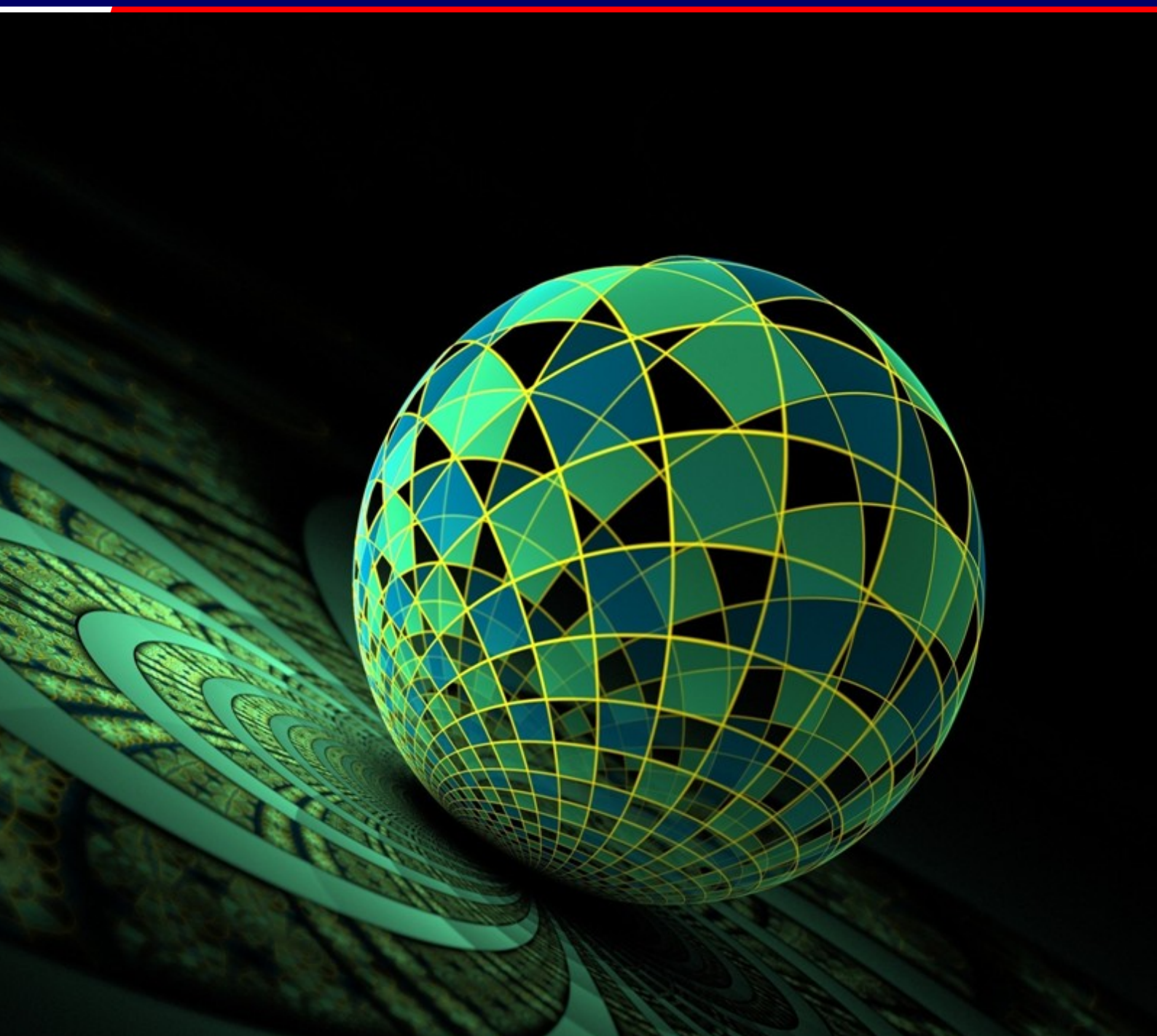


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**Special Issue – Economic Disruption and
Global Impact of COVID-19 on Society
(VICED-GI-COVID-19)**

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SUSTAINABLE DEVELOPMENT AND CHALLENGES: A CRITICAL REVIEW ON IMPACT OF COVID -19 ON NIGERIA ECONOMY

