leaders play in the organization, whether it's creating the mission statement, formulating policies, or devising workplace improvement strategies, the necessity to demonstrate and exhibit love boost employee behaviour by increasing employees' ability to switch between work and home modes. Those who are really great leaders have a deep and abiding love for others. Being open to others' perspectives is an important step in cultivating love, according to Downey (2007). Being open means having the capacity and willingness to take advantage of new opportunities that arise as a result of environmental shifts. That's why it's so important for a leader to show his employees that they are appreciated and loved which motivates the workers to think outside the box in order to ensure that they are able to maintain and sustain such love (McDonough, 2014). Additionally, Popper and Amit (2009) articulated that leaders with a deep desire for their employees' well-being provide them with creative advice, guidance, psychological support, as well as the necessary financial resources to motivate and encourage workers' creativeness, resourcefulness, and independence.

There is no greater gift that a leader can provide or better approach to lead than to demonstrate his or her love to followers. It is possible for leaders who demonstrate love to bring out the best in their employees to produce important work outcomes; leaders who demonstrate that service can take precedence over self-interest through acts of love cares and kindness generate high trust and individual commitment, which generates wealth and adds value to organizations as well as to their employees and the general public (Peck, 2002). If leaders want their employees to be happier and perform better, they must show their workers true concern via the expression of love. Employees who work in a culture where they experience love, tenderness, care, and compassion for one another, particularly from their leaders, are more satisfied, dedicated, and responsible for their performance, according to Kouzes and Posner (2017). Hernandez (2012) also said that employees who feel loved and cares showed up to work more often because they were more satisfied. In order to create a relationship with employees, leaders must go out of their way to communicate their love to them. There's no two way about it: if a leader cares about his followers, they'll care about him too. Workers flourish when their leaders foster a culture of growth and development by treating them with kindness and respect. This results in a more productive way of doing things. It is vital for leaders to show their workers that they care about

them, particularly if they trust and know that their leader really cares about them (Kouzes & Posner, 2017). Spiritual characteristics like love have an impact on workers' emotions, which improves job satisfaction when shown by a leader in a significant manner. For example, a leader's display of love has a direct impact on workers' emotions and thoughts, but it also influences their motivation-values; requirements; demands; desires-expectations (Burns, 2007). Employee morale and contentment are boosted by a leader's display of love, which is not only more enticing, but also essential (Caldwell, Hayes & Long, 2010). When employees realize that their boss cares about them on a personal level and invests in them via the display of affection, this may have a significant impact on their job contentment, according to Caldwell, Atwijuka, and Okpala (2018).

Worker's dedication and happiness are also influenced by leaders' awareness of shared feelings and their display of affection (Greenleaf, 2015). Workers' productivity rises as a result of leaders exhibiting love towards their staff (Kouzes & Posner, 2017). Workers that experience a high degree of love record have a lower rate of absenteeism and employee burnout, according to Caldwell, Long and Hayes (2010). As a consequence, Caldwell and Dixon (2010) expressed that leaders who show their staff love, compassion and forgiveness strengthen their loyalty and commitment. As a result, his or her workers respect and admire him or her. When a person shows love, he is able to better comprehend others, regardless of their differences. Employees will be more committed to their jobs as a result of a positive work environment. Our natural desire is to conceal our errors and mask our deficiencies, yet no one is an expert at everything. Our shortcomings are readily apparent to one another when we are interacting with others on a friendly level. When we embrace ourselves despite our flaws, we become more patient with the faults of others and more willing to love and forgive them. At work, it's no different. To lead with love, one must cultivate an environment where colleagues feel secure to express their feelings. We search for vulnerability in others, but we don't want to reveal it in ourselves. Workers must know whether they can turn to their bosses for help in times of difficulty or need, which has a significant impact on their level of dedication (Hamdia & Phadett, 2011). Workers' devotion to the organization will rise if the organization's management try to address their demands via the show of love.

Conclusion

From the findings of this study, there is positive and significance relationship between leaders' expression of love and workers productive behaviour vis-à-vis employee ambidexterity, work happiness, satisfaction, and commitment of employees of DMBs in the South-South, Nigeria. In other words, when leaders' show of love is poor, organizations like the DMBs would report low levels of worker productive behaviour. The connection between a leader and a follower should be both loving and caring. As a result, leaders should be completely dedicated to serving the interests of their subordinates, as this is the primary goal of real love. In order for leaders to assist their subordinates reach their full potential, they must have the spiritual attribute of love. Leaders that lead with love do so by acknowledging the importance of their followers' contributions. Hence, a leader may develop love by reaffirming that the organization is committed to the individual ambitions of workers. Leaders may demonstrate their affection for their employees by developing a personal connection with them, whether it's by seeing new family photographs on cubicle walls and asking about them, or by remembering a memorable occasion and sending a handwritten message. In order to achieve any leadership goal, love must be applied, comprehended, and put into action so as to reach a worthwhile goal. In today's

business environment, leaders must express and demonstrate more love in order to foster better decision-making, complicated issue solving, and alignment. Workers are more excited when their bosses, adore them, since they no longer see them as a danger or a possible issue because employees are not only logical beings, but also emotional beings. So leaders must lead through these feelings by displaying and demonstrating love. When it comes to interacting with people, love recognizes the need of building trust and establishing a personal connection, which is the only way one can effectively reach others, show to them that one is trustworthy and authentic, and motivate them to be their best.

Recommendations

The following are our recommendations:

1. Leaders of DMBs should formulate and implement policies and practices such as a warm smile, a kind note etc that foster greater affection, caring, compassion, and tenderness among workers.
2. The exhibition of love by leaders is essential to workers productive behaviour, thus, it must be encouraged within DMBs in the South-South Region of Nigeria.
3. It is easier to love employees, if leaders know something about them. Thus, DMBs leaders have responsibilities to ensure they know and care for their workers in the firm.
4. Leaders of DMBs should be responsible for any action taken by the organization knowing that not every time things always goes according to plan. Because, accepting responsibility for one's own errors shows he or she cares leading to productive behaviour of employees.

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A Survey of Code-Switching among Hausa-English Learners in Umaru Ali Shinkafi Polytechenic, Sokoto

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Abstract: *This paper studies the phenomenon of code-switching seeking to identify its causes and problems associated to the falling level of proficiency in English Language. The study selects a group of learners from Umaru Ali Shinkafi Polytechnic as its sample. Fifty Hausa-English learners were randomly selected and data was collected using a structured questionnaire. However, the frequency of code-switching among respondents during interaction was 56% very often. This shows that they code-switch frequently in conservation. With regards to the reason why the respondent switch,46 % are of the opinion that they are Hausa natives and 16% are lacking fluency in English. Investigation also recorded that 48% opinion that they code-switch regularly with friends and 52% with the members of peer groups. Structurally, the investigation shows that the constituent of Hausa Language often employed in code-switching are largely phrases. About 50% responded '' phrase '' while 36% ''bare words'' . The investigation also shows that students rarely code-switch during academic activity such as lectures when they interact with a lecturer/instructor or when they are assigned the task of presenting a paper. In the whole, the enquiry is able to deduce that code-switching among second learners of English is as a result of their inability to express themselves better in the second language. This calls for the need to intensify effort in finding effective method of teaching/learning English in our institutions particularly at primary and secondary levels.*

Key words: *Code-switching, Code-mixing, bilingualism, First language, Second language ,survey.*

INTRODUCTION

It is generally believed that language is not only a system of employing significant noises through the organs of speech to refer to thing, persons and ideas to facilitate communication and promote understanding between people but also a major factor which influences our ways of thinking. People all over the world speaks different languages depending on their cultural background which basically function in the same way that is making communication possible. Some people are monolingual[able to speak only one language],bilingual [able to speak two languages],and multilingual[able to speak three or more languages],Bilingual or Multilingual sometimes switch from one language to another [between two or more languages] this is called code-switching.

Hausa, one of the many endoglossic languages in Nigeria came into contact with English language right the first decade of the twentieth [20th] century when Hausaland was taken up as a colony by the British. As a result of this contact, many Hausa speakers particularly those who attend school where English has been the language of instructions, have learnt to speak English. This group has become bilinguals because of the contact and consequently the ability to speak Hausa and English languages. This group of Hausa speakers code-switch from English to Hausa and vice versa for various reasons. The two languages cooperate to produce grammatically accepted code-switch sentences.

WHAT IS CODE-SWITCHING?

Anne, et.al (2020) defined codeswitching as "the abililty to engage in fluent codeswithing is a hallmark of the flexibility and creativity of bilingual language use". Also Richard (2019) sees code switching as practice of moving back and forth between two languages or between two dialrcts of the same language at one time. "Speakers of more than one languague are known for their ability to code switch or mix their language during their communication" (Aranoff and Miller 2019). Marjan(2018) define code switching as " the use of codeswitching as the use of two languages within a sentence or discourse". According to Wardhaugh(2000:100)Codeswitching " is when people are usually required to select a particular set of codes whenever they choose to speak" .Code-switching is the ability of bilinguals to alternate between languages in their linguistic repetorire[Gumperz,J and Herendez,1976]

TYPES OF CODE-SWITCHING.

Poplack S .[1980] goes a further to outline two major types of code-switching ,these are ;Inter-sentential, Intra-sentential and Tag scode-switching.

I. **INTER-SENTENTIAL CODE-SWITCHING**
This type of switching occurs at sentence boundaries –words or phrase at the beginning or the end of a sentence. This type is seen most often in fluent bilingual speakers. For example, ''I like this your phone. Nawa ta ke '' [How much is it]

II. **INTRA-SENTENTIAL CODE-SWITCHING**
In intra-sentential code-switching, the shift is done in the middle of a sentence, with no interruptions, hesitations, or pauses to indicate a shift. For example, "Let me see in kayi assignment din da kyau''. [whether you did the assignment correctly].

STATEMENT OF THE PROBLEM

This research has been undertaken due to enormous challenges that students faced when speaking English at school. Most of the Hausa-English students hardly speaks English language through out in conversations with their mates in school. Majority of Hausa-English learners code-switched while speaking English language in the school. Therefore, this problem leads to this research in order to investigate and to find out the causes and solutions of this problem.

OBJECTIVES OF THE STUDY

This research will be guided by the following objectives.

1. To examine the degree of code-switching among the Hausa-English learners in Umaru Ali Shinkafi Polytechnic, Sokoto.
2. To identify the reasons why the students code-switched.
3. To find out the possible solutions to the problems.

RESEARCH QUESTIONS

The following question are formulated to guide the conduct of this research:

1. What is the degree of code-switching among Hausa-English learners in Umaru Ali Shinkafi Polytechnic, Sokoto.
2. What is the reasons why the students code-switch?.

3. What are the possible solutions to their problem.

LITERATURE REVIEW

There are quite number of literature dealing with this subject matter of this research . Nuhu and Abubakar (2016) conducted a research on a topic titled "code-switching Among Hausa Bilinguals in the 21st century''. The research revealed that the Hausa bilingual usually code-switched from Hausa language to other various languages, especially in Arabic and English. Based on this study, the researcher focused on Arabic and English which the current study may look at Hausa and English code-switching. Also, Jatau (2019) conducted a research on a topic titled: "Code-switching and mixing Among Hausa/English Bilinguals. A linguistic and socio-psychological survey ". The research revealed that Hausa/English Bilinguals code-switch from English to Hausa language in their conversation.

In an another related literature, Dorcas et al (2018) conducted a research on the topic titled: The effect of code-switching on English language teachers and learners at two schools in Sibbinda circuit. The research found out that code-switching has the aspect of the lesson taught and also helps learners to participate in the lesson especially those that have learning difficulties.

Zbou and Wei (2007) conducted a research on a topic titled: Code-switching as a result of language Acquisition: A case study of a 1.5 Generation child from China . The study found out that their use of code-switching is an important issue in understanding their language choice and language development.

METHODOLOGY

Fifty (50) respondent were randomly selected for the study whose mother's tongue (L1) is Hausa. The selection is said to be randomly because it was done regardless of the students' state of origin, ages, and course of studies. The study was conducted in Umaru Ali Shinkafi Polytechnic, Sokoto.

To investigate the reason why Hausa-English learner code-switch, the following questions were asked by the researchers in the questionnaire and were also responded accordingly.

1. Do you code-switch to Hausa in your English conversation?

The above question requires an option of yes or no where the respondent's views varied in different opinions as 76% of the respondent agreed that they code-switch from English to Hausa while 24% were of the contrary views to other respondents as mention earlier.

Table 1. The degree or level of switching.

Response	Frequency	Percentage
Often	10	20%
Very often	28	56%
Rarely	12	24%
Total	50	100%

The table shows that 20% of the respondents code switch often,56% very often and 24% rarely code switch. This shows that code switching becomes a habit and they hardly speak in any of the two languages without switching. The 12 respondents representing 24% rarely code switch from one language to another. Such individuals are able to separate the two languages.

2.   Why do you think Hausa comes into your speech when you speak English?

Table 2. Reasons why respondents code-switch.

Responses	Frequency	Percentage
Lack of fluency in English	16	32%
Hausa is my mother tongue	23	46%
Fluency in Hausa language	11	22%
Total	50	100%

The table above shows that 32% code switch as a result of lacking fluency in English language. The 23 respondent who represented 46% were of the view that Hausa is their mother tongue and the 22% claimed that fluency in Hausa make them to switch from English to Hausa.

3.   When speaking with what type of people do you often change from English to Hausa?

Table 3. People with whom respondents switch.

Responses	Frequency	Percentage
Friends	24	48%
Peer groups	26	52%
Total	50	100%

The above table shows that Hausa-English learners code-switch when they are speaking with different groups of people. From the table, 24 out of 50 respondents representing 48% code-switch only when speaking with friends, 26 representing 52% code-switch when conversing with groups who speak the language with a native-like proficiency.

4. In the discussion of what topic do you switch from English to Hausa?

Table 4. Topic leads to switching

Responses	Frequency	Percentage
Any topic	12	24%
Family topic	15	30%
Friendly topic	23	46%
Total	50	100%

The respondents indicated that they code-switch when discussing on topic regardless of its types. From the table above, it can be observed that 12 students representing 24% code-switch when in English on any topic, 30% code-switch when speaking on family topic (mostly topic which concerns the speaker and the listeners especially when they come from the same family, town, or state). While 56% code-switch mostly on friendly topic.

What constituents of Hausa do you often employ in your English conversation when you code-switch?

Table 5. Constituents of Hausa employed in switching.

Responses	Frequency	Percentage
Bare words	18	36%
phrases	25	50%
sentences	07	14%
Total	50	100%

The table above shows that 18 respondents representing 36% are of the opinion that they employed Hausa bare words into their English conversation, 50% responded phrases while 14% sentences.

In what interactive condition do you speak English without code-switching?

Table 6. The condition in which the participants interact without code-switching.

Response	Frequency	Percentage
During official meetings	11	36%
During paper presentation	25	28%

In a formal discussion	14	28%
Total	50	100%

The above table indicates that 11 respondents representing 22% do not code-switch during official meeting, 50% during paper presentation, while 28% in a formal discussion. This shows that students rarely code-switch during academic activity.

SUMMARY OF FINDINGS

This research is set to investigate the reason of code-switching and problem among the second learners of English in Umaru Ali Shinkafi Polytechnic, sokoto. It was found out that 76% code-switch frequently while only 24% rarely code-switch from English to Hausa. It is therefore deducing that, majority of Hausa-English speakers code-switched to Hausa in their English conversation at different places and occasion.

Besides, the researchers also found out that, code-switching generates the spirit of belonging makes speakers switch freely with others who share the two language and who also code-switch. Most importantly it facilitates inter personal communication.

CONCLUSION

In conclusion, this research has summarily investigated on why people often code-switch. The study therefore, throws light on this language phenomenon by demystifying issues ranging from its wide spread features , reasons and consequences to the speakers of language involved.

RECOMMENDATIONS

At this juncture, therefore, the researchers finds it necessary to recommend that code-switching should be discouraged in the classroom. The authority concerns also need to intensify effort in finding effective method of teaching/learning English in our institution particularly at primary and secondary levels. Parents should encourage their children to speak English without code-switching to Hausa language.

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Kinetics of Thiosulphate ion Oxidation by Methyl Green in Acidic Medium

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Abstract: *The kinetics of the thiosulphate ($S_2O_3^{-2}$) oxidation of methyl green (MG^{2+}) have been studied in aqueous acidic medium. The observed results at $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}(HCl), ionic strength of the reaction medium, $\mu = 0.06$ mol dm^{-3} (NaCl) and $T = 29.0\pm 1^oC$ are consistent with the rate law: $d[MG^{2+}]/dt = k_2[MG^+][S_2O_3^{2-}]$. The reaction was found to be first order with respect to MG^{2+} and was catalyzed by increase in μ and added anions. Increase in $[H^+]$, cations and dielectric constant inhibited the reaction. Spectrophotometric test showed the absence of intermediate complex formation. Based on these findings, a plausible mechanism is proposed.*

Key words: *kinetics, thiosulphate, methyl green, acidic medium, spectroscopic test, mechanism*

INTRODUCTION

Methyl Green (MG^{2+}) is a basic triphenylmethane-type dicationic dye with IUPAC name [4-[(4-dimethyl aminophenyl) -4- dimethylazaniumylidene cyclohexa -2, 5-diene-1-ylidene) methyly)phenyl]–trimethly-azanium dichloride). Methyl green is usually used for staining solution in medicine and biology and as a photochromophore to sensitize gelatinous films (Mai *et al.,* 2008). Cationic (basic) dyes have been used for paper, polyacrylonitrile, modified polyesters, polyethylene terephthalate and to some extent, in medicine. Originally they were used for silk, wool and tannin-mordanted cotton. These water soluble dyes yield coloured cations, in solution and that is why they are called cationic dyes (Gupta and Suhas, 2009).

Sodium thiosulphate ($Na_2S_2O_3$), is an inorganic compound that is typically available as the penta hydrate ($Na_2S_2O_3.5H_2O$). The solid is an efflorescent (loses water readily) crystalline substance that dissolves well in water. It is also called sodium hyposulphite or 'hypo' (Barbera *et al.,* 2012). Sodium thiosulphate has found a variety of applications in different fields. It is used for both film and photographic paper processing, the sodium thiosulphate is known as a photographic fixer, and is often referred to as 'hypo' from the original name, hyposulphate of soda (Gibson, 1908). Sodium thiosulphate is also used to dechlorinate tap water including lowering chlorine levels for use in aquaria and swimming pools and spas (e.g following superchlorination) and within water treatment plants to treat settled backwash water prior to release into rivers (Barbera *et al.,* 2012). In medicine, it has been used as treatment of calciphylaxis in hemodialysis patients with end stage kidney disease (Cicone *et al.,* 2004). There is apparently an incompletely understood phenomenon whereby this causes severe metabolic

acidosis in some patients (Selk and Rodby, 2010). It is used as an antidote to cyanide poisoning. (Hall *et al.*, 2007).

However, kinetic data on the decolourization of MG^{2+} is scanty in literature, this bring the interest to study kinetics of thiosulphate ion oxidation by methyl green under acidic medium.

2.0   EXPERIMENTAL

2.1   Materials

All chemical reagents used were of analytical grade (BDH, Kernel, Sigma-Aldrich) and were used without further purification. Distilled water was used throughout for all solution preparation.

2.2   Methods

2.2.1   Stoichiometric studies

Spectrophotometric titration was obtained using the mole ratio method to determine the stoichiometry of the reaction, at $[MG^{+2}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{-2}] = (0.48 - 4.8) \times 10^{-4}$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3}(NaCl). The absorbance of the reaction mixture at 630 nm were measured until the completion of the reaction was indicated by a constant absorbance value. Plots of absorbance (A_∞) versus mole ratio revealed the stoichiometry of the reaction.