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ABSTRACT

The main goal of this article is to explore the relationship between the sustainable development and challenges of the impact of Covid -19 on Nigeria economy. With the analysis of data obtained from secondary sources, this present study identified lack of accountability for sustainable development to include the challenges of leadership, unethical behavior, poor maintenance culture, poor management of resources, corruption on the part of public officials, and inadequate funds to execute projects in Nigeria in the present situation on the impact of Covid 19. This article therefore recommends, among others, the need for government to adopt a more practical approach to the promotion of accountability, a determined fight against corruption and unethical behavior, proper management of resources, and devotion of more funds to the execution of capital projects that could positively affect the lives of the people for improved standard of living. The study identified a positive relationship between sustainable developments at the firm level. Also, the study identified numerous challenges facing sustainable development which includes ineffective audit committees and low shareholders.

Keyword: Sustainable Development, Challenges, Covid 19, Nigeria Economy

INTRODUCTION

Understanding the impact of the COVID-19 outbreak on the Nigerian economy is very important. Before the pandemic, the Nigerian government had been grappling with weak recovery from the 2014 oil price shock, with GDP growth tapering around 2.3 percent in 2019. In February, the IMF revised the 2020 GDP growth rate from 2.5 percent to 2 percent, as a result of relatively low oil prices and limited fiscal space. Relatedly, the country's debt profile has been a source of concern for policymakers and development practitioners as the most recent estimate puts the debt service-to-revenue ratio at 60 percent, which is likely to worsen amid the steep decline in revenue associated with falling oil prices. These constraining factors will aggravate the

economic impact of the COVID-19 outbreak and make it more difficult for the government to weather the crisis.

Over 35,454 confirmed cases in Nigeria were recorded while 772 death as at 20th July 2020 with 14.1 million coronavirus cases and 603 deaths globally, the world continues to battle the COVID-19 pandemic. Even before the outbreak, the outlook for the world economy and especially developing countries like Nigeria was fragile, as global GDP growth was estimated to be only 2.5 percent in 2020. While many developing countries have recorded death cases. The weak capacity of health care systems in these country is likely to worsen the pandemic and its impact on their economies.

SUSTAINABLE DEVELOPMENT

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.” The concept of needs goes beyond simply material needs includes values, relationships, freedom to think, act, and participate, all amounting to sustainable living, morally, and spiritually. In 2012, the United Nations Conference on Sustainable Development met to discuss and develop a set of goals to work toward; they grew out of the Millennium Development Goals that claimed success in reducing global poverty while acknowledging, there was still much more to do. The Sustainable Development Goals (SDG) eventually came up with a list of 17 items that included amongst other things:

- the end of poverty and hunger
- better standards of education and healthcare, particularly as it pertains to water, quality and better sanitation
- to achieve gender equality
- sustainable economic growth while promoting jobs and stronger economies
- sustainability to include health of the land, air, and sea

Finally, it acknowledged the concept of nature having certain rights, that people have stewardship of the world, and the importance of putting people at the forefront of solving these global issues of pandemic, covid 19. Thus, sustainable development recognizes that growth must be both inclusive and environmentally sound to reduce poverty and build shared prosperity for today’s population and to continue to meet the needs of future generations. It is efficient with resources and carefully planned to deliver both immediate and long-term benefits for people, the planet, and prosperity. The three pillars of sustainable development—economic growth, environmental stewardship, and social inclusion carry across all sectors of development, from cities facing rapid urbanization to agriculture, infrastructure, energy development and use, water availability, and transportation.



Source: Pillars of sustainable development 2019.

Many of these objectives may seem to conflict with each other in the short term. For example, industrial growth might conflict with preserving natural resources. Yet, in the long term, responsible use of natural resources now will help ensure that there are resources available for sustained industrial growth far into the future.

Economic development is about providing incentives for businesses and other organizations to adhere to sustainability guidelines beyond their normal legislative requirements. The supply and demand market is consumerist in nature, and modern life requires a lot of resources every single day; economic development is about giving people what they want without compromising quality of life, especially in the developing world. Social development is about awareness, legislation and protection of the health of people from pollution and other harmful activities of business. It deals with encouraging people to participate in environmental sustainability and teaching them about the effects of environmental protection as well as warning of the dangers if we cannot achieve our goals.