2.2.2   Kinetic Measurement

The rate of reaction was studied by monitoring the decrease in the absorbance of methyl green at 630 nm, using 721 visible spectrophotometer after it has been established that none of the reactants have any significant absorbance at this wavelength.

All the kinetic measurements were carried out under pseudo–first order conditions with the concentration of $S_2O_3^{2-}$ at least 1000-fold excess over that of the methyl green at temperature of 29.0 ± 1.0ºC, ionic strength of 0.06 mol dm^{-3}(NaCl) and $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}(HCl).

 The pseudo – first order plots of log $(A_t - A_\infty)$ against time were made and the slope of the plots gave the pseudo – first order rate constants, k_1 (Osunlaja, 2013). The second order rate constants, k_2, were determined from k_1 as $k_1/ [S_2O_3^{2-}]$.

The effect of changes in $[H^+]$ on the reaction rate was investigated by keeping $[MG^{2+}]$ and $[S_2O_3^{2-}]$ constant while varying $[H^+]$ between 2.0×10^{-5} and 2.0×10^{-4} mol dm^{-3}, ionic strength, μ, was maintained at 0.06 mol dm^{-3} (NaCl) and reaction was carried out at 29.0 ± 1.0°C.

Order of reaction with respect to $[H^+]$ was obtained as the slope of the plot of log k_1 against log $[H^+]$. Variation of acid dependent second order rate constant with $[H^+]$ was obtained by plotting k_{H+} against $[H^+]$.

The ionic strength of the reaction mixture was varied between 0.02 and 0.20 mol dm^{-3} and maintaining [MG^{2+}], [S$_2$O$_3$$^{2-}$] and [H$^+$] constant. Reaction temperature was maintained at 29.0 $\pm$ 1.0°C. Relationship of reaction rate with changes in the ionic strength was determined by plotting log k$_2$ against μ.

Binary solvent mixture of water and acetone were used to investigate the effect of change in dielectric medium on the rates of reaction at the dielectric constant of 80.4 – 66.0 (1 – 5)% acetone. All the reactants were kept constant except for the binary mixtures which were varied in the percentage of 1 – 5. As the dielectric constants decreases from 80.4 – 66.0, keeping [MG^{2+}], [S$_2$O$_3$$^{2-}$] and [H+] constant. The ionic strength of 0.06 mol dm^{-3} and temperature of 29.0 $\pm$ 1.0°C were maintained. A plot of log k$_2$ against 1/D gives the relationship between the second order rate constant and the total dielectric constant of the reaction medium, D.

The effect of added cations on the reaction rate was investigated by the addition of 2.0 x 10^{-2} to 1.0 x 10^{-1} mol dm^{-3} of (Li$^+$ and K$^+$) keeping [MG^{2+}], [S$_2$O$_3$$^{2-}$] and [H$^+$] constant. The ionic strength of 0.06 mol dm^{-3} and temperature of 29.0 $\pm$ 1.0°C were maintained.

The effect of added anion on the reaction rate was observed by introducing 2.0 $\times$ 10^{-4} to 1.0 $\times$ 10^{-3} of (NO$_3$$^-$) keeping all the reactants constant, temperature was also maintained.

The reaction mixture was tested for possible free radicals by adding acrylamide to the mixture followed by excess methanol. Any polymerization evidenced by gel formation would provide a suspicion for the presence of free radicals in the reaction mixture.

3.0 Results and Discussions

3.1 Stoichiometry

Stoichiometry results for the reduction of MG^{2+} by S$_2$O$_3$$^{-2}$ revealed that one mole of MG^{2+} was reduced by three moles of S$_2$O$_3$$^{2-}$ which is consistent with the equation 1, and the plot of absorbance against mole ratio is represented in Figure 1.

$$+ 4S_2O_3^{2-} + H_2O \rightarrow LMG + 2S_4O_6^{2-} + H^+ \dots 1$$
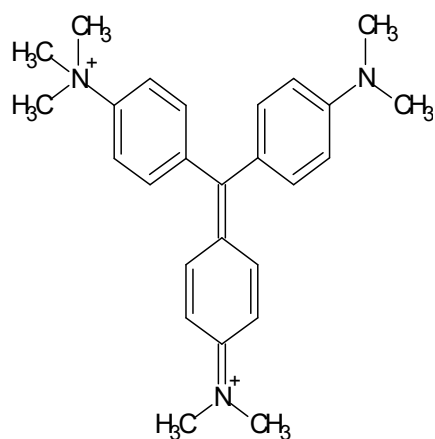
Methyl Green   **where LMG = Leucomethyl greeen**
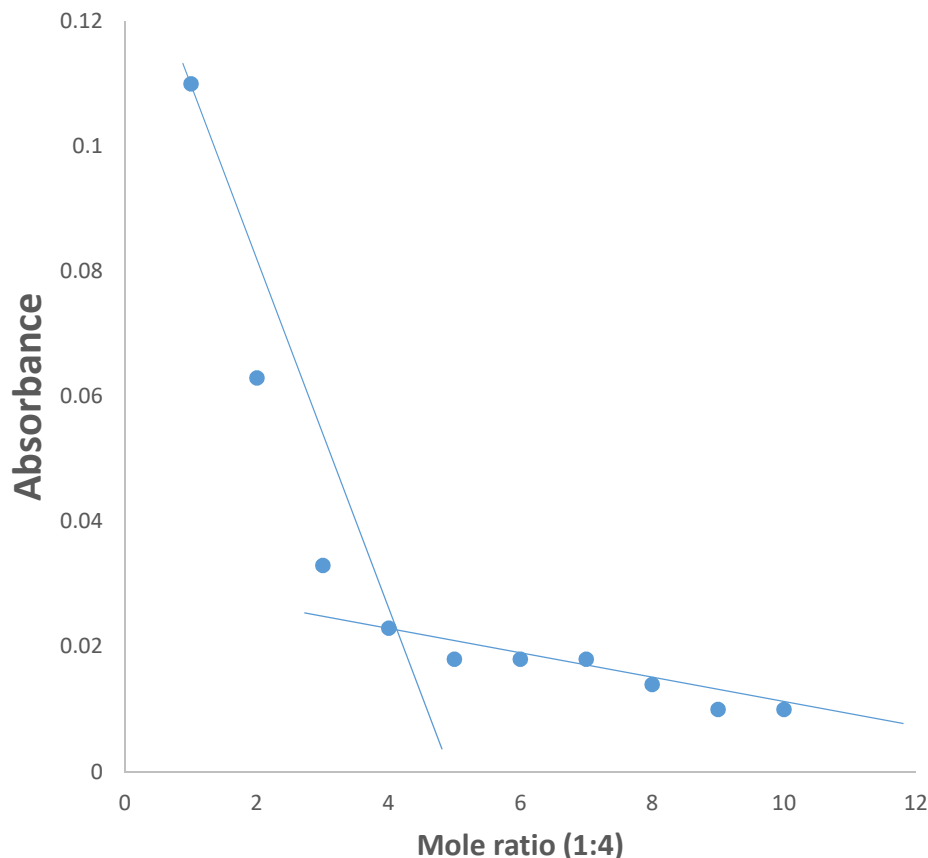
Figure 1: Plot of absorbance versus mole ratio for the determination of stoichiometry of the reduction of MG^+ by $S_2O_3^{-2}$ at $[MG^+] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{-2}] = (0.48 - 4.8) \times 10^{-4}$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3}(NaCl), T = 29.0 ± 1.0°C and $\lambda_{max} = 630$ nm

3.2 Order of the Reaction

Pseudo first order plots of log $(A_t - A_\infty)$ versus time were linear to about 70 – 80% in the reaction. This indicate that the reaction is first order with respect to $[MG^{2+}]$. The typical pseudo – first order plot is shown in Figure 2. Linear plots of log k against log $[S_2O_3^{2-}]$ with a slope of 1.03 confirmed the reaction to be first order with respect to $[S_2O_3^{2-}]$ which is presented in Figure 3. The reaction is second order overall and the rate constants obtained from the equation $k_2 = k_1/[S_2O_3^{2-}]$ were found to be fairly constant (Table 1) and the average was found to be $(4.8 \times 10^{-2}) \pm 0.005$ dm^3 mol^{-1} s^{-1}

The rate equation can be presented as:

$$dMG^{2+}/dt = k_2[MG^{2+}][S_2O_3^{2-}] \qquad \ldots\ldots 2$$
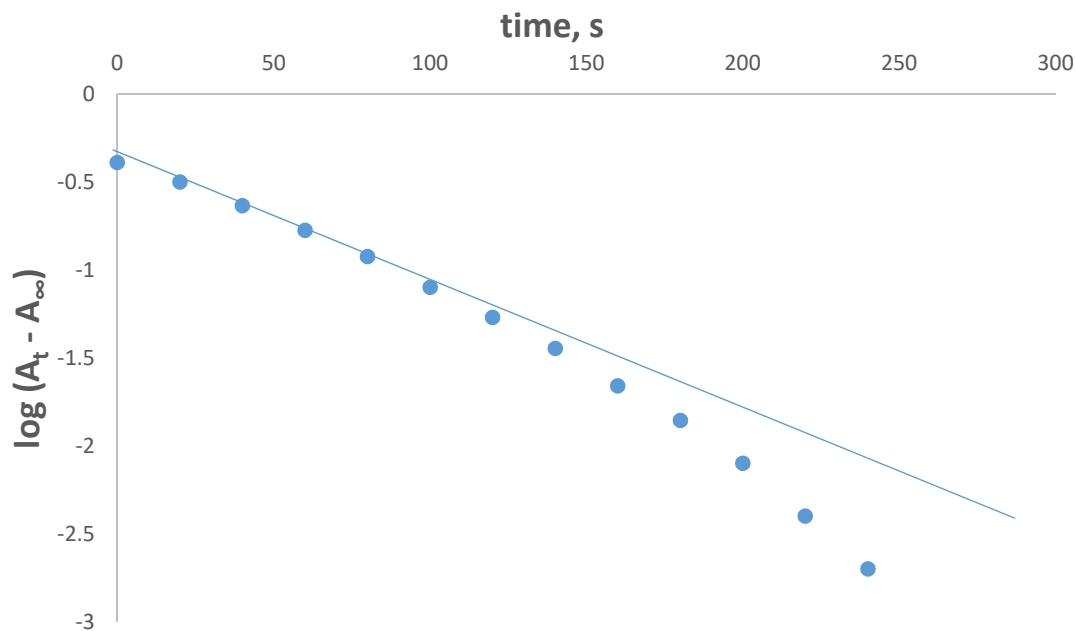
Figure 2: Pseudo-first order plot for the oxidation of $S_2O_3^{-2}$ by MG^+ at $[MG^+] = 4.8 \times 10^{-5}$ mol dm^{-3} $[S_2O_3^{-2}]$ 0.480 mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$, $\mu = 0.06$ mol dm^{-3} NaCl), T = $29.0 \pm 1^O C$ and $\lambda_{max} = 630$ nm
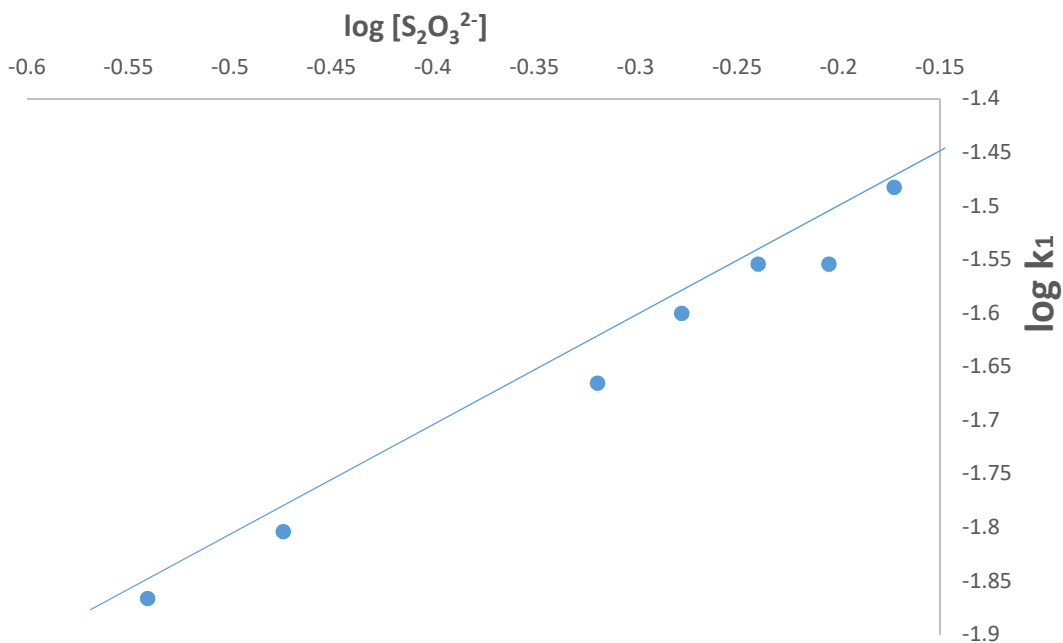
Figure 3: Plot of log k_1 against log $[S_2O_3^{-2}]$ for the oxidation of $S_2O_3^{-2}$ by MG^{2+} at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{-2}] = (0.288 - 0.672)$ mold m^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3} (NaCl), T = $29.0 \pm 1.0^O C$ and $\lambda_{max} = 630$ nm

Table 1: Pseudo-first order rate constants for the reaction of MG^{2+} with $S_2O_3^{2-}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $\lambda_{max} = 630$ nm and T = 29.0 ± 1.0°C

$10^2[S_2O_3^{2-}]$ (mol dm^{-3})	$10^5[H^+]$ (mol dm^{-3})	$10^3\mu$ (mol dm^{-3})	10^3k_1 (s^{-1})	10^2k_2 (dm^3 mol^{-1} s^{-1})
2.88	10.0	60	13.6	4.7
3.36	10.0	60	15.7	4.7
4.80	10.0	60	23.0	4.8
5.28	10.0	60	25.1	4.8
5.76	10.0	60	27.9	4.8
6.24	10.0	60	27.9	4.5
6.72	10.0	60	32.9	4.9
4.80	2.0	60	39.8	8.3
4.80	4.0	60	32.7	6.8
4.80	6.0	60	32.2	6.7
4.80	8.0	60	24.2	5.0
4.80	10.0	60	23.0	4.8
4.80	12.0	60	21.9	4.6
4.80	14.0	60	20.5	4.3
4.80	16.0	60	19.6	4.1
4.80	18.0	60	19.1	4.0
4.80	20.0	60	18.2	3.8
4.80	10.0	20	19.6	4.1
4.80	10.0	40	20.7	4.3
4.80	10.0	60	23.0	4.8
4.80	10.0	80	26.3	5.4
4.80	10.0	100	26.5	5.5

4.80	10.0	120	27.8	5.8
4.80	10.0	140	27.8	5.8
4.80	10.0	160	28.8	5.9
4.80	10.0	180	29.0	6.0

3.3 Effect of change in Hydrogen ion concentration

The effect of changes in $[H^+]$ on the rates of reaction was determined by varying the concentrations of HCl at $(0.2 – 2.0) \times 10^{-4}$ mol dm^{-3}. The acid dependent rate constants obtained showed that the rate of reaction decreased with increase in $[H^+]$ (Table 1). Plot of k_{H+} versus $1/[H^+]$ showed the dependence of the second order rate constants on $[H^+]$ for the reaction (Figure 4) and the plot is linear with a positive intercept. Plot of log k_1 versus log $[H^+]$ was linear indicating first order with respect to $[H^+]$ (Figure 5). The H^+ dependent second order rate constant can thus be presented by equation 3:

$$k_{H+} = a + b[H^+]^{-1} \qquad\qquad ......3$$

'a' = 4.8×10^{-2} dm^3 mol^{-1} s^{-1} and 'b' = 1.8 dm^6 mol^{-2} s^{-1}.

In the range of $[H^+]$ used, the overall rate equation can be represented by equation 4 below:

$$-d[MG^{2+}]/ dt = (a + b[H^+]^{-1})[MG^{2+}][S_2O_3^{2-}] \qquad\qquad ......4$$
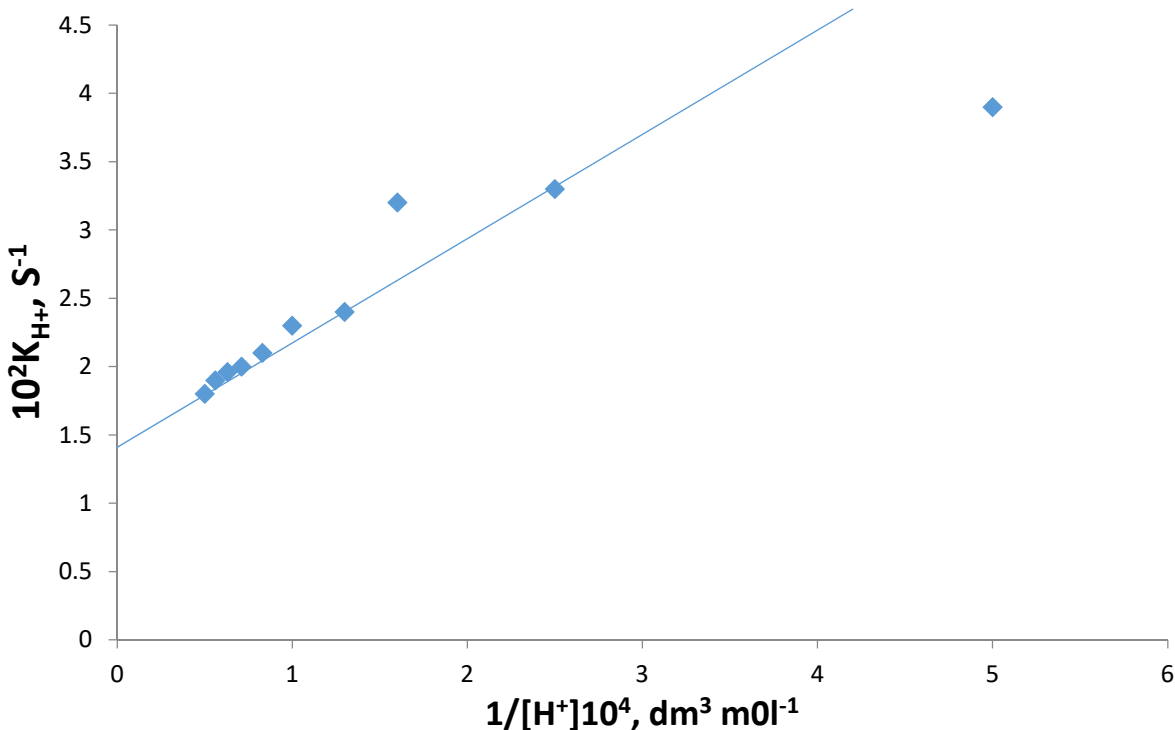
Figure 4: Plot of k_{H+} versus $1/[H^+]$ for the reaction of MG^{2+} with $S_2O_3^{-2}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{-2}] = 0.48$ mol dm^{-3}, $[H^+] = (0.8 - 2.0) \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3} (NaCl), T = 29.0 ±1.0^{O}C and $\lambda_{max} = 630$ nm
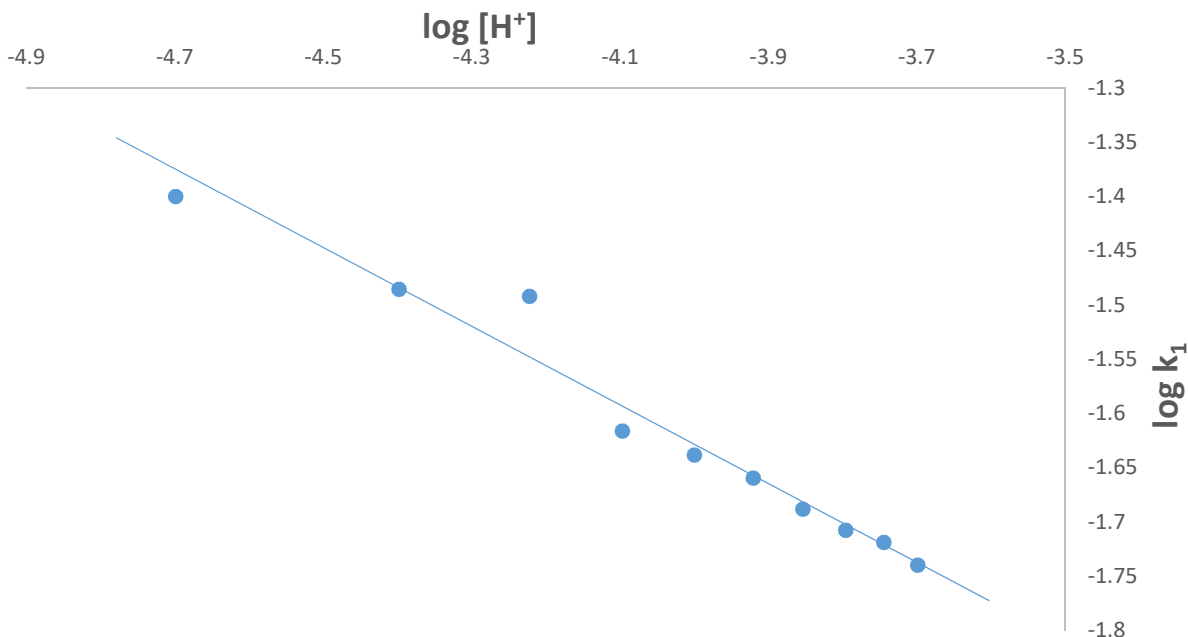
Figure 5: Plot of log k_1 against log $[H^+]$ for the reaction between MG^{2+} and $S_2O_3^{2-}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{-2}] = 4.8 \times 10^{-1}$ mol dm^{-3}, $[H^+] = (0.2 - 2.0) \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3} (NaCl), T = 29.0 ± 1.0^{o}C and $\lambda_{max} = 630$ nm.

3.4 Effect of change in ionic strength concentration and added anions

The rates of the reaction were found to increase with increase in the ionic strength (Table 1) and added anions (Table 2). This catalytic effect shown by the addition of anions is possibly due to coulombic bridging in which the closeness of approach of the reactant ions in the activated complex is such as to allow added ions to come in between them, thereby affecting the rates of reaction. This is seen when the reaction is proceeding through the outer sphere pathway in which the reactant ions maintain their coordination integrity in the activated complex prior to and during electron transfer(Mohammed et al.,2009) Plot of log k_2 versus $\sqrt{\mu}$ showed the relationship of reaction rates with changes in the ionic strength which is represented in Figure 6 and the least square plot of dependence of k_2 on [X] for added anion is represented in Figure 7.
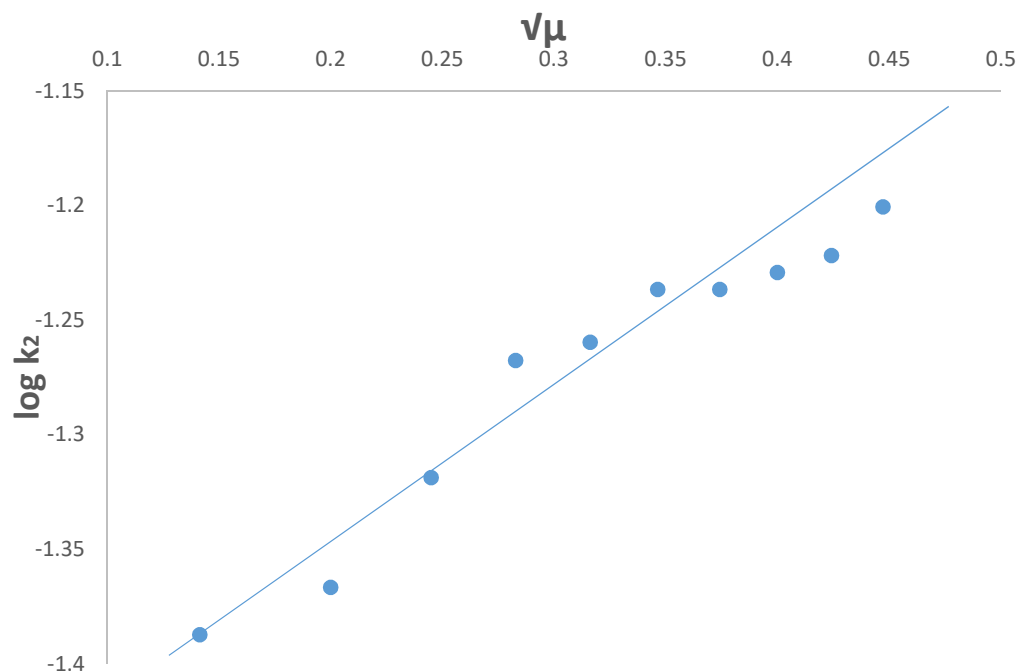
Figure 6: Plot of log k_2 against $\sqrt{\mu}$ for the reduction of MG^{2+} by $S_2O_3^{-2}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{-2}] = .480$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.02 - 0.20$ mol dm^{-3} (NaCl), T = 29.0 ± 1.0^{O}C and λ_{max} = 630 nm
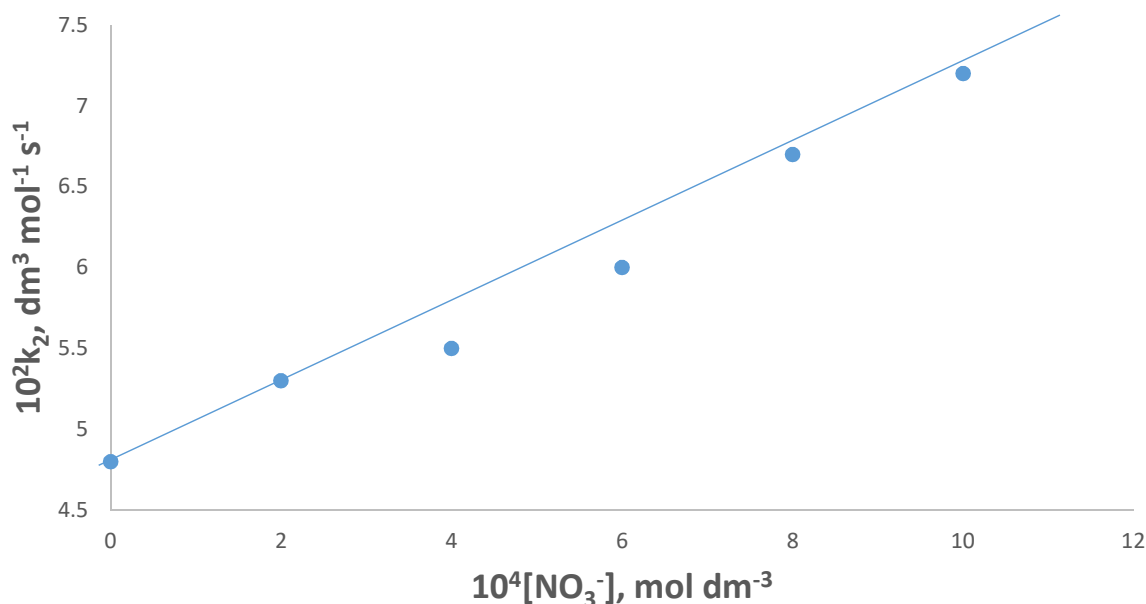
Figure 7: Plot of dependence of k_2 on $[NO_3^-]$ for the reaction of MG^{2+} with $S_2O_3^{2-}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{2-}] = 0.480$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3}(NaCl), λ_{max} = 630 nm and T = 29.0 ± 1.0^{O}C

Table 2: **Rate data for the effect of cations and anions on the second order rate constant for MG^{2+} and $S_2O_3^{2-}$ reaction at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{2-}] = 0.480$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3} (NaCl), $\lambda_{max} = 630$ nm and $T = 29.0 \pm 1.0^oC$**

X	$10^4[X]$ mol dm^{-3}	10^2k_1 (s^{-1})	10^2k_2 $(dm^3$ $mol^{-1}s^{-1})$
Li^+	0	2.30	4.80
	200	1.98	4.10
	400	1.41	2.90
	600	1.31	2.70
	800	1.11	2.30
	1000	0.89	1.90
K^+	0	2.30	4.80
	200	1.70	3.60
	400	1.45	3.00
	600	1.34	2.80
	800	1.11	2.30
	1000	0.89	1.90
NO_3^-	0	2.30	4.80
	2.0	2.56	5.30
	4.0	2.63	5.50
	6.0	2.90	6.00
	8.0	3.20	6.7
	10.0	3.48	7.2

3.5 Effect of change in Dielectric constant and added cations

The rates of the reaction were found to decrease with increase in the percentage of acetone (Table 3) and added cations (Table 2). Plot of log k_2 versus 1/D showed the dependence of the second order rate constants on the dielectric constant of the reaction medium (Figure 8) and the

plot of dependence of k_2 on [Y] which is represented in Figure 9 showed the dependence of k_2 on the concentration of the added cation.
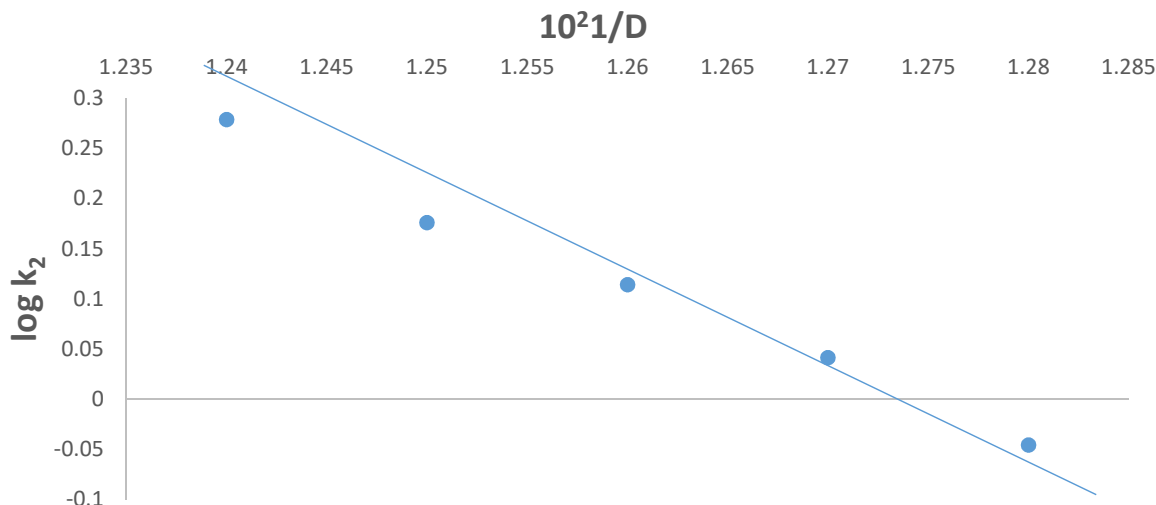
Figure 8: Plot of log k_2 against 1/D for the reduction of MG^{2+} by $S_2O_3^{2-}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{2-}] = 0.480$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3}(NaCl), T $= 29.0 \pm 1.0^oC$ and $\lambda_{max} = 630$ nm

Table 3: Effect of changes in the dielectric constant for the oxidation of $S_2O_3^{2-}$ by MG^{2+} at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{2-}] = 0.480$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3}(NaCl), T $= 29.0 \pm 1.0^oC$ and $\lambda_{max} = 630$ nm

D	10^2 1/D	$10^3 k_1 (s^{-1})$	$10^2 k_2$ (dm^3 mol^{-1} s^{-1})
80.4	1.24	9.21	1.9
79.8	1.25	7.37	1.5
79.2	1.26	6.45	1.3
78.6	1.27	5.29	1.1
78.0	1.28	4.15	0.9
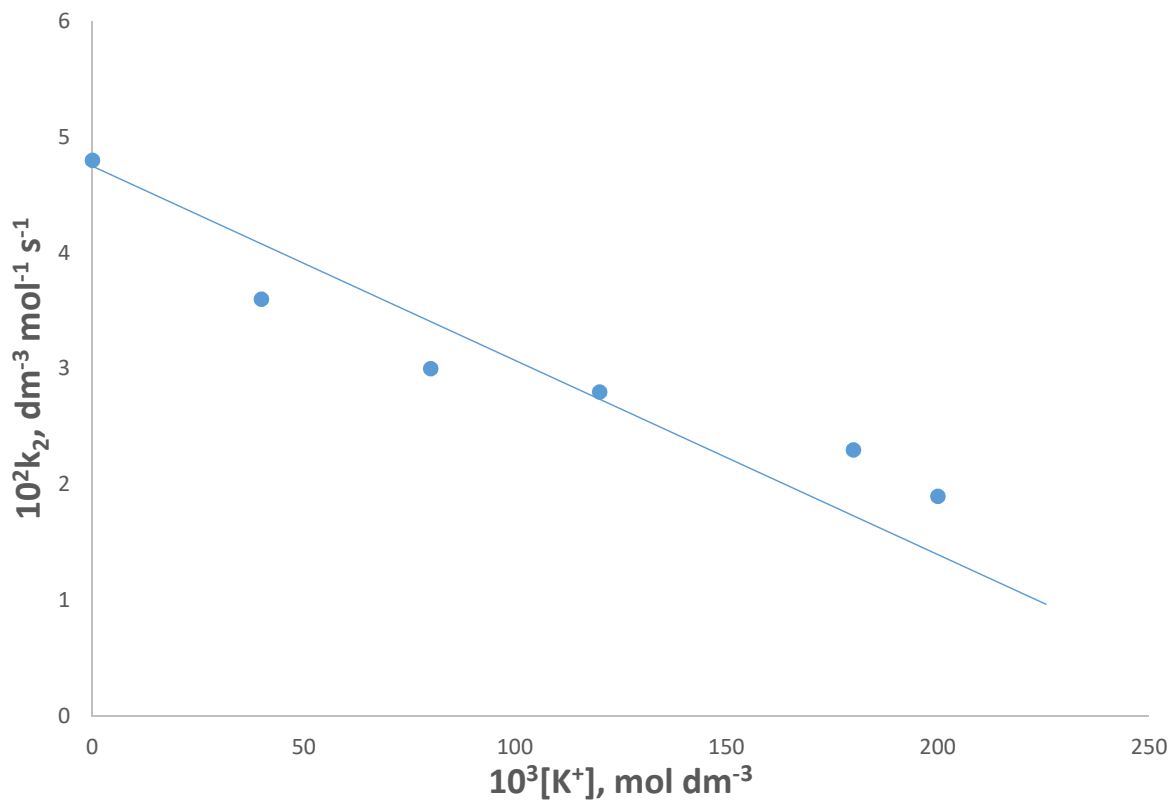
Figure 9: Plot of dependence of k_2 on $[K^+]$ for the reaction of MG^{2+} with $S_2O_3^{2-}$ at $[MG^{2+}] =$ 4.8×10^{-5} mol dm^{-3}, $[S_2O_3^{2-}] = 0.480$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu =$ 0.06 mol dm^{-3}(NaCl), $\lambda_{max} = 630$ nm and T $= 28.0 \pm 1.0$°C

3.6 Product Analysis

After the completion of the reaction, a colourless solution was obtained and the UV visible spectra of the product showed no absorption peak at λmax of 630 nm. This indicates the destruction of the quinoid (chromophore) group. Furthermore, on addition of mercury (I) nitrate to the reaction solution produced a yellow precipitate, which became black on heating, thus indicating the presence of tetrathionate ions ($S_4O_6^{2-}$).

3.7 Free Radicals

Addition of a solution of acrylamide to partially reacted mixture did not give a gel in the presence of excess methanol, indicating the probable absence of free radicals in the reaction mechanism.

3.8 Spectroscopic Test for Intermediate Complex Formation

The plot of $1/k_1$ vs $1/[S_2O_3^{2-}]$ gave a straight line which passed through the origin (Figure 10). This suggests absence of intermediate complex formation prior to redox reaction. In addition, the results of the spectroscopic studies indicate no significant shifts from the absorption maxima of

λ_{max} = 630 nm. This further suggests the absence of the formation of an intermediate complex in the reaction.
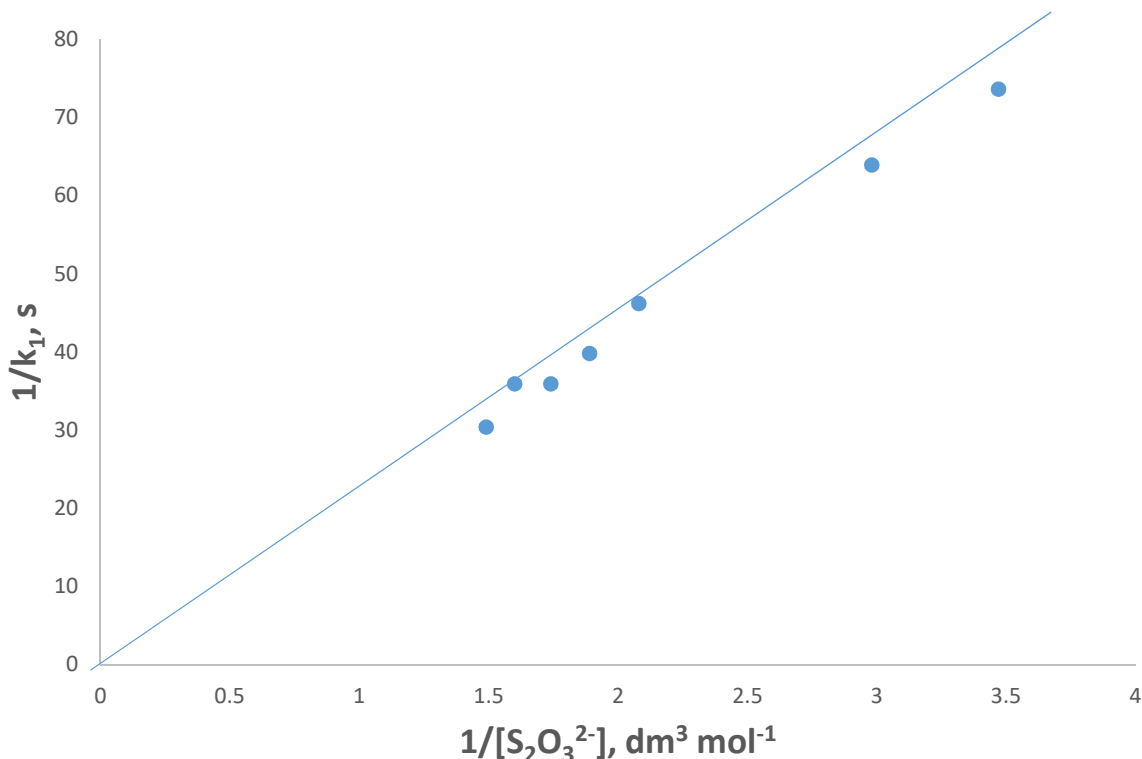
Figure 10: Michaelis-Menten plot of $1/k_1$ versus $1/[S_2O_3^{2-}]$ for the reduction of MG^{2+} by $S_2O_3^{2-}$ at $[MG^{2+}] = 4.8 \times 10^{-5}$ mol dm^{-3}, $[S_2O_3^{2-}] = (0.288 - 0.672)$ mol dm^{-3}, $[H^+] = 1.0 \times 10^{-4}$ mol dm^{-3}, $\mu = 0.06$ mol dm^{-3}(NaCl), T = 29.0 ± 1.0°C and λ_{max} = 630 nm

3.9 Mechanism of the Reaction

The inhibition of the rates of the reaction by the increase in acid concentration as observed in this reaction showed two parallel reaction pathways: the acid independent and the inverse acid dependent pathways. The inverse acid pathway shows that there is a pre- equilibrium step before the rate determining step in which a proton is lost. This means that the two rate controlling steps are preceeded by a rapid equilibrium for which the equilibrium constant is small, and both the forms, protonated and deprotonated, are reactive. Based on the above result, there is a suggestion that the reaction proceeded through two acid dependent and acid independent pathways

$$MG^{2+} \quad + \quad S_2O_3^{-2} \quad + \quad H_2O \qquad K \qquad MG^+O^- \quad + \quad HS_2O_3^- \quad + \quad H^+ \qquad \text{………5}$$

$$MG^+O^- \quad + \quad HS_2O_3^- \qquad k_2 \qquad \text{Products} \qquad \text{………6}$$

$$MG^{2+} \quad + \quad S_2O_3^{2-} \qquad k_3 \qquad \text{Products} \qquad \text{………7}$$
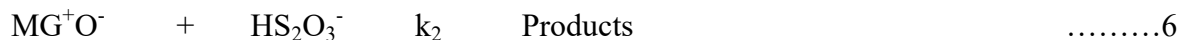
Equation 6 and 7 are the rate determining steps, therefore,

Rate = $k_2[MG^+O^-][HS_2O_3^-]$ + $k_3[MG^{2+}][S_2O_3^{2-}]$ ………8

From equation 5

$[MG^+O^-][HS_2O_3^-]$ = $K[MG^{2+}][S_2O_3^{2-}][H^+]^{-1}$ ………9

Substituting equation 9 into 8

Rate = $k_2[MG^{2+}][S_2O_3^{2-}]$ + $Kk_3[MG^{2+}][S_2O_3^{2-}][H^+]^{-1}$ ………10

Rate = $(a + b [H^+]^{-1}) [MG^{2+}][S_2O_3^{2-}]$ ………11

Equation (11) agrees with the experimentally observed rate law (equation 2)

Where a = $k_2 = 4.8 \times 10^{-2}$ dm^3 mol^{-1} s^{-1} and b = $Kk_3 = 1.8 \times 10^{-2}$ dm^6 mol^{-1} s^{-1}

In trying to assign mechanistic pathway for this reaction, the following points are considered:

The Michaelis- Menten plot of $1/k_1$ vs $1/ [S_2O_3^{2-}]$ was linear without an intercept indicating the absence of intermediate complex formation. This suggests the outer-sphere mechanism (Babatunde *et al.*, 2013).