Environmental protection is the need to protect the environment, whether the concept of 4 Rs (reduce, recycle, recover, and reuse) are being achieved or not. Businesses that are able to keep their carbon emissions low is toward environmental development. Environmental protection is the third pillar and, to many, the primary concern of the future of humanity. It defines how to protect ecosystems, air quality, integrity, and sustainability of our resources and focuses on the elements that place stress on the environment. It also concerns how technology will drive our greener future; and that developing technology is key to this sustainability and protecting the environment of the future from potential damage that technological advances could potentially bring. The process of describing indicators helps diverse members of a community reach consensus on what sustainability means. Indicators help put sustainability in concrete terms that demonstrate a new way to measure progress. Concepts like a person's ecological footprint help people understand how their everyday actions relate to issues that seem beyond the reach of a single individual and explain sustainability.

SUSTAINABLE MANAGEMENT

Sustainable management has been created to be *defined* as the application of *sustainable* practices in the categories of businesses, agriculture, society, environment, and personal life by *managing* them in a way that will benefit current generations and future generations. Sustainable management of natural resources is necessary because it helps in judicious use of resources without overuse and compromising with the needs of future generation. Out of reuse and recycle, reuse is better to practice because for recycling of materials, it requires energy as well as money. The principles of sustainability are the foundations of what this concept represents. Therefore, sustainability is made up of three pillars: economy, society, and the environment. These principles are also informally used as profit, people and planet. The sustainable development mode is a development mode proposed when humans face the environmental pressures and hazard risks from all aspects with the purpose for the harmonious development and environmental safety. This development mode was once proposed in the 1970s, and it has become an important topic drawing attention worldwide. The science fields connect the sustainable development science on which sustainable development mode depends with the global change science, namely the global change scientific research results are the basis for the sustainable development science that explores the scientific problems faced by humans for the sustainable development decisions from the application point of view. Sustainable development must solve the direct and indirect influences of covid 19 and of natural hazard risks and environment pollution. It must accept the health and development risks caused by the hazard factors, and explore the sustainable development mode under the conditions of existing hazard resistance ability of human.

Hazard is one of the main barriers of achieving sustainable development. Hazard is the product of the interaction of society and nature; it must influence the regional sustainable development process. Based on the aforementioned, according to the marine geological hazard characteristics and regional sustainable development evaluation requirements, construct the marine geological hazard index system, and propose the scientific evaluation method; for the in-depth analysis of the marine geological hazard, it is very necessary to fully understand the regional sustainable development ability. The influence of marine geological hazard on the regional sustainable development shows in direct damage and deep damage, the direct damage mainly includes the damage on human life and health, engineering facilities, materials, items and all kinds of properties, and the damage on agriculture, industry, traffic, and other industrial activities; the deep damage mainly includes the damage on land, water, biology, and other resources and ecological environment. The damage on these two aspects not only put the regional practical social and economic development at risk but also weaken the basic ability of the regional sustainable development at the deep level. Ma et al. (2019) proposed the evaluation basic method for the influence of geological hazard on the regional sustainable development; this method is also applicable to the marine geological hazard. This method is completed based on the marine geological hazard risk analysis, evaluation area social and economic vulnerability analysis, and hazard alleviation ability analysis, for the condition and ability of the regional sustainable development through the comprehensive evaluation of marine geological hazard real damage degree and long-term risk degree (Fig. 1.2). Its basic steps are:

Development of any society is meant to enhance the living standard of citizens. However, where there are challenges of accountability, development is more likely to be a mirage. Past studies in Nigeria on the challenges of leadership and sustainable development identified corruption and lack of required skills on the part of public officials to perform in terms of proper policy formulation and implementation among others.

Corporate governance refers to the quality, transparency and dependability of the relationships between the shareholders, board of directors, management, and employees. It defines the authority and responsibility of each in delivering sustainable value to all the stakeholders in order to attract financial and human capital to the corporation and to ensure sustainability of value creation; the governance mechanisms should ensure to gain the trust of all stakeholders (Arguden 2010). Corporate governance studies emphasize the fact that no single corporate governance model is valid for every country. However, the concepts of equality, transparency, accountability and responsibility appear to be the central concepts in all plausible international corporate governance approaches. Corporate governance affects sustainability development through access to external financing by firms, a lowering of the cost of capital and the associated higher firm valuation, better operational performance through better allocation of resources and better management, reduced risk of financial crises and better relationships with all stakeholders (Karayel, Sayli, & Gormus 2009).