Absence of free radicals in the reaction mixture suggests the contribution of outer-sphere mechanism.

Absence of spectrophotometric evidence of intermediate complex formation suggests that a precursor complex is probably not formed prior to electron transfer and that the redox reaction most probably occurs by the outer-sphere mechanism.

3.10 Conclusion

The kinetics of reduction of methyl green by thiosulphate ion under acidic medium was studied, the stoichiometry of the reaction was found to be 1:4 and the reaction was found to follow pseudo-first order kinetics. The rates if the reaction were found to be inhibited by increase in acid concentration, added cations and dielectric constant, whereas increased with increase in ionic strength and added anions. Based on the above kinetic data, the reaction is said to follow outer-sphere mechanism.

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Niger Delta Conflict and Dilemma of Environmental Policy Enforcement in Nigeria: A Critique of NOSDRA

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Abstract: *Niger Delta region of Nigeria is a paradox that epitomizes both richness in crude oil and impoverishment of the people. The discovery and production of oil in the region have particularly resulted in diverse environmental curses. The challenges in the region have remained, regardless of attempts aimed at salvaging the situation through appropriate regulations. There is noticeable failure of environmental policy enforcement in the Niger Delta region of Nigeria, which among other things prompted this study to determine how the National Oil Spill Detection and Response Agency has fared in the discharge of its regulatory responsibilities, to find out the factors that affect effective discharge of the regulatory mandate of the Agency and to proffer ways by which it can strengthen its regulatory mechanisms. The study was anchored on regulatory capture theory. Qualitative method of data collection and analysis was employed. As such, relevant data were generated from secondary sources. Analysis was done using descriptive-qualitative method. The study found, among other things, that there is lack of an effective enforcement system by NOSDRA, as a result of inadequate funding. It equally found out that interferences by oil companies impinge on the operations of the Agency. The study therefore recommended the need to increase budgetary provisions for NOSDRA as well as boost its logistics and equipments. It also recommended that sanctions should be enacted and enforced against interferences in the operations of NOSDRA by conflicting interests in the region.*

Key words: *Niger Delta, environmental policy, NOSDRA, oil spill, pollution*

Introduction

In every geo-political and economic system, the need for effective enforcement of policies meant for public good is imperative. [1] affirmed that such an effective monitoring and enforcement by a regulator is very crucial for the efficacy of any system, and argued that such regulatory policies must provide for sanctions which help to compel compliance and maintain effective enforcement. Unarguably, policies need to be thoughtfully enforced in order to be useful.

Generally speaking, internal insecurity has become a defining characteristic of the Nigerian political scene [2]. Many challenges plague it [3]. The Niger Delta region, specifically, is notorious as a centre of oil-related conflicts which require strict application of desirably-

formulated policies in order to tackle a wide range of activities that include sabotage, theft, illegal bunkering and artisanal refining. These challenges have been identified as the major source of oil spills and they consequentially pose serious health and environmental problems in the oil-producing region [4]. The effects of the challenges resonate in several conflict dimensions between the multinational oil companies and their host communities. These, in turn, result in heightened sabotage, including deliberate attacks on oil and gas pipelines with further environmental consequences.

According to [5], destruction of vegetation and farmlands through the activities of oil companies result in severe environmental degradation in the Niger Delta region. He observed that in the order of degradation are oil spillage (49%), air pollution from oil and gas processing (43.3%), destruction of seabed by dredging activities (40.7%), water pollution from effluents (28.9%), as well as deck drainage and spillage during loading operations (16.7%). Others are land pollution from effluents (15.6%), noise pollution from vibration seismic shooting of oil companies (12.4%), and accumulation of solid waste from drilling materials (5.1%) [5].

As part of the responses to the aforementioned challenges, the National Oil Spill Detection and Response Agency (NOSDRA) was established in 2006 by the federal government as an institutional framework to co-ordinate the implementation of the National Oil Spill Contingency Plan (NOSCP) for Nigeria in accordance with the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC 90) to which Nigeria is a signatory. Specifically, NOSDRA has a responsibility to detect and respond to oil spill issues in the country. Be that as it may, enforcing the regulations which protect the environment, particularly in the Niger Delta has posed serious challenge for the agency. The agency appears to have been limited by a number of factors. As a result, the oil companies operating in the oil-producing region have continually stood in breach of the regulations guiding their operations [4]. The contravention, in turn, negatively affects the livelihood of the indigenous people who depend on the ecosystem for survival, thus, leading to increased poverty, displacement of people and other multiple challenges. [6] outlined other environmental hazards affecting the Niger Delta region to include flooding, environmental pollution caused by gas flaring, oil spills from pipelines and waste materials and chemicals, high atmospheric temperature and pest invasion.

It is in line with this environmental policy enforcement failure that this study set out to appraise NOSDRA, with a view to unearthing the basic challenges impacting the delivering of its responsibilities. Previous studies have paid scanty attention to this agency as well as how its inefficiency has contributed to several woes in the Niger Delta region.

Statement of the Problem

Ordinarily, the discovery and production of oil in the Niger Delta region should provoke joy and provide gains for the country and her people. The Niger Delta people are supposed to be a major beneficiary of the accruing benefits. Consequentially, the environment of the region ought to be taken into serious consideration in the entire production chain of oil. The health of the people should have become a priority, with government through her relevant agencies ensuring that existing legislations are promulgated and enforced to achieve those aims.

On the contrary, the oil-producing communities in Nigeria have experienced extensive environmental degradation as a result of the activities of oil companies operating in their areas. Depletion of biodiversity, oil spillage, gas flaring, noise pollution, sewage and wastewater pollution, land degradation, soil fertility loss and deforestation are part of the challenges which

have come to characterize the region. The Niger Delta is rated as the most oil-impacted environment and polluted area in the world [7, 8]. Indeed, the environment has suffered serious diminution and this has resulted in conflicts. Also, the relentless efforts channelled towards environmental justice by the impoverished Ogoni people gave birth to the Movement for the Survival of the Ogoni People whose protests have been sustained against the perennial environmental degradation in the Niger Delta.

Even though the Federal Government established the National Oil Spill Detection and Response Agency (NOSDRA) in 2006 with responsibility to detect and respond to oil-spill issues in the country, the level of oil spills has continued to be a major threat to the Niger Delta region. The capacity of the agency to effectively regulate and manage the activities of oil-exploring companies has remained questionable. Regulating the unhealthy activities of the multinational oil companies in the Niger Delta region of Nigeria appears ineffectual. Enforcement of policies and regulations by the NOSDRA is perceived to be weak. It is believed that strict sanctions have not been adequately meted to firms which are in breach of the regulatory laws. The resultant consequence, therefore, is that the environment of the Niger Delta has been negatively affected and continuously so [9]. It is in view of these challenges and their consequences that this study seeks to examine the factors which influence the effectiveness of NOSDRA.

Research Objectives

The broad objective of the study is to examine the dilemma of environmental policy enforcement in Niger Delta region of Nigeria. Its specific objectives are:

1. To determine how the National Oil Spill Detection and Response Agency has fared in the discharge of its regulatory responsibilities.

2. To find out the factors that affect effective discharge of regulatory responsibilities by the National Oil Spill Detection and Response Agency.

3. To proffer ways of strengthening regulatory mechanisms of the National Oil Spill Detection and Response Agency.

Research Questions

The following research questions are formulated to guide the study:

1. How has the National Oil Spill Detection and Response Agency fared in the discharge of its regulatory responsibilities?

2. What factors affect effective discharge of regulatory responsibilities by the National Oil Spill Detection and Response Agency?

3. How can regulatory mechanisms of the National Oil Spill Detection and Response Agency be strengthened?

Methodology

The study was anchored on qualitative methods of data collection and analysis. As such, relevant data were generated from secondary sources. Analysis was done using descriptive-qualitative method.

Theoretical Framework

The Regulatory Capture Theory propounded by George Stigler in 1970s was adopted as framework of analysis. Other proponents of the theory include Richard Posner, Joel Hellman, Daniel Kaufmann and Johan de Hertog. According to [10], regulatory capture theory offers explanations on who will receive the benefits or burdens of regulation, what forms regulation will take as well as the effects of regulation upon the allocation of resources. He argued that despite the fact that the regulations expected to be strictly enforced by regulators affect the public, the regulated industries, nevertheless, maintain a keen and immediate interest in influencing regulators. According to him, the regulated industries devote large budgets towards influencing regulators at all levels of government against the interest of the individual citizens with very limited financial powers.

In essence, the regulatory agencies become the captured agencies which are consequentially controlled by the industries they are charged with the task of regulating. It is against that backdrop that the theory argues that government opts to advance the commercial or political concerns of special interest groups or large industries that dominate any given sector they are charged with regulating by way of prioritizing them far and above the interests of the public, thus, leading to a net loss for society. Regulatory capture theory therefore suggests that regulatory capture projects that the preferred policy outcomes of special interest groups are promoted and implemented at the detriment of those of the public.

Essentially therefore, regulatory capture theory foretells the situation whereby illegal, unethical, immoral or anti-public interest practices which government authorities are charged with policing are rather protected. At a first level of capture, the regulator allows the regulated to breach the law, ethics, good practice, moral principle or public interest which the regulator is responsible for upholding. At a second level, the regulator assists the regulated to escape the regulatory consequences after the act. At a deepest level of development, the capture is so complete that the regulator may assist the regulated to defeat the regulatory regime before the fact [11]. As such, [12] maintains that regulation deviates from benefiting public interest to becoming a process by which interest groups seek to promote their private interest through gift and bribe-giving to the government agencies.

The regulatory capture theory is suitable for this study which examines the National Oil Spill Detection and Response Agency and its dilemma in environmental policy enforcement in the Niger Delta of Nigeria. Major concern has mounted over the perceived inability of NOSDRA to enforce environmental regulatory laws in the region. There is an apparent capture of the agency by the oil industries. As a result, the people whose interest the agency is expected to protect are subjected to various consequential impacts of the polluted environment. It is against this backdrop that the adoption of the regulatory capture theory as framework of analysis becomes appropriate.

Literature Review

Crude Oil Exploration and Environmental Pollution in Niger Delta Region: An Overview

There is no gainsaying the fact that the activities in the Niger Delta of Nigeria necessitated by oil exploitation are a tale of woes. The activities of oil companies in the region render the soil infertile, burn vegetation and kill useful soil organisms, thereby hampering agricultural output and productivity. Exploration, mining and processing of minerals result in different types of environmental damages and hazard [13]. Other several impacts continue to trouble the region. For instance, reduction in the availability of aquatic products continues, thereby triggering an increase in prices of such products. Oil resource exploitation which involves chemical-seismic wave generation is equally a major source of environmental degradation. According to [13], operational accident and equipment failure release some quantities of oil into the environment during oil exploration, storage, processing and distribution.

On the other hand, oil spills pose a serious concern with regard to the health of the people. As [14] observed, leaked oil permeates the coastal waters and streams. Equally, massive mangrove dying off is a common phenomenon plaguing the Niger Delta region where coastal oil exploitation occurs. The grasses, palm trees and other forms of vegetation within the Niger Delta village communities suffer from pollution [15].

From 2014, a total of 1087 oil spills with an average of 91 spill incidences have been recorded per month. An average of 733 spill incidences have equally been recorded annually with a total average of 23,000 barrels spilled per annum. In fact, Nigeria has witnessed incessant oil spill incidences in the past five decades with devastating consequences on land and coastal environment in the Niger Delta region [16]. A fact which needs to be stressed is that whereas the oil industry located within the Niger Delta region has contributed impressively to the economic growth and development of the country, unsustainable oil exploration activities have, nonetheless, damaged the ecosystem [17]. That explains why it is argued that the Niger Delta region is composed of various oil producing communities with underdeveloped environment [13].

NOSDRA, Pollution and Dilemma of Environmental Policy Enforcement

Obviously, Section 6(1) of NOSDRA Act has vested in the agency the responsibility of surveillance and ensuring compliance with all existing environmental legislation and detection of oil spills in the petroleum sub sector. In addition, the Act accounted for the administrative and management functions of the agency. However, the question which has agitated the minds of scholars over time is whether NOSDRA has the capacity to handle the issue of oil companies polluting the environment in their host communities. The issue of whether the agency suffers interference in its activities has equally continued to linger.

As [18] pointed out, the poor monitoring and mitigating capacity of NOSDRA has become worrisome in the Niger Delta region, such that vandals, militants, saboteurs, oil companies and the government have all contributed in one way or the other to this situation in the region. In fact, there has been contention that the inability of NOSDRA to effectively manage oil-related environmental challenges confronting communities in the region is possibly caused by interferences from multi-national oil companies. For instance, oil companies have been accused of taking the lead in terms of oil spill investigations. The oil corporations decide when to visit oil

spill sites [19]. Also, [20] raised the alarm that oil companies' personnel usually lead oil spill investigations since the agency does not initiate oil spill investigations.

In the light of this revelation, it is therefore an irony that an agency that should be independent relies on the mercies of the oil companies which it sets out to regulate in order to judiciously carry out its investigation of oil spill incidents. In fact, [18] went further to assert that the interferences by oil companies have often manifested in form of deciding when investigation of oilspill-related issues will take place, even as the oil companies usually provide transport to the site as well as technical expertise which NOSDRA lacks.

Obviously, the inefficiency of NOSDRA is a combination of factors which include inadequate funding. This explains why burst oil pipelines are left unattended to for several days. This encourages the locals to scoop spilled petroleum product with its negative consequences. Such an action has triggered fire explosion in the past and has continued to do so. Besides, the effectiveness of NOSDRA has been hampered by competing legislation, incoherent spill detection requirements and tiered response mechanisms across diverse agencies [18]. The diversity of the challenges led [21] to also conclude that the lacuna in the penalty as provided in the NOSDRA Act appears to perceive only oil spillers in view of the corporate or oil-producing companies or tanker owners and not the individuals who for example perforate oil pipelines to siphon petroleum products and eventually left it open thereby causing oil spillage. In that regard, it becomes difficult for the agency to channel its operations into comprehensively combating oil spills.

The insight provided by Amnesty International regarding the bottlenecks faced by NOSDRA is quite instructive. According to [22], the major problem is that the agency which falls under the Federal Ministry of Environment lacks the capacity and expertise to properly monitor the hundreds of oil spills that occur every year across the Niger Delta, a vast area, much of which is hard to access. In particular, it hinted that NOSDRA's lack of funding means that the agency has no proactive capacity for oil-spill detection and has to rely on reports from oil companies or civil society groups concerning the incidence of a spill. It went further to hint that the agency has very little reactive capacity to even send staff to a spill location once an incident is reported. The implication therefore is that because of a lack of vehicles as well as no access to boats and helicopters which are essential in reaching many spill locations, the regulatory authority is wholly reliant on the oil company to the detriment of an independent operation. Table 1 shows federal allocation for NOSDRA from 2008-2018.

Table 1: National Oil Spill Detection and Response Agency (NOSDRA) Federal Allocations from 2008 - 2018

YEAR	TOTAL PERSONNEL COST	TOTAL OVERHEAD COST	TOTAL RECURRENT	TOTAL CAPITAL	SALARY & WAGES - GENERAL	BENEFITS AND ALLOWANCES - GENERAL	SOCIAL CONTRIBUTION	TOTAL GOODS AND NON - PERSONAL SERVICES – GENERAL	TOTAL ALLOCATION
2008	134,639,059	-	-	212,240,000	103,431,395	18,278,740	12,928,924	139,307,438	**486,186,497**
2009	155,065,871	-	-	428,745,289	115,009,736	25,679,918	14,376,217	275,307,438	**859,118,598**
2010	187,708,920	-	-	1,052,552,159	140,378,911	29,782,646	17,547,364	332,212,455	**1,572,473,534**
2011	373,582,964	378,698,748	752,281,712	180,947,438	-	-	-	-	**933,229,149**
2012	568,614,694	305,843,592	874,458,286	650,000,000	-	-	-	-	**1,524,458,286**
2013	677,813,347	268,947,599	946,760,945	1,603,165,291	-	-	-	-	**2,549,926,237**
2014	1,010,443,796	302,694,612	1,313,138,408	589,856,156	-	-	-	-	**1,902,994,563**
2015	1,590,643,696	153,368,164	1,744,011,860	140,000,000	-	-	-	-	**1,884,011,860**
2016	1,487,251,855	146,077,906	1,633,329,761	123,838,103	-	-	-	-	**1,757,167,864**
2017	1,748,098,007rtg	160,909,522	1,909,007,529	406,224,234	-	-	-	-	**2,315,231,763**
2018	1,958,327,675	160,909,523	2,119,237,198	563,415,084	-	-	-	-	**2,682,652,282**

Source: [23]

Unarguably, such weak regulation by the government agency has resulted in frequent oil spills. As a result, pollution of the environment has been extensive and persistent with huge impacts. This explains why, for instance, there were 5,848 incidents resulting in the spillage of about 169,691 barrels of oil between 2010 and 2018 [24]. Table 2 reveals this fact.

Table 2: Oil Spills in Nigeria, 2010-2018.

Year	Number of Spills	Quantity of Oil Spilled (Barrels)
2010	537	17,658.10
2011	673	66,906.84
2012	844	17,526.37
2013	522	4,066.20
2014	1,087	10,302.16
2015	753	32,756.87
2016	434	1,658.98
2017	429	9,097.05
2018	569	9,718.22
Total	5,848	169,690.79

Source: [23].

As the table shows, there were a total of 5, 848 number of oil spills in the country for a period of nine years covering 2010-2018. The quantity of oil spilled within the period stood at 169, 690.79 barrels. The inertia exhibited by NOSDRA results in delay in responding to incidences of oil spill. For instance, [25] observed that it was regrettable that Shell Petroleum Development Corporation (SPDC) did not deem it fit to respond to the various efforts of NOSDRA in ensuring

that a damage-assessment exercise was carried out promptly. Table 3 shows slowest 10 responses of oil spills in the country.

Table 3: Slowest 10 Responses of Oil Spills in Nigeria

Company	Response time (Days)	Reported volume (Barrels)	Year	Location
Eni	430	4	2015	8" Nimbe South-Obama Flowline
Shell	252	10	2016	20" TEP at Ugbuegungun
Shell	190	0.2	2015	12" Imo River - Ogale Pipeline at Owaza
Shell	189	0.4	2015	Ubie Well 5S/L Flowline at IduEkpeye
Shell	180	44	2016	20" Otumara-Escravos Pipeline at Ogidigben
Shell	156	3	2014	Bonny Well 2L Flow line at Ererekiri/ Okolo Launch
Shell	126	18.84	2012	16" South Forcados Trunkline at OviriOlomu
Eni	123	3.2	2015	Idu 11Ls Thermo Well
Shell	121	15	2017	12" Imo River-Ogale Pipeline at Umuololo
Shell	113	73	2016	20" Kolocreek to Rumuekpe Pipeline Riser at Aminigboko

Source: [22]

The table shows poor responses to oil spills. It shows that such delays occur on yearly basis with necessities in arresting the situation not put into place. Specifically, [22] reported that in 2016, it took SPDC 113 days to turn off a spill in Kolo creek to Rumuekpe Pipeline Riser at Aminigboko while in 2017, oil spill at Imo River–Ogale Pipeline at Umuololo was turned off after 121 days. Sadly, the more the delay, the more the damage is done to the environment.

At the start of Bodo oil spill, NOSDRA was first informed of the spill on 28th August 2008, yet no site visit was done till 7th of November 2008, which is about 72 days after the incident. In Yorla oil well spill in Rivers state, it was reported that the oil spill continued burning for over a month. Again, in Nembe Obama South Flowline, operated by Eni which is one of the oil corporations in Bayelsa state, a spill was reported on the 8th October 2015, yet there was no intervention until 11 December 2018. This is about 430 days after the incident occurred [22].

Reports confirm that NOSDRA is unable to conduct rigorous and independent investigations [22]. Instructively, it is observed that the scope and powers of the agency appear to be too narrow, while its legislative powers are insufficient to enable it engender a dispensation where oil companies, communities, and government agencies, respond timeously to oil spills. This situation may have justified the efforts aimed at amending the NOSDRA Act 2006 in order to adequately position the agency to discharge its mandate of responding to oil spills effectively and efficiently.

Environmental Management in Niger Delta and Imperativity of NOSDRA

There is no gainsaying the fact that the need for a clean environment in the oil-producing Niger Delta region requires the establishment of such agencies as NOSDRA. In sections 5, 6 and 7 of its establishing Act, the agency is statutorily empowered to coordinate and control response to oil spill incidents in Nigeria. Section 5 (1) specifically provides that the objectives of the Agency shall be to monitor, regulate Tiers one and two oil spills as well as coordinate, implement and review the National Oil Spill Contingency Plan for Nigeria. Other responsibilities are to:

i. Establish a viable national operational organization that ensures a safe, timely, effective and appropriate response to major or disastrous oil pollution. The establishment of the agency is to provide an effective mechanism for the monitor and control of oil-related pollution as stated above.

ii. Identify high-risk areas as well as priority areas for protection and clean up. The identification of high risk areas in the context of the operation of the agency may be situated within the vulnerable areas that have been badly affected by oil spill. In this case, immediate response is needed to take prompt action by the agency and oil companies in finding a proactive solution to the problem.

iii. Establish the mechanism to monitor and assist or where expedient direct the response, including the capability to mobilize the necessary resources to save lives, protect threatened environment, and clean up to the best practical extent of the impacted site.

iv. Ensure funding and appropriate and sufficient pre-positioned pollution combating equipment and materials, as well as functional communication network system required for effective response to major oil pollution.

v. Ensure a programme of activation, training and drill exercises to ensure readiness to oil pollution preparedness and the management of operational personnel.

vi. Co-operate and provide advisory services, technical support and equipment for purposes of responding to major oil pollution incident in the West African sub-region upon request by any neighbouring country, particularly where a part of the Nigerian territory may be threatened.

vii. Provide support for research and development (R&D) in the local development of methods, materials and equipment for oil spill detection and response.

Section 6(1) of NOSDRA equally provides that the Agency shall:

a. be responsible for surveillance and ensure compliance with all existing environmental legislation in the petroleum sector including those relating to prevention, detection and general management of oil spills, oily wastes and gas flare;

b. enforce compliance with the provisions of international agreements, protocols, conventions and treaties relating to oil and gas and oil spill response management and such other related agreements as may from time to time come into force;

c. receive reports of oil spillages and co-ordinate oil spill response activities throughout Nigeria;

d. co-ordinate the implementation of the Plan as may be formulated, from time to time, by the Federal Government;

e. co-ordinate the implementation of the Plan for the removal of hazardous and noxious substances as may be issued by the Federal Government; and

f. ensure that all oil industry operators in Nigeria subscribe to and be bonafide members of Clean Nigeria Associates (CNA) or any other similar association by whatever name called.

Is NOSDRA Captured?

A pertinent question that arises from the inability of NOSDRA to effectively discharge its aforementioned responsibilities has to do with whether it has actually been captured by the oil companies which it is saddled with the task of regulating. The worry is indeed justified. For instance, it is the responsibility of NOSDRA as provided by law to fine oil companies that fail to provide adequate compensation to the communities affected by oil spill. It is also mandated to fine oil companies when they fail to report or clean-up/remediate spills [26]. However, though it has made efforts to assess and impose such fines in recent history, it seems to lack the power to enforce these penalties, much less any agreements that might be reached through its mediation efforts [27].

Obviously, more worrisome about the incapacitation of NOSDRA is the fact noted by [1] to the effect that lack of an effective enforcement system betrays the good intention for a legal framework in the first instance. His position is hinged on the fact that effective monitoring and enforcement by a regulator is very crucial for the efficacy of any regulatory system. However, discharging the responsibility effectively is mainly facilitated by sufficient robust laws that are comprehensive and consistent with a range of sanctions to help compel compliance and maintain effective enforcement [1]. All of these are lacking in the case of Nigeria and the activities of multinational oil firms operating in the Niger Delta.

What this simply means in clear terms is that certain external conditions have ganged up to hinder the attainment of NOSDRA goals. Whereas the government that set up the agency has not helped the situation by ensuring proper funding of its agency, other cryptic factors have worsened the case. For instance, the interference by way of inducement by oil companies is a major feature in Nigeria. It is an open secret that multinationals generally conspire with regulatory officials to swindle the people in their host countries and Nigeria is not an exception in this evil venture.

To lay further credence to this fact, [12] was emphatic that multinational corporations bribe African officials to subvert standards and maximize profit and that a notable Swiss corporation whose common stock is registered on the New York Stock Exchange under the symbol NE had hired agents that bribed officials in Nigerian oil sector. According to him, multinationals, in the face of weak regulatory institutions in Africa, force African governments to forgo large chunks of their potential revenues, subvert standards, maximize profits, extend drilling contracts and obtain false documentation related to drilling rigs and other equipment. Certainly, the oil companies do more harm to their hosts in Nigeria diverse manner and obviously get away with their sins. What supplies oxygen to their nefarious activities is the case of poor regulatory institutions, of which NOSDRA is one.

Regulatory Inertia and Consequences for Niger Delta

In view of the peculiar situation in the Niger Delta, it is instructive to note that lack of an effective regulation results in dire consequences for the environment. For instance, the poor regulation emboldens illegal refining activities which in turn cause the most environmental

damage in the Niger Delta. When an oil spill occurs, many elements of the environment are affected, effects of which may range from minimal to serious ones. For instance, the oil spills occurring in a water environment are rapidly degraded.

As [4] noted, the extent of oil spills in the Niger Delta region suggests that some essential provisions of regulatory laws are being disobeyed by the oil companies without adequate sanction. On the other hand, the delays in effecting clean up or remediation of the spillage has been linked to weak institutional operation of NOSDRA and other regulatory agencies of government. [28] accused Shell of claiming to have cleaned-up Ogoniland despite the obvious failure to achieve regulatory compliance. This resulted in contamination of the ground water with dire consequences on the local people.

In fact, the UNEP report noted that when a spill occurs, it is the responsibility of the oil companies to clean it up in line with the existing environmental regulation. However, this fails to happen in some instances. That is why [29] argues that whereas oil companies take great pains and caution to bury their oil pipelines in the ground out of sight in other countries, but the case is different in Nigeria where pipelines are laid on the surface in contravention of regulations. It is obviously in the light of such abuse of standard procedure that it has been rightly contended that if NOSDRA is to effectively carry out its mandate of monitoring and regulating the industry, its scope of operations must be clear. Its ability to ensure that its directives are carried out should as well be sufficient in order to command the respect of the regulated.

Obviously, the consequences of the regulatory inertia on the Niger Delta are enormous. Over the past five years, the country reportedly lost close to $1 billion in revenue annually due to flaring and increasing environmental pollution in the Niger Delta region. From 2014 to 2018, the country equally reportedly lost N301 billion, N243 billion, N229 billion, N227 billion and N233 billion respectively from flared gas. Nigeria's Gas Flare Tracker had revealed that there were over 100 active flare sites in eight states where gas is currently being flared. Figure 1 and table 4 show the impact of poor regulation on the environment.

Figure 1: A farmer showing the damage done to his fish farm in Bodo, May 2011 by Shell's oil spill

Source: [30]

Table 4: Nigeria and Loss of Oil to Spill

In 2020, Nigeria suffered losses amounting to 21,291.673 barrels of oil, an equivalent of 3,364,084.375 litres, due to spills, much of the spill in 2020 was recorded in February, when 6,327 barrels were lost, followed by 4,676 barrels recorded in January, while July took the third position by recording 2,174 barrels. In August, 1,815 barrels of spill were recorded, followed by 1,596 barrels in April, while 1,262 barrels were spilled in June. December, November, October, September, May and March had 846, 572, 401, 321, 235 and 229 barrels of spill, respectively
In 2019, 42,076.492 barrels of oil (6,648,085.706 litres) were spilled. February also recorded the highest spill with 9,148 barrels, followed by June with 6,404 barrels, while January made the third position with 5,559 barrels. November, August, July, October and April had 4,113, 2,620, 1,978, 1,338 and 1,230, barrels, respectively, while September, March, May and December recorded 1,113, 1,015, 993 and 879 barrels, respectively. For barrels of oil that occurred due to operational issues, March had the highest with 323 barrels, followed by May with 235 barrels, while November had 116 barrels.
Shell Petroleum Development Corporation, SPDC, was one of the oil spilling companies which had 186 spills and 13,280 barrels attributed to it.

Nigeria Agip Oil Company, NAOC, which had 35 spills with 695 barrels.
Exploration and Production recorded 21 spills with 4,412 barrels,
Seplat Petroleum Development Company had 21 spills with 95 barrels reported volume.
Heritage Oil Limited had 19 spills worth 378 barrels, while First Exploration and Development Company, ND West and Chevron recorded 12 spills (62 barrels), 10 spills (1,490 barrels) and 9 spills (2 barrels), respectively.
Enageed Resources Limited, Nigerian Petroleum Development Company, Platform Petroleum Limited, Mid Western Oil & Gas Company had six spills each worth 47, 83, 11 and 143 barrels, respectively.
Aiteo Exploration and Production, as well as Total Exploration and Production recorded five and seven spills each worth 430 and 83 barrels, respectively.

Source: [31]

Conclusion and Recommendations

In Niger Delta region of Nigeria, central concern has shifted from discovery and production of crude oil to managing the environment often degraded by the activities of actors in the oil business. To drive this initiative, regulatory legislation has been formulated by government for implementation by relevant agencies, including the National Oil Spill Detection and Response Agency. Specifically, NOSDRA's major responsibility is to monitor, regulate Tiers one and two oil spills as well as coordinate, implement and review the National Oil Spill Contingency Plan for Nigeria. However, it has over time been bogged down by regulatory inefficiency orchestrated by diverse factors.

The inefficiency of NOSDRA is, indeed, a combination of multiple factors which include inadequate funding. This explains why burst oil pipelines are left unattended to for several days. NOSDRA's lack of funding also means that the agency has no proactive capacity for oil-spill detection and has to rely on reports from oil companies or civil society groups concerning the incidence of a spill. Further implication is that the agency has very little reactive capacity to even send staff to a spill location once an incident is reported. The lack of vehicles as well as access to boats and helicopters which are essential in reaching many spill locations as a result of the paucity of fund means that the regulatory authority is wholly reliant on the oil company to the detriment of an independent operation. It is consequentially an irony that an agency that should be independent relies on the mercies of the oil companies which it was set up to regulate in order to judiciously carry out its investigation of oil spill incidents.

Besides, the effectiveness of NOSDRA has been hampered by the competing legislation, incoherent spill detection requirements and tiered response mechanisms across diverse agencies. The agency lacks the capacity and expertise to properly monitor the hundreds of oil spills that occur every year across the Niger Delta, a vast area, much of which is hard to access. Also, interferences by oil companies have often manifested in form of deciding when investigation of oilspill-related issues will take place.

The lack of an effective enforcement system by NOSDRA gives room for disobedient to essential provisions of regulatory laws by the oil companies and without adequate sanction. Obviously, the agency lacks powers to enforce fine against oil companies when they fail to

report, clean-up or remediate spills. The poor regulation consequentially emboldens illegal refining activities which in turn cause environmental damage in the Niger Delta.

More worrisome in the challenges besetting NOSDRA is the finding that the regulated multinational companies have captured the regulator against public interest. The resultant effect of this infraction is continuous degradation of the environment as well as the consequential health hazards for the Niger Delta people. It is against this backdrop that the region has continued to become a centre of conflicts.

In view of these findings, the study made the following recommendations:

i. There is need to increase budgetary provisions for NOSDRA as well as boost its logistics and equipments.
ii. The National Assembly should, as a matter of urgency, amend the Act establishing NOSDRA with a view to addressing competing legislation, incoherent spill detection requirements and strengthening its capacity and expertise.
iii. Stringent sanctions should, as well, be provided and enforced against interference in the operations of NOSDRA as well as failure to report and remediate spills by oil companies operating in the Niger Delta.

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Nigerian Learning System and Challenges Confronting it

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Abstract: *Every society clearly define their developmental needs and plans. No society can develop without first and foremost developing her educational system. The educational system and the way it carried out becomes the driver that takes every other developmental needs of the economy. Put in another form, all sections of a country's development plans hinge on the educational system of the country. The educational system of the country also depend on the learning system or condition through which the goals of education could be achieved. When the learning system is faulty, the educational goals of the society is in jeopardy. Therefore, to achieve the goals of education, the learning system must be fixed appropriately to overcome challenges. Upon this background, this paper attempts to examine the Nigerian learning system vis-à-vis our educational goals. It also examines the challenges of our learning system and proffers solutions and recommendations.*

Key words: *Learning system, education, learning, policy, challenges.*

Introduction

The concept learning, refers to the acquisition of facts terms, generalizations etc. It relates also to the acquisition of habits, perception, attitudes, ideas and the social adjustments (Ituen, 2004). Cotton, (1958) defines learning as "a relatively permanent change in behaviour or potentials behaviour resulting from experience". This means, learning and retention could not be separated.

Anusien (2000) sees learning as any enduring change in behaviour that is as a result of experience and which causes people to face latter life situations differently. Leaning here could be referred to as education. Though, learning is a process of education, both of them complement the other and cannot be separated. Both of them too changes the behaviour of the learner. Some psychologists have attempted to define the concept, learning. Kimble (1961) sees learning as a relatively permanent change in behaviour potentiality which occurs as a result of constant practice. Lovell, (1973), defines learning as a change in human disposition or capability which can be retained and which is not simply ascribable to the process of growth. Marx (1969), defines learning as a relatively enduring change in behaviour which is a function of prior behaviour.

From the foregoings, the concept learning could be said to be synonymous with change. However, learning could be positive or negative functions of the system. Its implications, either positive or negative could impact on the social, emotional, economic, political and

moral life. As a social system, our educational system could have positive or negative impacts due to the type of learning formula that the government of the day adopts.

Basic Principles of Learning
Learning does not take place in a vacuum. It follows certain laid down guidelines. Hence, psychologists argue that these principles must be present before learning could take place. Anushiem (2000), listed the principles as follows:

(a) Principle of Readiness,
(b) Principle of Need,
(c) Principle of Frequent Practice,
(d) Principle of Satisfaction,
(e) Principle of Association and
(f) Principle of Recency.

Psychologists believe that learning takes place in children when they are ready to do so. It is when children are ready that they learn best in school. This also applies to mental maturation. A child should not be forced to be in the class when that child is not intellectually and mentally ready.

Principle of Need here means that every learning outcomes of the child should be channeled towards his needs. Learning should solve the need challenges of both the child and the society.

The Principle of Frequent Practice means that the child learns better when he is drilled in constant practice. This is in line with the saying, "Practice makes material, the more insights he develops and more discoveries made by the student.

In the **Principle of Satisfaction**, it emphasizes that learning should be made more interesting, stimulating meaningful and motivating. Through, this, the child gets satisfaction from the learning outcomes. Uninteresting, unstimulating learning outcomes do not satisfies the learner's conscience.

On the other hand, the **Principle of Recency** emphasizes that a learner only remembers those things which occur recent and which at initial learning were meaningful, teachers who teach with illustrations that happen recently are likely to achieve results. Children learn easily when they remember recent events as either illustration or as example.

Learning Style
Generally speaking, learning styles could be said to be categorized into three main broad areas. Ituen (2004), listed three learning styles as follows: the teaching style, the learning

style and the learning environment. For learning to be said to occur, the teachers methodology in his/her teaching is important. If a teacher employs the wrong teaching method in the classroom, the students could not learn the material. Equally, the students learning style enhances good learning habits. Assignments, projects, excursions, visitations, availability of texts and other learning materials must be present. Experiments, practicals and practical demonstrations is also important. Most importantly, under which environment is learning taking place? The facilities such as buildings, libraries, laboratories, boarding facilities, classroom facilities such as furniture must be present before meaningful leaning could take place.

Therefore, the combination of these three guarantees effective and efficient learning for the child.

Broadly speaking, learning styles could not be mentioned without the mention of Benjamin Blooms Taxanomy of learning. Blooms (1956) developed a well modeled learning styles which educationists referred to as Bloom taxanomy of educational objectives. Blooms categorized learning into the following three basic areas: cognitive style, affective style, and psychomotor style.

Cognitive Styles
These are concerned with learning which passes information it indicates a learner's style of perceiving, thinking, problem solving and remembering. It is concerned about mental or intellectual growth. It takes knowledge and understanding of the information as the basics of learning a material. Here, learners could remember, recall a concept.

Affective Styles
These refer to the motivational processes that ideal with attention, emotion, valuing and expectancy. They deal with perseverance, persistence, curiosity, etc. Every learning style should be able to inculcate such values as honesty, patriotism, hardwork etc. to the learners. There must be affection and love virtues that would shape the mind of the learner in living with the broader society after leaving school.