The primary goal is to satisfy human needs and aspirations. It involves the actualisation of human potentials. It also involves proper understanding and management of the environment and its resources for sustainable human well-being. Sustainable development is in accord with continual enhancement of the quality of human life both for now and the future (Anyahie & Areji 2015). Stewardship of a business under this model is expected to take cognizance financial capital as well as manufactured, human, intellectual, natural, and social capitals as well as their interdependencies (Kaya & Turegun 2014).

According to the International Federation of Accountants (IFAC), sustainability is about promoting ethical responsibility and sound corporate governance practices. It also involves the provision of a safe working environment in which the health of employees is protected, and their opportunities for self-development are enhanced. Also included in the notion is promoting cultural diversity and equity in the work-place and minimizing adverse environmental impacts and providing opportunities for social and economic developments within the communities they operate. Thus sustainability is a strategy of the process of sustainable development (Kocmanová, Hrebicek, & Docekalová 2011).

MISMANAGEMENT OF PUBLIC FUNDS

Studies have shown that corruption is endemic in Nigeria to the extent that government officials can no longer claim ignorance of its existence and devastating effect on the economy (Agbo, 2015; Awojobi, 2014). For instance, during the visit of the Nigerian President, General Muhamadu Buhari, to the United States in August 2015, he alleged that as much as US\$150 billion had been stolen from public treasury in Nigeria by officials of the immediate past President, Dr. Good luck Jonathan (Agbo, 2015). He went further to state that some unnamed ministers under his predecessor (Dr. Jonathan) stole about 1 million barrels of crude oil daily.

However, despite all the flurry of arrests, interrogation, and arraignments, Nigerians are still skeptical about the seriousness and ability of the government in power to get a conviction in the court of law (Agbo, 2015). Nigeria's corruption index from 1999-2014.

Development of any society is meant to enhance the living standard of citizens. However, where there are challenges, sustainable development is likely to be a tall order, and Nigeria is not an exception. Sustainable development is a major challenge in Nigeria based on the data presented above, which is due to lack of proper management of resources, corruption, and accountability of public officials arising from poor leadership. In this regard, it has been argued that "Nigeria is a rich country with poor people. Poverty is evident on the streets and this is said to be a function of leadership failure to follow through with developmental goals, side-by-side with leadership's penchant for primitive accumulation" (Sanusi, 2012, cited in Iyoha et al., 2015).

HIGH COST OF GOVERNANCE AND INSUFFICIENT FUNDS TO EXECUTE CAPITAL PROJECTS

High cost of governance in Nigeria is seen as a hindrance to sustainable development. It has been observed that 70% of the country's revenues are expended on less than 20% of the population (20% are members of the National Assembly, the executive arm of government, and other public sector workers) (Olaopa, 2016; Sanusi, 2012, cited in Iyoha, Gberevbie, Iruonagbe, & Egharevba, 2015). Also, on a yearly basis, it has been observed that the recurrent expenditure of the national budget of the nation keeps increasing while that of the capital expenditure meant for capital infrastructural development keeps decreasing (Awojobi, 2014).

Out of the total budget of NGN4.60 trillion or US\$28.75 billion in 2010, only NGN1.80 trillion or US\$11.15 billion, that is, 39% was set aside for capital infrastructural development expenditure. Of the Federal Government budget of NGN4.92 trillion or US\$30.75 billion in 2013, only NGN1.50 trillion or US\$9.38 billion, that is, 20.6% was set aside for the same purpose, and at the same time, over 79% of the national budget for the year was set aside for recurrent expenditure (Awojobi, 2014; Sanusi, 2012, cited in Iyoha et al., 2015). The amount set aside for recurrent expenditure in the nation's national budget is expended mainly on the maintenance of public officials, in particular, members of the legislative and executive at the national level. For instance, the House of Senate in Nigeria with 109 members has 54 standing committees, and the House of Representatives with 360 members has 84 standing committees. On the contrary, the United States of America with 100 Senate members and 435 House of Representative members have 21 committees each with four joint committees. Each member of the Nigerian National Assembly receives NGN121, 000 or US\$756.25 for daily lunch excluding other allowances such as tea and sitting (Nzeshi & Ogbodo, 2012).