Psychomotor/Physiological Styles
Learning outcomes must teach the body functions. They are modes of response which are based on sex, quality of personal nutrition and health and the pattern to react to the environment. Teachers should be on guard for symptoms of physiological problems. As the child grows, he/she should be taught how to use the hands for the manipulation of certain skills to improve his/her learning styles. Such physiological features as hands are important in learning such as writing, drawing, moulding, dissecting etc.

The Nigerian school learning system.

The school is the tool which co-ordinates all the learning activities in the society. Hence, Ezewu, (1983), described school as a social organization which is a part of the community and had some goals which it pursues in accordance with the community or society where it is built.

Before the arrival of school education in Nigeria, children were educated at home. There were however, little variations from one community to another, but their traditional education pursued one goal and that was character training Ogbonnah (1986). With the arrival of school education and the church, instead of helping the community to pursue what they valued, the school opposed the traditional system. As a result, many people refused to send their children to the school. Later, the school education were embraced when parents realized the importance of school education through the church.

Nigerian school system has passed through different stages of development. The British government that colonized Nigeria bequeathed their own system of education which centered much on cognitive style of learning-knowledge. In 1977, the Federal government reviewed their school education through the formulation of National Policy on Education (NPE) which has gone several reviews since 1977. The current is in 2014. Here in the policy of education, the goals of all levels of education in Nigeria were spelt out.

The goals of primary school education are to prepare children for life, teach them the culture of the society and give those with the necessary background the opportunity to proceed to secondary school, and those with less opportunity to proceed to other areas such as craftworks trading, agriculture etc.

The goals of secondary school education include preparing the students for life, selecting students for the next stage of education. Those who will not proceed to the next stage of education are prepared for employment and other useful livings within their community.

For the teacher training college, the goals are to produce highly motivated, conscientious and successful classroom teachers for a limited level of education. To develop in the teacher, the spirit of inquiry, creativity, nationalism and a sense of belonging. To make the teacher to be intellectually, professionally and socially capable of participating in the life of the society.

The goals of the University are to prepare the students to pursue knowledge, impart and spread that knowledge and offer expert service to the nation. It should be mentioned that while Colleges of Education and Polytechnics are expected to produce medium level, manpower, university is expected to produce high level manpower.

While primary education starts at the age of six years, it is expected to run for six years – Junior Primary 1-3, Senior Primary (New Basic) 4-6. After this, the child gets his First School Certificate. The Secondary also has six classes – Jss 1-3 and SS 1-3. After the JSS education, the child gets Basic Education Certificate Examination (BECE) and sits for West African Senior School Certificate Examination (WASSCE) after his/her senior secondary education. At the University level, the child graduates after four or five years; depending on the course being pursued. It could be three years for Colleges of Education and two years for Polytechnics.

Problems of Learning in Schools

Ogbonnah (1986) highlighted the followings as some of the problems confronting Nigerian education:

(a) **Inadequate Pre-school Preparation:**
In Nigeria, Kindergarten and Nursery education exists only in the urban areas. It is limited to children of high socio-economic status or the high class. In rural areas, many of the parents are illiterates and their pre-school education to the children are based on domestic training, folklore and farming. In America, kindergarten can be used profitably to build readiness for formal school education: children from the educated parents have advantages at home and in nursery schools.

(b) **Insufficient Learning Materials:**
Instructional materials are made to enhance learning. Such materials as audio-visual aids, textbooks, maps, charts etc helps children to learn fast. Children learn more when they see more. There are no over-head projection, tape recorders to enable them view certain learning outcomes or listen to some tunes or instruction on tape. Learning in Nigeria is theoretically imparted with poor teaching methods.

(c) **Lack of Interest in School Activities:**
A learner is expected to show interest in all the activities of the school. However, children from low socio-economic status homes show less interest in sporting activities than children from high socio-economic status homes. Children from high socio-economic homes show interest in both academic and either activities in schools than their counterparts in low socio-economic status homes. Unfortunately, most of our teachings are quite abstract and distant from the needs and interests of the children generally.

(d) **Family Background and Lack of Necessary Amenities for Learning.**
People of high socio-economic status send their children to school earlier than those of low socio-economic status. They have the means and opportunities of sending their children to nursery schools which serve as transition from home to the school. In most cases, their children start formal school at the age of five rather

than six. On the other hand, the amenities that should be provided in the schools are not provided. Such amenities as furniture, blackboards, writing materials, libraries are not there. This reduces the learning abilities of children in schools.

(e)   Lack of Funds:
The major problem bedeviling the growth of teaching and learning is inadequate funding. Our governments do not fund education adequately. Due to lack of funds, teachers salaries are not paid, amenities are not provided. This affects learning negatively that the children could not learn properly. The teaching aids are not provided. Other learning aids such as projects, audio-visuals etc. are not provided due to lack of funds.

(f)   The Emergency of Cultism:
Secret cults have penetrated into our secondary and tertiary schools. These secret cult members intimidate fellow students. Their members assault both students and staff; thereby endangering lives and properties on campus. The cult members create a sense of fear that even the teachers are afraid of them. Cult members disrupt teaching and learning processes in our schools. This they do by disrupting social and recreational facilities. Sometimes, facilities in the school are vandalized by the cult members. This makes the students to live in fear, learning, hardly strives in such environment.

(h)   Political Consideration:
Political factors are an important of Nigerian educational system. Appointments are made based on political god fatherism in the Ministry of Education. Mediocrity therefore is thrown on the altar of merit. Some teachers refuse postings especially in the villages because they have god fathers in the government. Some communities may not have schools sited in their communities because areas because they have no body in government.

Solutions/Recommendations
If the following underlisted solutions are implemented by the government, our teaching and learning would go to the next level.

(a)   Both the Federal and State governments should site, fund and manage nursery/kindergarten schools. These nursery schools should be sited both in rural areas and urban areas to prepare both the children of low income earners and the children of high income earners too. It should be also compulsory. This is to enable our children to prepare very well for primary education.

(b)   Provision of Facilities.

Our governments – Federal, State and Local should as a matter of necessity should provide teaching aids to all levels of our education system. Our primary and secondary schools should be well equipped with art of state facilities. Our universities and other tertiary institutions should be well equipped to meet the challenges of the society.

(c)   Motivating our learners.
Our children should be motivated to learn. Their interests, should be aroused. This government can do by making schools attractive to all manner of children.

(d)   Adequate Funding
Government should take funding of our schools with every sense of seriousness. There is no doubt that education is underfunded. This has led to the dearth of books, equipments, qualified teachers and non provision of other learning facilities in schools.

(e)   Eradication of Cultism
Government should put appropriate measures towards eradicating cultism on our campuses. Cultism have made our students to live in fear. Some students have lost their lives for cultism. Some staff too have lost their lives too. Our education schools should be cultism – free environment where students can learn without molestation. Any student found to be a member of cult should be rusticated.

(f)   Divorcing Education from Politics
Education is a very important social good. Government should therefore, not use political considerations in deciding matters related to education. Education matters should be left in the hands of education experts and managers.

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Creative Accounting and Financial Performance of Food and Beverages Companies in Nigeria

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Abstract: *The study examined the relationship between creative accounting practices and financial performance of food and beverage companies in Nigeria. The study was guided by four specific objectives, four research questions and four research hypotheses. The study adopted aggressive earnings management and income smoothing as the dimensions of creative accounting practices while return on asset and return on equity were used as the measures of financial performance. The study was anchored on Ethical theory. The study adopted survey research design. The population of the study comprised twenty food and beverage companies in Nigeria that are listed on the Nigerian Stock Exchange as at December 2020 while the sample size consisted of fifty-two (52) accountants, auditors and managers selected food and beverage companies in Rivers State. Simple random sampling was used to select the respondents. Structured questionnaire was the data collection instrument used. Frequencies, simple percentages and weighted mean scores were used to analyse the demographic data of the respondents and other items of the questionnaire while Pearson Product Moment Correlation was used to test the hypotheses formulated at 5% level of significance. Statistical Package for Social Sciences (SPSS) version 21 aided the data analysis. The results of the study showed that: aggressive earnings management has a positive and significant relationship with return on asset, aggressive earnings management has a positive and significant relationship with return on equity, income smoothing has a positive and significant relationship with return on asset, and lastly, income smoothing has a positive and significant relationship with return on equity of food and beverage companies in Nigeria.The study concluded that creative accounting practices has significant positive relationship with financial performance of food and beverage companies in Nigeria. The study recommended among others that creative accounting practices should be considered as a serious crime while accounting bodies, law courts and other regulatory authorities need to adopt strict measures to stop the practice and punish the offenders.*

Key words: *Aggressive earnings Creative accounting, financial performance, foods and beverages firms, income smoothing.*

INTRODUCTION

The main objective of financial reporting is to provide information about the wealth performance and financial health of a company. Though it is true that financial statements are likely to be the most effective way of conveying information to the public, it should be noted when reading the reports; the figures may not necessarily show a true and fair view and might also be misleading (Ibanichuka & Ihendinihu, 2012). However, the accounting process and regulatory framework prescribed by the different regulatory agencies in the accounting profession gives room for discretionary judgments by the accountants. Trying to resolve conflicts between the competing different approaches in which the results of financial events and transactions are presented,

provides opportunity for manipulation, deceit, and misrepresentation. These negatively practiced activities by the less scrupulous elements of the accounting profession are popularly known as creative accounting (Idris, Kehinde, Ajemunigbohun & Gabriel, 2015).

According to Amat and Gowthorpe (2014) creative accounting also known as aggressive accounting is the process that deals with matters of accounting appraisal, conflicts, items and events. This flexibility gives room for manipulation, deceit, and misrepresentation. Hence, the accountants use their knowledge of accounting rules to manipulate the figures reported in the accounts of a business. Creative accounting is also accounting practices that may or may not follow the letter of the rules of accounting standard practices but certainly deviate from those rules and regulations. It may be characterized by excessive complication and using innovative ways of characterizing income, assets and liabilities. It involves the use of accounting knowledge to influence the reported figures, while remaining within the jurisdiction of accounting rules and laws so that instead of showing the actual performance or position of the company, they reflect what the management wants to tell stakeholders (Haruna & Emmanuel, 2017).

On the other hand, the subject of financial performance has received significant attention from scholars in the various areas of business and strategic management. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications to organization's health and ultimately its survival. Financial performance is a subjective measure of how well a firm can use assets from its primary and non-primary modes of business and generate revenues. The term, financial performance, is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Kohlar, 2015).

However, the real causes of creative accounting according to Akenbor and Ibanichuka (2012) lie in the conflicts of interest among different interest groups. Managing shareholders' interest is to pay less tax and dividends. Investor-shareholders are interested to get more dividends and capital gains. Country's tax authorities would like to collect more and more taxes. Employees are interested to get better salary and higher profit share. Despite this, creative accounting puts one group or two to advantageous position at the expense of others. Notable creative accounting practices variously employed by management or preparers include: deliberate non-recognition of liabilities, aggressive earnings management through the recognition of revenue before they are earned, deliberate recognition of unusual assets, unjustified changes to accounting policies and accounting estimates and profit smoothing through the manipulation of profit figure and off balance sheet financing.

Many terms can be used to describe the practices of changing the facts in accounting, e.g. cooking the books, aggressive accounting, massaging the numbers, window dressing, earnings management etc. The manipulation of financial numbers is prohibited by laws and accounting standards, they are against the spirit of not providing the "true and fair view" of a company that accounts are supposed to. The techniques of creative accounting change over time as accounting standards change (Osemene, Muritala & Olawale, 2014). Creative accounting is a euphemism for accounting practices that tend to manipulate the rules of standard accounting practices or the

spirit of those values. They are characterized by dubious complications and use of 'novel' ways of presenting income, assets and liabilities. However, creative accounting practice has been increasing in recent years in many firms (food and beverage companies inclusive) in Nigeria to attract unsuspecting investors, or obtain undeserved accounting-based rewards by presenting an exaggerated misleading or deceptive state of financial affairs. It is evident that the extent of window-dressing of firms' financial statements in Nigeria has greatly violated all known ethical standards of the accounting and auditing profession. Furthermore, there are many reports of price manipulation, profit overstatement, and accounts falsification by some dubious stewards of Nigerian firms which rendered the financial statements ineffective. The business failures of the past decade have also been closely associated with corporate governance failure as a result of creative accounting which involves a number of parties, management board of directors, auditors, and some investors.

Ijeoma (2014) revealed that the major reason for creative accounting practices in the Nigerian firms is to inflate the operating costs to reduce exposure to taxes. It was further revealed that other key reasons for creative accounting practice among firms in Nigeria include: to help maintain or boost the share price by reducing the apparent levels of borrowing, making the company appear subject to less risk and of a good profit trend , to inflate the amount of operating costs in order to reduce exposure to taxes, to report a steady trend of growth in profit, rather than slow volatile profits with a series of dramatic rises and falls, and to effect changes in accounting policies in order to discourage findings faults in the company's accounting system. Furthermore, Brank, Ivo and Ivana (2017) asserted that creative accounting can have a positive impact on a company's business in the short term, but in the long run, it may result in decreased stock prices, insolvency, and even bankruptcy. It is the root of numerous accounting scandals, as well as many accounting reforms, which is why doubts in the transparency and honesty of financial reporting arise. Moreover, Ezeani, Ogbonna, Ezemoyih and Okonye (2012) found that accountants/auditors indulge in creative accounting through profit eroding mechanisms to attract investors and resources in order to boost their financial performance.

However, most of the related studies on creative accounting focused mainly on the impact of creative accounting on financial reporting as well as on investors' decision in the stock market without highlighting the reasons for such practices. More so, the most of the studies are of foreign origin whose findings may not be compatible with the Nigerian situation considering environmental differences. The few available studies in Nigeria paid less attention to creative accounting practices and its effects on the financial performance food and beverage companies in Nigeria. This creates a gap that this study aims to fill. Based on the above, the point of departure in this study is to fill this existing gap and to provide an empirical investigation of creative accounting and its relationship with financial performance of foods and beverages companies in Nigeria. Specifically, this study intends to:

(i) Examine the relationship between aggressive earnings management and return on asset of food and beverage companies in Nigeria.

(ii) Investigate the relationship between aggressive earnings management and return on equity of food and beverage companies in Nigeria.

(iii) Find out the relationship between income smoothing and return on asset of food and beverage companies in Nigeria.

(iv) Evaluate the relationship between income smoothing and return on equity of food and beverage companies in Nigeria.

LITERATURE REVIEW AND HYPOTHESES

Theoretical Framework

This study adopted the ethical theory. Ethical theory was propounded by Ruland in 1984. According to the theory, companies generally prefer to report a steady trend of growth in profit rather than to show volatile profits with a series of dramatic rises and falls. This is achieved by making unnecessary high provisions for liabilities and against assets values in good years so that these provisions can be reduced, thereby improving reported profits, in bad years. Advocates of this approach argue that it is a measure against the 'short-termism' of judging an investment on the basis of the yield achieved in the immediate following years. It also avoids raising expectations so high in good years that the company is unable to deliver what is required subsequently. Against this is an argument that if the trading conditions of a business are in fact volatile, then investors have a right to know this and that income smoothing may conceal long-term changes in the profit trend. Revinse (1991) considers the problem in relation to both managers and shareholders and argues that each can draw benefits from 'loose' accounting standards that provide manager with latitude in timing the reporting of income. He thinks that the prime role of accounting is a mechanism for monitoring contracts between managers and other groups that provided finance also market mechanisms will operate efficiently, identifying the prospect of accounting manipulation and reflecting the appropriateness in pricing and contracting decisions.

The Concept of Creative Accounting

The term creative accounting was first used in 1968 in a film produced by Mel Brooks. Creative accounting according to Wikipedia (2005) is accounting practices that deviate from standard accounting practices. These practices are characterized by excessive compilation and the use of novel ways of charactering income, assets or liabilities. This results in financial reports that are not all dull, but have all the complication of a novel, hence the name "creative". Creative accounting has led to a number of recent accounting scandals, and many proposals for accounting reform that centred on an updated analysis of capital and factors of production that would correctly reflect how value is added (Osisioma & Enahoro, 2016). Kamal (2002) defined creative accounting as the transformation of financial accounting figures from what they actually are to the prepare desires by taking advantage of the existing rules and/or ignoring some or all of them. From the foregoing definition, Nadim (2013) observed that creative accounting is practiced in order to match the interest among parties. Various parties in the society seek to maximise their own interest. Managers wish to pay less tax possible and to report huge profits so

they can earn good bonus. Shareholders interest is to earn good dividend, while employees wish to get improved salary and job security, while government wants to collect taxes. Richard, Myrtle and Jack (2008) therefore concluded that creative accounting is any accounting method that fails to conform to the GAAP or prescribed standards and guidelines. Creative accounting is defined as the practice of recognizing revenue in a way that makes a company look better than it is, while still conforming to the Generally Accepted Accounting Principles (GAAP). Agreeing, Ali, Butt and Tariq (2011) sees creative accounting as the use of accounting knowledge to influence the reported figures, while remaining within the jurisdiction of accounting rules and laws, so that instead of showing the actual performance or position of the company, they reflect what the management wants to tell the stakeholders. It refers to accounting techniques in which financial information is distorted and manipulated in order to present a better financial picture by either increasing or decreasing the profit as the case may be, by giving a misleading appearance of the capital size or structure and by concealing relevant information from existing and potential investors (Idris, Kehinde, Ajemunigbohun & Gabrie, 2012). Creative accounting refers to the aggressive use of choices available under accounting rules, to present the most fattening view of a company possibly in its financial statement (Ijeoma & Aronu, 2013).

Amat, Blake and Dowds (2009) see creative accounting as a process whereby accountants, capitalize on their understanding of accounting rules to manipulate the reported figures in books of account of a business. Naser (2003) sees it as the transformation of financial accounting figures to the desire of the preparers from what they actually are by taking advantage of the existing rules and or ignoring some or all of them. In the view of Gowthorpe and Amat (2005), creative accounting is the deliberate distortion of the communication between entities and shareholders by the activities of financial statement preparers who wish to change the content of the message being transmitted. To Sen and Inanga (2005) creative accounting, also called deceptive accounting, is the application of accepted accounting techniques which permit corporations to report financial results that may not accurately reflect the substance of business activities. Succinctly put by Copeland (2008) creative accounting involves the repetitive selection of accounting measurement or reporting rules in a particular pattern, culminating in the reporting of stream of income with a smaller variation from trend than would otherwise have appeared. Feleaga and Malciu (2012) defined creative accounting as a process through which the accounting professionals use their knowledge in order to manipulate the figures contained in the annual accounts. However, the following description below is the types of creative accounting practice that is currently in use:

a. Sales and lease back transactions: In a transaction where third party is involved such as bank, the chances of creative accounting are more. Thus, supposing an arrangement is made to sell an asset to a bank, then lease that asset back for the rest of its useful life. The sale price under such a 'sale and leaseback' can be pitched above or below the current value of the asset, because the difference can be compensated for by increased or reduced rentals.

b. Amortization of written off development expenditure over the life of asset of a project: In order to produce desired results, a company can amortize written off development expenditure of related asset of a project, just to transfer the cost to next few years. It has been observed that the life of the assets are determined by managers or organizational concerned department and thus long life assets will show depreciation for long time in books of accounts. These judgments or estimations in deciding for assets life may lead to creative accounting for getting desired results.

If managers plan to evade taxes, they may estimate long life of assets of the company to show depreciation at an expense of long term.

c. Transfer pricing methods in multinational companies: Tax advantages and tax differentiation in two different countries gives advantage to the companies to shift their profits in low tax regime countries. Companies are free to decide in transfer pricing method and thus high transfer price can be applied in high tax regime units. Such alternatives are important example of creative accounting. It has been critically observed, that the major reason of occurrence of creative accounting, is choices in accounting methods. According to the accounting standards, companies are free to use any of the method laid down in the system, subject to their convenience. For example, there are three broad methods of inventory pricing stated as follows: FIFO (First-in, first-out), LIFO (Last-in, first-out) and AIM (Average inventory method).

d. Choice in timing of transactions: Companies are free to record the sales or revenues in a manner to show profits of investment which was costing too low at historic price.

There are various dimensions of creative accounting but the dimensions used in this study are aggressive earnings management and income smoothing.

The Concept of Financial Performance

Financial performance can be defined as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues (Mills, 2008). This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. The performance measurement concept indicates that employees can increase the value of the firm by; increasing the size of a firm's future cash flows, by accelerating the receipt of those cash flows, or by making them more certain or less risky (Cadbury, 1992). Carreta and Farina (2010) argue that use of financial performance could still be justified on the grounds that it reflects what managers actually consider to be financial performance and, even if this is a mixture of various indicators like accounting profits, productivity, and cash flow. Financial performance is determined by the following indicators; profit or value added; sales, fees, budget; costs or expenditure and stock market indicators (e.g. share price) and autonomy.

The Measures of Financial Performance adopted in this study are return on asset and return on equity.

Return on Asset: The Return on Asset formula is a straight forward calculation, and its component parts are easily located on a company's financial statements. The Return on Asset ratio often called the return on total assets is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. Return on Asset is an indicator of how a business manages existing assets when generating earnings. If Return on Asset is low, the management may be inefficient while a high Return on Asset figure shows the business is running smoothly and efficiently (Madura, 2015).

According to Shopify (2014) management will look closely at the Return on Asset figure at year end. If the Return on Asset is high, it is a good sign that the business is making the best from what it already has in assets. Combing the Return on Asset with the metric, return on investment

may show that further investment is worthwhile and that the business is capable of using new investment efficiently. Examining a low Return on Asset is vital for the efficient running of a business. If the Return on Asset is consistently low it may show that either management are not making enough use of existing assets or that assets within the business are of no longer any use. Falling Return on Asset is always a problem but investors and analyst should bear in mind that the Return on Asset does not account for outstanding liabilities and may indicate a higher profit level than actually derived (Bank of Ghana, 2015). Therefore, Return on Asset is considered as an effective way of measuring the efficiency of manufacturers, but can be suspect when measuring service companies or companies whose main assets are people (Bloomsbury, 2009).

Return on Equity:
Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. The earnings number can come directly from the consolidated statement of earnings in the company's most recent annual filling with the Security and Exchange Commission (SEC). The shareholder's equity number is located on the financial statement position; simply the different between total assets and total liabilities, shareholder's equity is an accounting convention that represents the assets that the business has generated. It is assumed that assets without corresponding liabilities are the direct creation of the shareholder's capital that got the business started in the first place. The usual way investors will see shareholder's equity displayed is as book value – the amount of shareholder's equity per share, or the accounting book value of the business beyond its market value or intrinsic economic value.

Empirical Review

Olojede, Iyoha and Egbide (2020) studied the impact of corporate governance mechanisms on creative accounting practices in the listed companies in Nigeria, by means of a longitudinal design for the reason that repeated observation of the same variables are involved (corporate governance mechanisms and creative accounting) over a 13-year period (2005 -2017). The study population was 166 listed companies on the Nigerian Stock, while 70 companies were drawn as sample size, using multi sampling technique. Data was collected from the companies' annual reports and accounts sourced from African Financials, Nigerian Stock Exchange and individual company websites. The study adopted descriptive statistics, correlation, OLS regression, panel fixed effects model (FEM) and panel random effects model (REM) for the analysis and hypothesis testing. The outcome of the study revealed that corporate governance mechanisms jointly have a great significant impact on creative accounting practices (CAP) in Nigeria, but the level of impact differs among individual corporate governance mechanisms. The study recommended the use of both sanctions and moral suasion in compelling compliance with relevant laws, accounting standards and corporate governance codes.

Siyanbola, Benjamin, Amuda and Lloyd (2020)investigated the effects of creative accounting on investment decision in selected listed manufacturing firms in Nigeria's real sector for the period of 2007 to 2017. The study was empirically carried out by extracting related data from CBN statistical bulletin and NDIC annual reports for the period on which regression analysis was used. The result revealed a positive but insignificant effect of creative accounting on investment

decisions in listed manufacturing firms in Nigeria's real sector as it reflects in the adjusted R2 of 0.742983 or 74.30%. The study therefore concluded and recommended that proper corporate governance should be applied to ensure that creative accounting is used for stakeholder's benefits.

Ubogu (2019) investigated the effect of creative accounting on shareholders' wealth in business organization: a case study of selected banks in Delta State. The findings revealed a positive and significant relationship between creative accounting and decision making of an organisation. The study submitted that creative accounting affects shareholders' wealth and their various investments decisions because it has a great impact on the share prices of the business organisation. The study suggested that only well and legally audited financial statements should be relied on by shareholders in making important decision.

Essien and Ntiedo (2018) examined the extent to which creative accounting, accounting reports and disclosures provides shareholders and other interested parties with reliable information to permit informed investment decisions and true valuation of firms has remained in doubts. Using survey method, the study revealed that accounting creativity contributes 90% to unfair reporting of firm's operations. Thus, the creativity in those practices is motivated by greed and intention to deceive the public, potential investors and shareholders and increases the rate of enterprise failures at a decreasing rate. However, the study revealed that the many regulations without adequate checks, punishments and rewards creates conducive conditions for creative accounting in providing the opportunity for fantasize and cosmetic financial reporting.

Adetoso and Ajiga (2017) examined creative accounting practices among Nigeria listed commercial banks: curtailing effects of IFRS. Specifically, it examined the effect of IFRS recognition, IFRS measurement and IFRS disclosure requirements on creative accounting practices. The population of the study comprised of all the fifteen (15) listed commercial banks as at July, 2016, located in Akure, Ondo State. Simple random sampling technique was adopted to select the sample size of ten (10) listed commercial banks, out of the fifteen (15) listed in Nigeria Stock Exchange (NSE). The study made use of primary data obtained through questionnaire administered to 98 respondents of the ten (10) sampled listed commercial banks. The said primary data was analysed using quantitative approach through Statistical Package for Social Science (SPSS) Version 21 software. The formulated hypotheses were tested using Multiple Regression Model method. Result showed that in (Ho_1) P-value (0.000) <α(38.342) and F-value (38.342) > the critical value F* (2.829), hence, the hypothesis is rejected. Additionally, it was observed from hypothesis two (Ho_2), that the P-value (0.004) < α (32.871) and F-value (32.871) > the critical value F* (2.829). This means that the hypothesis is also rejected. In respect of hypothesis three (Ho_3), the Pvalue (0.001) < α (42.717) and F-value (42.717) > value F* (2.829). This is an indication that the hypotheses cannot be accepted. The study, therefore, concludes that compliance with IFRS recognition, measurement and disclosure requirements each has significant effects on curtailing creative accounting (manipulation of assets and equity values, income and expenses figures and non-timely recognition of losses) practices among Nigeria listed commercial banks.

Ahmed (2017) aimed to shed light on the impact of creative accounting ethics techniques on the reliability of financial reporting from auditors and academics point of view. The data was collected through a well-structured questionnaire designed and distributed to a randomly chosen sample of certified auditors and accounting instructors in some universities. Descriptive and inferential statistics were used to generalize the results and conclude on the findings. The result deduced that creative accounting techniques used by management negatively affect the reliability of financial reporting. The statutory auditor plays an important role in promoting creative accounting practice in such way that positively affect the reliability of financial reporting.

Umobong and Ironkwe (2017)examined creative accounting and firm's financial performance using secondary data obtained from Nigeria Stock Exchange and tries to ascertain whether food and beverage firms in Nigeria massage income using seasonal trading reports (STR). STR was subjected to Hausmann test for selection of appropriate model and regressed against performance variables return on assets, returns on equity and earnings per share. Test of causality was conducted to determine whether there is causal relationship amongst the variables of study. Result showed STR has no significant relationship with ROA, ROE and EPS and not used to manipulate ROA, ROE and EPS. STR has negative relationships with performance variables. The study concluded that an increase in STR decreases performance.

Akabom (2017) examined creative accounting earnings management, Professional and ethical issues in creative accounting, and their effects on modern financial reporting. In the light of these, the study defines Creative Accounting, listed the types of Creative Accounting methods, highlighted the impacts of creative accounting on financial reporting and provided some examples of how accounts can be fiddled. The study reiterated the fact that Accountancy profession and practice are faced with the challenges of living up to expectation in the rapid advances in technology and business methods, and often times, the Accounting standards lag behind such growths and development.

Nangih (2017) examined empirically the influence of creative accounting practices on the quality of financial statements of oil servicing companies in Nigeria. To achieve the objective of the study, three hypotheses were formulated and stated thus: There is no significant relationship between aggressive earnings management and relevance/verification of financial statements, there is no significant relationship between unjustified changes in accounting policies and estimates and comparability/understandability of financial statements, and there is no significant relationship between profit smoothing and objectivity/faithful representation of financial statements. Survey research design was adopted for the study. Data were collected through well-structured and validated questionnaire and analysed done using ordinary least squares regression technique. Results of the findings revealed that creative accounting practices by oil servicing companies influenced the quality of their financial statements negatively.

Vincent, Florence and Christopher (2016) empirically investigated the influence of creative accounting practices on the financial performance of public limited companies listed in the Nairobi securities exchange in Kenya by means of both descriptive and inferential statistics. Quantitative approach through the use of questionnaires was adopted to help in the collection of primary data for analysis purposes.The secondary data was collected from NSE handbook,

relevant textbooks, finance journals, financial statements and the website of public limited companies that were be sampled The target population of the study was top management of public limited companies that is the CEO, directors, top managers and accountants, while a sample of 30 public companies was drawn using purposive sampling..Logistic linear regression technique was used to analyze the relationship between creative accounting practices and financial performance and the correlation between the variables and financial performance. Statistical Package for Social Sciences Software (SPSS) was used in carrying out the multiple regressions to establish the relationship between creative accounting practices and financial performance and the correlation between the variables and financial performance. Financial performance was measured using earning after tax. The study found that a strong relationship exists between creative accounting practices and financial performance.

Goyal (2016) explored the nature and incidence of creative accounting practices with the reference of unethical and ethical considerations of accounting practitioners. The study also explored several definitions of creative accounting and the potential and the range of reasons for a company's directors to engage in creative accounting. Also, the study considered the various ways in which creative accounting can be practised and summarizes some empirical research on the nature and incidence of creative accounting. The study found that creative accounting is a devious tool of accounting affect organizational performance.

Based on the review of literature, the following conceptual framework was designed:The graphic diagram in figure 1 shows the conceptual framework and theinterrelationship among the major variables.
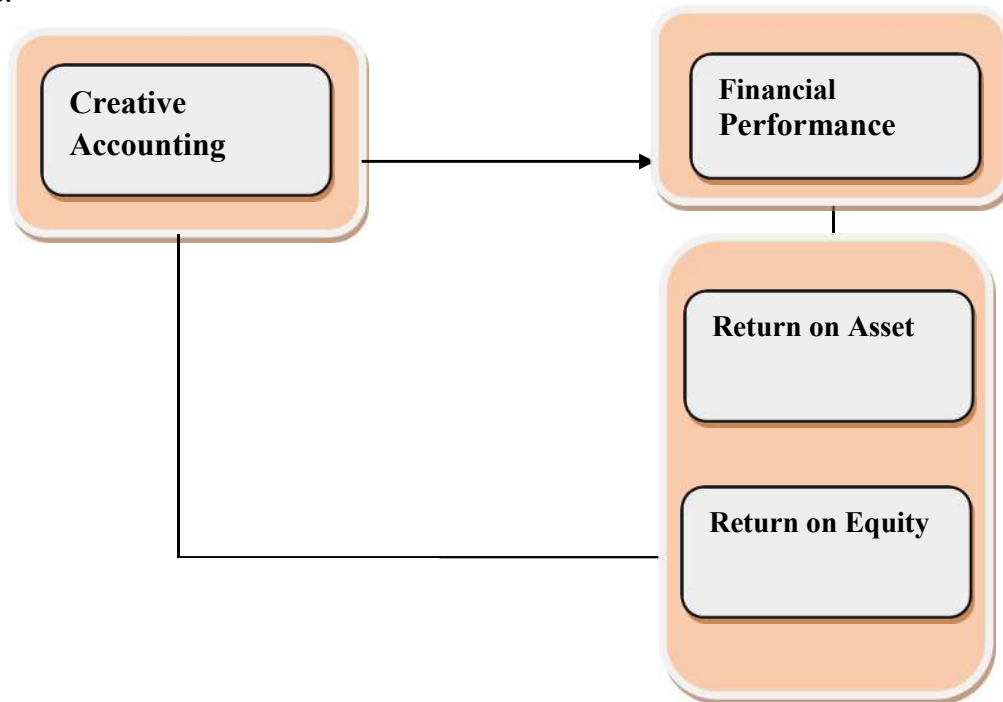

Figure1: Operational Framework of Creative Accounting Practices and Financial Performance Food and Beverages Companies in Nigeria

From the conceptual framework, the following Hypotheses were formulated:

H$_{01}$: Creative accounting does not have significant relationship with return on asset of food and beverage companies in Nigeria.

H$_{02}$: Creative accounting does not have significant relationship with return on equity of food and beverage companies in Nigeria.

Table 4: Analysis of Items/Questions on Creative Accounting

S/N	QUESTIONNAIRE ITEMS	VHE (%)	HE (%)	NE (%)	LE (%)	VLE (%)	MEAN	REMARKS
	Return on Asset							
1.	Our company's return on asset has been increasing for the past five years.	16 (32.0%)	22 (44.0%)	7 (14.0%)	2 (4.0%)	3 (6.0%)	3.92	High Extent
2.	There is consistent achievement of high return on asset in our company.	21 (42.0%)	12 (24.0%)	6 (12.0%)	7 (14.0%)	4 (8.0%)	3.78	High Extent
3.	There is high level of efficiency on the part of Management in using the company's assets to generate earnings.	21 (42.0%)	18 (36.0%)	3 (6.0%)	5 (10.0%)	3 (6.0%)	3.98	High Extent

Source: Field Survey, 2022.

Table 4 presents the analysis of response rates for return on asset measured on a 3-item instrument and scaled on a 5-point Likert scale. The results in the table showed that the respondents are in agreement with all the three items on return on asset. This is because each of the items had the weighted mean ratings (3.92, 3.78 and 3.98 respectively) which are above the criterion mean of 3.0 and are therefore accepted.

Table 5: Analysis of Items/Questions on Return on Equity

S/N	QUESTIONNAIRE ITEMS	VHE (%)	HE (%)	NE (%)	LE (%)	VLE (%)	MEAN	REMARKS
	Return on Equity							
1.	Our company's return on equity has been increasing for the past five years.	15 (30.0%)	19 (38.0%)	4 (8.0%)	6 (12.0%)	6 (12.0%)	3.62	High Extent
2.	There is consistent achievement of high return on equity in our company.	16 (32.0%	19 (38.0%)	4 (8.0%)	9 (18.0%)	2 (4.0%)	3.76	High Extent
3.	The capital employed from shareholders of our company has generated higher profit.	23 (46.0%)	15 (30.0%)	2 (4.0%)	4 (8.0%)	6 (12.0%)	3.90	High Extent

Source: Field Survey, 2022.

Table 5 presents the analysis of response rates for return on equity measured on a 3-item instrument and scaled on a 5-point Likert scale. The results in the table showed that the respondents are in agreement with all the three items on return on equity. This is because each of the items had the weighted mean ratings (3.62, 3.76 and 3.90 respectively) which are above the criterion mean of 3.0 and are therefore accepted.

Bivariate Analysis

The section entails a test of the stated hypotheses.

H_{01}: Aggressive earnings management does not have significant relationship with return on asset of food and beverage companies in Nigeria.

Table 6: Analysis of Aggressive Earnings Management and Return on Asset

		Aggressive Earnings Management	Return on Asset
Aggressive Earnings Management	Pearson Correlation	1.000	.634**
	Sig. (2-tailed)	.	.001
	N	50	50
Return on Asset	Pearson Correlation	.634**	1.000
	Sig. (2-tailed)	.001	.
	N	50	50

**. Correlation is significant at the 0.01 Level (2-tailed).
Source: Field Survey, 2022.

Table 6 above reveals that there is a strong degree of positive relationship between aggressive earnings management and return on asset of food and beverage companies in Nigeria. This is because the correlation coefficient (r) is positive and greater than 0.50 i.e. r=0.634. Also, since the significant value (*p-value*) of 0.001 is less than *alphavalue* of 0.05, we therefore reject the null hypothesis one (H_{01}) and accept alternate hypothesis one (H_{A1}). The conclusion is that aggressive earnings management has significant relationship with return on asset of food and beverage companies in Nigeria.

H_{02}: Aggressive earnings management does not have significant relationship with return on equity of food and beverage companies in Nigeria.
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Table 7: Analysis of Aggressive Earnings Management and Return on Equity

		Aggressive Earnings Management	Return on Equity
Aggressive Earnings Management	Pearson Correlation	1.000	.672[**]
	Sig. (2-tailed)	.	.000
	N	50	50
Return on Equity	Pearson Correlation	.672[**]	1.000
	Sig. (2-tailed)	.000	.
	N	50	50

[**]. Correlation is significant at the 0.01 Level (2-tailed).
Source: Field Survey, 2022.

Table 7 above reveals that there is a strong degree of positive relationship between aggressive earnings management and return on equity of food and beverage companies in Nigeria. This is because the correlation coefficient (r) is positive and greater than 0.50 i.e. r=0.672. Also, since the significant value (*p-value*) of 0.000 is less than *alphavalue* of 0.05, we therefore reject the null hypothesis two (H_{02}) and accept alternate hypothesis two (H_{A2}). The conclusion is that aggressive earnings management has significant relationship with return on equity of food and beverage companies in Nigeria.

DISCUSSION OF FINDINGS

The analysis of this study showed that aggressive earnings management has positive and significant relationship withreturn on asset and return on equityof foods and beverages companiesin Nigeria. This finding relates to that of Akabom (2017) who found that creative accounting such as aggressive earnings management has significant positive effect on financial performance of manufacturing organizations as measured by return on asset.The finding also relates to that of Vincent, Florence and Christopher (2016) who found that creative accounting such as aggressive earnings management and artificial transactionshave significant effect on return on equity of public limited companies.

The findings of the study equally indicate that income smoothing has a positive and significant relationship with return on asset and return on equityof foods and beverages companies in Nigeria. This finding is in accordance with the finding of Ijeoma (2014) who stated that income smoothing directly boosts return on asset Nigerian deposit money banks, and Osemene, Muritala and Olawale (2014) who stated that profit smoothing is positively related to return on equity and dividend pay-out of manufacturing firms in Nigeria.

CONCLUSION AND RECOMMENDATIONS

This study has examined the relationship between creative accounting practices and financial performance of foods and beverages companies in Nigeria. The findings that emanated from the data analysis are:aggressive earnings management has a positive and significant relationship with return on asset and return on equity of foods and beverages companies in Nigeria; and income smoothing has a positive and significant relationship with return on asset and return on equity of foods and beverages companies in Nigeria.Based on the finding, the study concluded that creative accounting practiceshave a significant positive relationship withfinancial performance of food and beverage companies in Nigeria.

Based on the findings that emanated from the study, the following recommendations are made:
1. Mangers of food and beverage companies should take responsibility of bad position of the firms. Auditors should provide good information to shareholders and check all the transactions and can ask from the managers any suspicious account or dubious transactions.
2. Creative accounting practices should be considered as a serious crime and therefore accounting bodies, law courts and other regulatory authorities need to adopt strict measures to stop the practice and punish the offenders.
3. There is the need to restore integrity and public confidence to accounting operations, the accountants should be strengthened to respond quickly to the egregious abuses and malpractice in the world of business and impose sanctions on offenders.
4. Finally, accountants in food and beverage companies and other sectors in general, should hold high ethical standards and maintain integrity in all their professional dealings. They need to ensure that the accounting profession rests on ethical principles and value, commanding national and international respect, stopping the unscrupulous practice of creative accounting.