Successful integration and effective management of sustainability at a company requires having committed leadership, clear direction, and strategic influence and none of this will happen without a robust governance structure. Sustainability governance helps a company implement sustainability strategy across the business, manage goal-setting and reporting processes, strengthen relations with external stakeholders, and ensure overall accountability. How and where sustainability fits into the overall corporate structure can be very revealing of a company's direction and priorities. It is important to keep in mind that there is no cookie-cutter structure that

can be applied; every company must tailor its approach for what makes most sense given its business model, structure, resources, and level of sustainability integration into the business.

FOUR CONSIDERATIONS TO KEEP IN MIND WHEN BUILDING EFFECTIVE GOVERNANCE STRUCTURES

Commitment begins at the top. Reporting to the CEO or other key C-suite leadership can help demonstrate that a company is serious about sustainability. Accountability must be established and communicated clearly. Accountability helps ensure that sustainability is integrated with other business goals. Including sustainability performance into the company's annual goals and employee performance review and compensation processes may be helpful mechanisms. Alignment between the structure and the business is imperative. Sustainability governance structures that align with and complement the existing business model and organizational structures can be more successful than creating redundant or competing structures. Flexibility to adapt and build up on the sustainability program across business units and regions can advance the sustainability agenda. Allowing for some adaptation can help ensure the sustainability program's relevance to a business unit's own strategies or region's local conditions. It also can generate employee engagement. Developing sustainability governance structures may take time, but it can help ensure successful management of issues at any company. The relationship between earnings quality and sustainability disclosure quantity and quality is an important research issue because earnings quality is viewed as an important firm attribute that benefits investors and could curtail unethical earnings management (Dichev et al. 2013) and recent anecdotal and empirical evidence suggests that corporations, regulators, and investors are paying more attention to sustainability performance information when assessing firms' financial performance and earnings quality (Kiron et al. 2016; Jain et al. 2016). A growing number of institutional and individual investors are considering ESG initiatives to be material to the company's financial success and more than 20% of funds invested, amounting to 8.7 trillion, were on ESG-related strategies in 2015 (KPMG 2016).

Colbert and Kurucz (2007) identify the colloquial definition of sustainability as being to "keep the business going", whilst another frequently used term in this context refers to the "future proofing" of organizations. Boudreau and Ramstad (2005), refer to "achieving success today without compromising the needs of the future". The Charter of the Sustainability Committee created by the Board of Directors at Ford focuses on sustainable growth, which it defines as "the ability to meet the needs of present customers while taking into account the needs of future generations" (Ford, 2012). Sustainable growth encompasses a business model that creates value consistent with the long-term preservation and enhancement of financial, environmental and social capital. According to the Chartered Institute of Personnel and Development (CIPD, 2012), the essence of sustainability in an organizational context is "the principle of enhancing the societal, environmental and economic systems within which a business operates". This introduces the concept of a three-way focus for organizations striving for sustainability. This is reflected also by Colbert and Kurucz (2007), who state that sustainability "implies a simultaneous focus on economic, social, and environmental performance".

This notion may of course relate to the growth of so called “Triple bottom line accounting”, which will be explored later in this paper. Perhaps organizational sustainability is more related to organizational culture rather than specific policies and procedures? Eccles et al (2011) note that organizations are developing sustainability policies, but they highlight that these policies are aimed at developing an underlying “culture of sustainability”, through policies highlighting the importance of the environmental and social as well as financial performance. These policies seek to develop a culture of sustainability by articulating the values and beliefs that underpin the organization’s objectives.

The CIPD (2012) also emphasizes the importance of organizational culture in seeking to understand organizational sustainability, referring to “the creation of meaningful values that shape strategic decision-making and building a culture that reinforces desirable behaviour”. Review of Enterprise and Management Studies Vol. 1, No.1, November 2013. So is sustainability the latest manifestation of what was previously referred to as Corporate Social Responsibility (CSR). Is it part of CSR, or is CSR part of sustainability? Is this fundamentally a marketing or branding issue for organizations, or does this really indicate a step change in the way businesses operate? Are we really seeing a new form of capitalism? Blaga (2013) identifies the birth of the concept of CSR as resulting from Milton Friedman’s tellingly titled article “The social responsibility of business is to increase its profits” (Friedman, 1970). He defines CSR as an approach to enhancing corporate governance, which he notably claims “leads towards sustainability”.

The European Commission on the other hand defines CSR as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” and goes on to say that organizations “are increasingly aware that responsible behaviour leads to sustainable business success” (Van de Ven, 2008). Perhaps usefully summarizing these definitions, Carroll (2008) claims that CSR “includes the compulsory, economic, and legal, social and ethical responsibilities of organizations”. In seeking to explain the development of the notion of CSR, Blaga (2013) highlights an increased focus on the need for organizations to demonstrate “socially desirable behaviour”, perhaps in response to an increased awareness amongst societies and communities of the potential for organizations to have a detrimental impact on the environment and their way of life. He notes that the 2004 survey by the Environmental Protection Agency (EPA) in the US, found that 93 per cent of those surveyed felt that organizations should be responsible for protecting the environment, and 72 per cent said that organizations should support social concerns. Blaga thus concludes therefore that CSR can be seen as a business strategy for achieving sustainable growth i.e. that organizations “can do well by doing well” for communities. Van de Ven (2008) argues that organizations can and do seek to “market” their CSR strategies. This may include both the strategy of reputation protection and improvement; and also the strategy of building a “virtuous” corporate brand.

This latter concept introduces the notion of a critique of an exclusively “bottom line”-focused approach to CSR. This builds on MacIntyre’s (2018) notion of “virtue ethics”, which in seeking to condemn capitalism seeks to extend the concept of ethics to the organizational context both in terms of “goods” and “practices”. Van de Ven (2008) argues that MacIntyre is claiming that

“good judgment emanates from good character”, implying that this good “character”, in an organizational context an “ethical” approach to issues such as CSR, is dependent on the motives of the decision makers. Blackledge and Knight (2011) look at this from the other way around, i.e. from the point of view of the communities within which organizations are seeking to be “corporately responsible”. They note that a politics of self-defense for local communities that aspire to protect their practices and sustain their way of life from corrosive effects of the capitalist economy”. Beadle and Moore (2018) however point out challenge to the contention that management in organizations really do have the power to control “social outcomes”, that this is rather a myth in which “the distinction between manipulative and non-manipulative action is obscured in the name of effectiveness.”

A review of any news channel confirms the notion that there are demands from both governments and the public for organizations to change the way in which they conduct their affairs following the global economic crisis. The fact that many organizations seem to be so keen to be included on publicly available “sustainability indices” indicates the desire to be seen to be adopting a sustainable practices, at least in public relations terms. The growth of financial instruments based on more long term performance may also be significant. Clearly the sustainability of any organization depends on the economic and social conditions in the communities in which it operates. On the other hand, listed businesses still need to accept that many shareholders will continue to make investment decisions based on short term profit motives.

If sustainability is about taking a more long term view, it is perhaps fitting that only time will tell in finding an answer. Further research into the impact of the recession on the sustainability practices of organizations would be of significant benefit. In particular a comparative study of the possible differences in this impact between organizations based in countries which have fared differently during the recession would be interesting. Bourns (2018), developed an integrated model of planned change at the group, organisational and societal levels incorporating Field Theory, Group Dynamics, a 3-Step Model and Action Research. Field Theory and Group Dynamics explain how social groupings are formed, motivated and maintained, while Action Research and the 3-Step Model are used to change the behaviour of social groups (Burnes, 2018). Together they provide a holistic framework for considering the potential for sustainability reporting and the sustainability reporting process, to facilitate change towards greater accountability for improved sustainability performance. Through the focus on corporate culture, relationships between organisational members, the nature and flow of communications, they allow insights into the potential for organisational change towards improved accountability and sustainability performance beyond that of considering sub-systems, design archetypes and interpretive schemes (Greenwood and Hinings, 2016, 2018; Laughlin, 2015).

Lewin’s Field Theory views the status quo as being the maintenance of the balance of opposing forces, with changes in behaviour occurring when forces in the environment or “field” occur. In Lewin (2018) he illustrates this through consideration of the forces for and against (i.e. the resistances to) change in the degree of discrimination between races. We would suggest that in applying this theory to the development of corporate sustainability reporting, change might occur through modification in the balance and strength of the general contextual factors (media

pressure, stakeholders, social political and economic context) influencing reporting as discussed in Adams (2002). For example, increased government pressure or a perceived change in the balance between the costs and benefits of sustainability reporting might lead to an increase in reporting. We would also suggest that the process of preparing a report and the subsequent visibility of sustainability performance data and increased of sustainability values leads to changes in sustainability performance.