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Organizational Culture and Supply Chain Integration of Oil and Gas Companies in Rivers State

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Abstract: *This study investigated the effect of organizational culture on supply chain integration of oil and gas companies in Rivers State. The study adopted quantitative survey research design. The population of the study consists of two hundred and ninety-five (295) oil and gas companies in Rivers State. The Krejcei and Morgan's formula was used to determine a sample size of 169oil and gas companies, and the simple random sampling technique was used to obtain three (3) executives from each of the 169 oil and gas companies under study, to arrive at 507 management staff as the study's respondents. Questionnaire was used for data collection, anda 5-point likert-scale structured questionnaire was distributed to the respondents, of which out of the 507 copies of structured questionnaire distributed,415 copies were returned and after data cleaning, 296 copies accounting for 71% were retrieved from the respondents, The collected data was analyzed using both descriptive and inferential statistics through the aid of Statistical Package for Social Scientist (SPSS) version 22.0. The hypotheses were testedby means ofthe simple regression technique, and the results reveal that developmental culture has a moderate, positive and significant influence on supply chain integration, group culture has a, positive and significant influence on supply chain integration, rational culture has a strong, positive and significant influenceon supply chain integration, and hierarchical culture has a weak, positive and significantinfluence on supply chain integration. The study therefore concludes that organizational culture significantly influence supply chain collaboration of oil and gas companies in Rivers State.. From the findings of this study, the researchers recommended that,oil and gas companiesshould adequately implement rational, group and developmental cultures in all spheres of their operations to enhance supply chain integration.*

Key words: *Oil and gas companies, Organizational culture, Rivers State, Supply chain integration.*

INTRODUCTION

Supply chain integration (SCI), as a vitalscheme for cultivating firm performance (Flynn *et al.,* 2010;Wong, Boon-itt&Wong, 2011). Strategic groupings, as a significant facet of supply chain integration (Zhao et al., 2011), have a tall failure frequency (Park &Ungson, 2001; Whipple & Frankel, 2000).Complete integration with suppliers and customers is infrequent, and the outcomes can be remote from flawless (Braunscheidel, Suresh & Boisnier*,* 2010).In consequence, to enable the enactment of supply chain integration, there is the need to identify with organizational culture.

Organizational culture, as the moral code or opinions pooled by members of an organization (Zu, Robbins & Fredendall, 2010), touches inter-firm behavior especially when it concerns relationship skills and trust (Schilke & Cook, 2014). Organizational culture performs a significant role in supply chain management (Braunscheidel *et al.,* 2010; Dowty& Wallace, 2010), and in directing people's behavior, and subsequently powers supply chain integration (Braunscheidel*et al.,* 2010; Cadden, Marshall& Cao*,* 2013).Schein (2010) affirms that instituting a bunch of ideals and inclinations in the organization predominantly takes account of generating a sound distinct communication conduit amid employees and managers. This communication conduit can be employed to cultivate crystal clear communication and to inspire a culture of sharing and collaboration among associates of the organization (Cao, Huo, Li, & Zhao, 2015).The superior acquaintance of organizational culture plays a substantial role inthe enhancement in decision making process of operation management and its operative performance(Marshall, Metters & Pagell, 2016).Schein (2004) argues that culture includes underlying assumptions, espoused values or beliefs and artifacts.

Some empirical investigations on organizational culture and supply chain integration have been acknowledged, however, the outcomes of investigations on organizational culture and supply chain integration are not consistent (Braunscheidel*et al.,* 2010; Zu*etal.*, 2010), and also, preceding investigations have overlooked the combined effects of the many dimensions of organizational culture that equally domiciles within companies (Hartnell, Ou & Kinicki, 2011; Zu *et al.,* 2010). This present study therefore, examines the impact of the four dimensions of organizational culture (development culture. group culture, rational culture and hierarchical culture) on supply chain integration of oil and gas companies in Rivers State.

Research Question

How does the dimensions of organizational culture affect supply chain integration in the oil and gas companies in Rivers State?

LITERATURE REVIEW AND HYPOTHESES

Organizational Culture

Organizational culture has long been an important theoretical factor in organization theory (Peterson, 2010). Organizational culture is "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and II, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein, 2004:17).Organizational culture possibly will emanate from diverse sources, primarily from the beliefs of the originators (Martínez-Canas & Ruiz-Palomino, 2014; Schein, 2010). The source of organizational culture likewise embraces the learning involvement of group members, as well as the new beliefs and assumptions of new members and managers. (Uddin,Luva & Hossian, 2013). Originators have a significant impression on how the organization functions (Andish, Yousefipour, Shahsavaripour & Ghorbanipour, 2013). Originators of the organization are the primary source in establishing a new culture for the new organization (Flamholt & Randle, 2012). In a robust organizational culture, employees' exhibit parallel opinions concerning the organization, and they deport themselves constantly with organizational values (Flamholtz & Randle, 2011). Business managers display a strong organizational culture to influence employees' work attitude and performance because culture engages and motivates employees (Simoneaux & Stroud, 2014).

Fusch and Gillespie (2012) designated that developing a positive workplace culture leads to a performance enhancement in the organization. Organizational culture is an important determinant factor

for businesses (O'Reilly *et al.,* 2014). The impact of culture occurs when the founders implement their business strategy and operational assumptions. An association between the various dimensions of organizational culture (developmental culture, group culture, rational culture and hierarchical culture) and supply chain integration exist in empirical studies (Braunscheidel *et al.,* 2010; Naor, Linderman & Schroeder, 2008; Zu*et al.,* 2010)

Development Culture

Development culture talks about the value of enduring goals shared by the members of a company. The existence of a robust development culture inspires employees to focus more on actions that can generate long-standing value (Zahra, Hayton & Salvato, 2004). Thus, supply chain integration, as a vital practice for generating continuing worth for companies is made visible in terms of in-depth nest eggs emanating from supply chain associates.

Group Culture

Group culture discusses the values of group collaboration that are pooled by all employees in a company. Group culture empowers supply chain associates to realize that they have to work together to beat competition (Eng, 2006). The enthusiasm to work together drives companies to boost shared understanding, lessen clashes, reinforce shared trust and pledge to interactions with their customers and suppliers, and subsequently increase supply chain integration (Zhao *et al.,* 2011). Moreover, Naor*et al.* (2008) maintain that collaboration undertakings such as thinking are encouraging to the development of a mutual language. Group culture is positively related to trust(Schilke & Cook (2014), which is indispensible for supply chain integration (Cai, Jun & Yang*,* 2010; Chen, Preston & Xia, 2013).Collaboration ethics are necessary for supply chain integration for the reasons that supply chain integration necessitates teamwork between manufacturers, suppliers and customers to achieve goals.

Rational Culture

Rational culture denotes mutual beliefs and incentive systems espoused to accomplish the objectives of a business. There is a heavy bias on the practice of incentives for realizing the definite goals of a company that metamorphoses as attaining outstanding performance and achieving competitive advantages (Braunscheidel *et al.,* 2010; Naor *et al*., 2008; Zu*et al.,* 2010). Incentive arrangement synergize companies to answer back to competition as interconnected components that shape cross-functional collaborations (Ruppel & Harrington, 2001) and attain integration with suppliers and customers (Braunscheidel*et al.,* 2010). Therefore, companies have got to nurture cross-functional collaboration and work in harmoniously with suppliers and customers totally and altogether to beat competition.

Hierarchical Culture

Hierarchical culture describes mutual values of top-down control and coordination in a company. Companies with a physically powerful hierarchical culture have the benefit of clear-cutcourse of actions and schedules, dignified administrative configuration and timely reports of decisions to supervisors for endorsement (Zu *et al.,* 2010). Hierarchical culture proffers little or no support for employees to involve themselves in handling new problems and unforeseen event that supply chain integration absorbs (Wong *et al.,* 2011).They need transformed interactions with suppliers and customers to assimilate their procedures to attain strategic partnerships.

Supply Chain Integration

Supply chain integration has been characterized by Zhao *et al.* (2008) as "the degree to which an organization strategically collaborates with its supply chain partners and manages intra- and inter-organization processes to achieve effective and efficient flows of products, services, information, money and decisions, with the objective of providing maximum value to its customers" (Zhao *et al.,* 2008:374). Supply chain integration consists of internal and external integration (Braunscheidel *et al.,* 2010; Flynn et al., 2010). Internal integration concerns intra-organizational integration processes, while external integration takes care of the interorganizational progression of integration with customers and suppliers (Zhao *et al.,* 2011). It is the integration inside and precincts that makes it possible for companies to structure strategic alliances, share information and work harmoniously (Zhao *et al.,* 2011).

Integrating a supply chain would not be operational without an organized and calculated alliance, not only across functions contained by a specific company (Zhao *et al.,* 2011), but likewise across companies (Lee, 2000; Mentzer *et al.,* 2000). Efficacious supply chain integration necessitates equally the competence and the readiness to integrate (Zhao *et al*., 2011). A readiness for integration in terms of trust and relationship commitment energies companies to preemptively integrate equally internally and externally, which permits them to provoke cooperation more meritoriously (Cai *et al.*, 2010; Chen *et al.,* 2013; Zhao *et al.,* 2011). Interestingly, commendable cooperation in supply chain comes with positive outcomes that borders on diminutive overheads in operation and smooth sails towards attainment of designated goals.

Empirical Review

ChenXi, Ramzani and Shahzad (2019) examined the relationship between organizational culture and supply chain performance by means of data composed with the aid of structured questionnaire and whose analysis was facilitated with PLS SEM technique. The results demonstrated a positive and significant influence of organization culture on supply chain performance.

Yunus and Tadisina (2016) studied firms' internal and external drivers of SCI by evaluating the effect of the integration on firm performance, and additionally examine the moderating role of organizational culture in intensifying the associations between firms' drivers and supply chain integration. Data were gathered by means of a survey of 223 Indonesian-based manufacturing companies, two respondents from each company. Data was analyzed with structural equation modeling, and the findings revealed that there is a positive relationship between supply chain integration and firm performance. It was also designated that internal driver, customer orientation (CO), activated the commencement of supply chain integration. Organizational culture, expressed as external focus, positively influenced the relationship between customer orientation and supply chain integration.

Cao *et al.,* (2015) investigated the impacts of organizational culture on supply chain integration (SCI) using data assembled from 317 manufacturers' crosswise ten countries. The findings reveal that both development and group culture have positive relationship with all three dimensions of supply chain integration. Conversely, rational culture indicated positive relationship only to internal integration, and hierarchical culture indicated negative relationship with both internal and customer integration. The configuration approach recognizes four profiles of organizational culture: the Hierarchical, Flexible, Flatness and Across-the-Board profiles. The Flatness profile demonstrates the maximum levels of development, group and rational cultures and the lowest level of hierarchical culture. The Flatness profile also attains the highest levels of internal, customer and supplier integration.

Based on the review of literature, the following conceptual framework was developed:
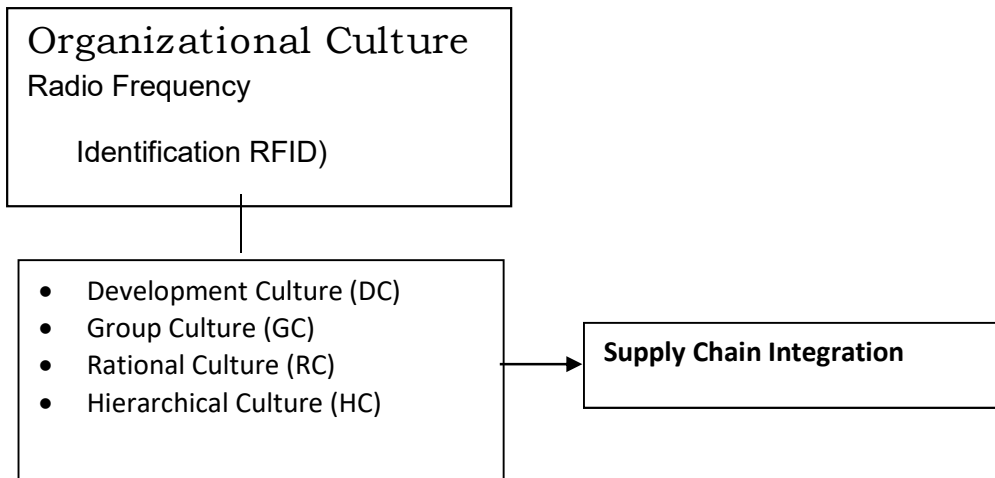

Figure1. Conceptual Framework of Organizational Culture and Supply Chain Integration
Source: Conceptualized by the Researchers, 2022.

Based on the conceptual framework of organizational culture and supply chain integration, the following hypotheses were formulated:

Ho₁: There is no significant influence of development culture on supply chain integration of oil and gas companies in Rivers State.

Ho₂: There is no significant influence of group culture on supply chain integration of paint manufacturing companies in Rivers State.

Ho₃: There is no significant influence of rational culture on supply chain integration of oil and gas companies in Rivers State.

Ho₄: There is no significant influence of hierarchical culture on supply chain integration of oil and gas companies in Rivers State.

RESEARCH METHODOLOGY

This study investigated the effect of organizational culture on supply chain integration of oil and gas companies in Rivers State. The study adopted quantitative survey research design. The population of the study consists of two hundred and ninety-five (295) oil and gas companies in Rivers State. The Krejcei and Morgan's formula was used to determine a sample size of 169 oil and gas companies. The simple random sampling technique was used to obtain three (3) executives from each of the 169 oil and gas companies under study, to arrive at 507 management staff as the study's respondents. Questionnaire was used for data collection. The validity of the measures was already confirmed in previous studies relating

to organizational culture and supply chain integration (ChenXi*etal.,*2019; Cao *et al*., 2015; Yunus & Tadisina, 2016).However, there is still the necessity to revalidate the applicability of the measures in20 oil and gas companies in Rivers State, hence the pilot study. A 5-point likert-scale structured questionnaire was distributed to the respondents, of which out of the 507 copies of structured questionnaire distributed, 415 copies were returned and after data cleaning, 296 copies accounting for 71% were retrieved from the respondents, The collected data was analyzed using both descriptive and inferential statistics through the aid of Statistical Package for Social Scientist (SPSS) version 22.0. The hypotheses were tested using the multiple regression technique. The multiple regression method was employed to evaluate the combined effect of the organizational culture dimensions on the dependent variable (supply chain integration).

RESULTS

Answer to Research Questions

The dimensions of organizational culture that impacts supply chain integration in oil and gas companies

Table 1: Dimensions of Organizational Culture that impacts supply Chain Integration (n=296)

Status	*Frequency*	*Percentage (%)*
Developmental Culture	59	20
Group Culture	85	29
Rational Culture	102	34
Hierarchical Culture	50	17
Total296		100

Source: SPSS 22.0 Window output (based on 2022 field survey data).

From Table 1, responses on rational culture are the highest, representing approximately 34 percent, closely followed by group culture representing approximately 29 percent and developmental culture representing about 20 percent. Responses on hierarchical culture represent approximately 17 percent. This is further shown in figure 2
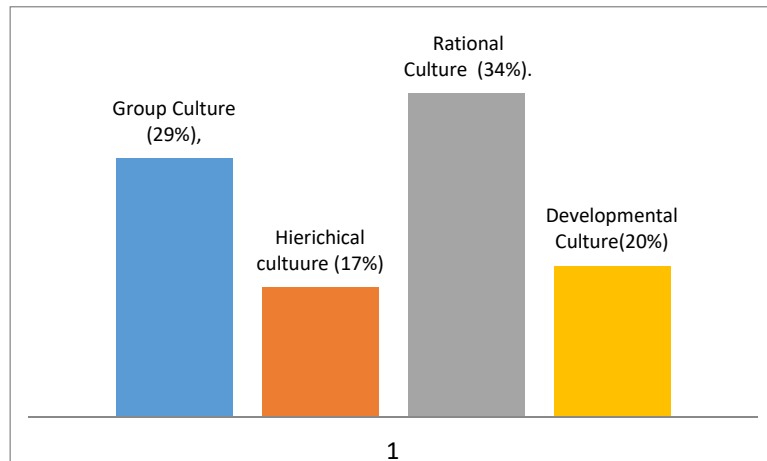
Figure 2; *Organizational culture dimensions that impacts Supply Chain Integration*

Source*: **SPSS 22.0 Window output (based on 2022 field survey data).***

Multiple regression analysis

In the current study, supply chain integration construct was taken as the dependent variable with four constructs (developmental culture, group culture, rational culture and hierarchical culture) as the independent variables. The results of the multiple regression analysis are shown in Table 2.

Table 3: Effects of Organizational Culture Dimensions on Supply Chain Integration(n=296)

Model	R R Square	Adjusted R Square	Std. Error ofthe Estimate
Developmental Culture.455.207.119 21459.391			
Group Culture.619.383.375 1.63610			
Rational Culture .731.535.5291.89718			
Hierarchical Culture .334 .112 .013 22711.892			

a. Predictors (constant), Developmental Culture, Group Culture, Rational Culture and Hierarchical Culture.

Source: SPSS Window Output, Version 22.0 (based on 2022 field survey data).

In Table 3, model 1 ($R2 = 0.207$, $P<0.01$) shows that the predictor variables explained about 20.7% behaviour variations of supply chain integration; model 2 ($R2 = 0.619$, $P<0.01$) shows that the predictor variables explained about 61.9% behaviour variations of supply chain integration; model 3 ($R2 = 0.731$, $P<001$) shows that the predictor variables explained about 73.1% variations of supply chain integration; and model 4 ($R2 = 0.112$, $P<0.01$) indicates that the predictor variables explained about 11.2 % of variations in supply chain integration. The correlation matrix denotes that all the independent variables have varying degrees of relations on supply chain integrationat $P<0.01$.This implies that,developmental culture, group culture, rational culture and hierarchical culture variables exact significant influence on supply chain integration, since the significant value (or p-value) is .000 which is below the 0.05 level of significance.

Discussions

By investigating the effects of organizational culture on supply chain integration, this study adds to our understanding of how developmental culture, group culture, rational culture and hierarchical culture affects supply chain integration. The results show that the four dimensions of organizational culture(developmental culture, group culture, rational culture and hierarchical culture)positively and significantly predicted supply chain integration. If oil and gas companies exhibit more organizational culture, they will have higher supply chain integration. As predicted, this result show that developmental, group, rational and hierarchical cultures significantly and positively affect supply chain integration, which supports H1, H2, H3 and H4. This may be due to the fact that firms that want to produce radical products require functional organizational culture that is often only obtained through collaboration with focused external bodies. This implies that the implementation of development, group, rational and hierarchical cultures by oil and gas companies in their operational procedures will generate an enhancement of supply chain integration. The results were consistent with results on previous studies reviewed earlier in this paper(ChenXi, *et al.*, 2019; Yunus&Tadisina, 2016; Cao *et al*., 2015), whose results demonstrated a positive and significant influence of organization culture on supply chain integration.

CONCLUSION AND RECOMMENDATION

This study investigated the impact of organizational culture on supply chain integration. The function of organizational culture to the success of supply chain integration in business is highly imperative given its elements such as developmental culture, group culture, rational culture and hierarchical culturewhich are germane to supply chain integration. From the study's findings it was discovered that, three dimensions of organizational culture (developmental culture, group culture and rational culture) had significant influence on supply chain integration, while the dimension of hierarchical culture had a weak, but significant influence on supply chain integration.The study therefore, concludes that, organizational culture significantly influences supply chain integration of oil and gas companies in Rivers State,and recommends that, oil and gas companies should adequately implement rational, group and developmental cultures in all spheres of their operations to enhance supply chain integration.

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