In putting forward the concept of “group dynamics”, Lewin argued that changing the behaviour of individuals in isolation would not result in change due to group pressure to conform. Consequently, efforts to promote change should be focused upon the group, for example, by challenging group norms, roles, interactions and socialisation processes (Schein, 2016; Burnes, 2012). Sustainability reporting team includes individuals from different functions within the organisation. Their different perspectives are frequently challenged. For example, the public relations and environmental teams often have opposing views on report content and style (Adams, 2002). The team also faces these challenges from other organisational participants, such as the Board, the CEO, the CFO, functional and business department managers. Thus, the dynamics between members of the sustainability reporting team and between team members and other organisational participants, in theory, have the potential to lead to the unfreezing of individual views and hence to change.

The corporate sustainability vision might be likened to the initial “cloudy form of a dream or wish”; the more detailed “objectives” and “targets” to the clarification of goals, while the process of engaging internal and external stakeholders, setting targets, and monitoring outcomes might be likened to determining “the path to the goal” and the “strategy of action”. The corporate sustainability report and the sustainability reporting process then might themselves be a catalyst for change towards improved sustainability performance. A “failed” organisational change project might be one where a lack of communication between individuals in the sustainability reporting team, other organisational members and stakeholders external to the organisation means that improvements in sustainability performance are not identified or not implemented throughout the organisation. This assumption would seem to be supported by Ford and Ford’s (2017) claim that: “... intentional change is based in and driven by particular types of communication... in the absence of communication there is no intentional change and no intentional change process” (Ford and Ford, 2017).

ENHANCING MANAGEMENT SYSTEMS

The concept of sustainable development needs to be incorporated into the policies and processes of a business if it is to follow sustainable development principles. This does not mean that new management methods need to be invented. Rather, it requires a new cultural orientation and extensive refinements to systems, practices and procedures. The two main areas of the management system that must be changed are those concern. Developing an effective management framework for sustainable development requires addressing both decision-making and governance. The concept of sustainable development must be integrated both into business planning and into management information and control systems.

Senior management must provide reports that measure performance against these strategies. Governance is increasingly important because of the growing accountability of the corporation and its senior management. Information and reporting systems must support this need. Decision-making at all levels must become more responsive to the issues arising from sustainable development. Seven steps are required for managing an enterprise according to sustainable development principles. These are set out below.

PERFORM A STAKEHOLDER ANALYSIS

A stakeholder analysis is required in order to identify all the parties that are directly or indirectly affected by the enterprise's operations. It sets out the issues, concerns and information needs of the stakeholders with respect to the organization's sustainable development activities. A company's existence is directly linked to the global environment as well as to the community in which it is based. In carrying out its activities, a company must maintain respect for human dignity, and strive towards a society where the global environment is protected. At the beginning of this century, company strategies were directed primarily towards earning the maximum return for shareholders and investors. Businesses were not expected to achieve any other social or environmental objectives. Exploitation of natural and human resources was the norm in many industries, as was a lack of regard for the wellbeing of the communities in which the enterprise operated. In short, corporations were accountable only to their owners. Today, business enterprises in developed countries operate in a more complicated, and more regulated, environment. Numerous laws and regulations govern their activities, and make their directors accountable to a broader range of stakeholders. Sustainable development extends the stakeholder group even further, by including future generations and natural resources. Identifying the parties that have a vested interest in a business enterprise is a central component of the sustainable development concept, and leads to greater corporate accountability.

Developing a meaningful approach to stakeholder analysis is a vital aspect of this management system, and one of the key differences between sustainable and conventional management practices. The stakeholder analysis begins by identifying the various groups affected by the business's activities. These include shareholders, creditors, regulators, employees, customers, suppliers, and the community in which the enterprise operates. It must also include people who are affected, or who consider themselves affected, by the enterprise's effect on the biosphere and on social capital. This is not a case of altruism on the company's part, but rather good business. Companies that understand what their stakeholders want will be able to capitalize on the opportunities presented. They will benefit from a better informed and more active workforce, and better information in the capital markets. In identifying stakeholder groups, management should consider every business activity and operating location. Some stakeholders, such as shareholders, may be common to all activities or locations. Others, such as local communities, will vary according to business location and activity.

The stakeholder analysis needs to consider the effect of the business's activities on the environment, the public at large, and the needs of future generations. After the stakeholders have been identified, management should prepare a description of the needs and expectations that these groups have. This should set out both current and future needs, in order to capture

sustainable development concept. The key is to analyze how the organization's activities affect each set of stakeholders, either positively or negatively. Developing these statements of needs and expectations requires dialogue with each stakeholder group. To this end, some companies have established community advisory panels. Similar groups made up of employees, shareholders and suppliers have been used to help management better understand their needs and expectations. Because the needs of stakeholder groups are constantly evolving, monitoring them is an ongoing process. The stakeholder analysis may reveal conflicting expectations. For example, customers may demand new, environmentally safe products, while employees might be concerned that such a policy could threaten their jobs. Shareholders, meanwhile, may be wary about the return on their investment. A stakeholder analysis can be a useful way to identify areas of potential conflict among stakeholder groups before they materialize.

RECOMMENDATIONS

Set sustainable development policies and objectives

The objective is to articulate the basic values that the enterprise expects its employees to follow with respect to sustainable development, and to set targets for operating performance. Senior management is responsible for formulating a sustainable development policy for its organization, and for establishing specific objectives. Sustainable development means more than just 'the environment'. It has social elements as well, such as the alleviation of poverty and distributional equity. It also takes into account economic considerations that may be absent from a strictly 'environmental' viewpoint. In particular, it emphasizes maintaining or enhancing the world's capital endowment, and highlights limits to society's ability to substitute manmade capital for natural capital. Nevertheless, a policy on environmental responsibility is a good first step towards the broader concerns of sustainable development. Management should incorporate stakeholder expectations into a broad policy statement that sets out the organization's mission with respect to sustainable development. This policy statement would guide the planning process and put forward values towards which management, employees and other groups such as suppliers are expected to strive. Drafting a policy statement that is both inspirational and capable of influencing behaviour is a challenging task. However, the benefits justify the effort. The following policy statement was developed by the Dow Chemical Comp.

Self-assessment

The first step for businesses in adopting sustainable development principles is to assess their current position. Management should know the degree to which the company's activities line up with sustainable development principles. This requires evaluating the company's overall strategy, the performance of specific operations, and the effect of particular activities. This process should compare the company's current performance with the expectations of the stakeholders. Management philosophies and systems should be reviewed; the scope of public disclosures on sustainability topics should be analyzed; and the ability of current information systems to produce the required data should be evaluated.

Deciding on a strategy

Once managers have gained an understanding of how its own operations shape up, they should gauge the performance of other, comparable organizations. Comparisons against the standards

set by other industries and environmental groups can be instructive. This task should be relatively easy if there is reasonable public disclosure, organized industry associations and co-operative sustainable development programmes. However, if these structures do not exist, management could approach other businesses to discuss sharing information and possibly establishing an industry group. Management should then consider ways to narrow the gap between the current state of the corporation's performance and its objectives for the future. A strategy will need to be developed, outlining where the company hopes to position itself relative to its competitors and its stakeholders' expectations. A general plan is needed to describe how and when management expects to achieve that goal, together with the various milestones it will reach along the way. Senior management should review and approve the strategy and the plan before submitting them to the board of directors for final approval. Because of the pervasiveness of sustainable development, it is essential that members of the senior management team (representing all facets of the company's activities) 'buy in' to the project. Anything less than full commitment may doom the plan to failure.

Strategy implementation

Once the strategy and the general plan have been approved, detailed plans should be prepared indicating how the new strategy will affect operations, management systems, information systems and reporting. These should set out measurable goals to be achieved in each area, and explain how progress will be monitored. They should also specify spending and training requirements. These plans should be developed through consultation with employees throughout the organization, possibly with the assistance of outside specialists. It will be a time-consuming and dynamic process, which will entail frequent modifications as input is obtained from several sources. Once finalized, the plans should be approved by senior management and, ideally, by the board of directors as well. Small business and private company considerations applying the proposed framework will be a challenge for all enterprises, but smaller businesses may encounter additional challenges.

Besides sustainability reporting, smaller businesses will have to adapt to the new corporate climate with less in-house expertise, fewer resources and less formal management structures than larger corporations. It will be difficult for them to keep abreast of ever-changing regulatory requirements. Fortunately, small businesses can find much of the expertise they require through the role of the board without the active involvement of the board of directors, it will be difficult for an organization to implement sustainable business practices. Corporations are encouraged to establish a 'social responsibility committee', responsible for setting corporate policies on sustainable development and for dealing with issues such as health and safety, personnel policies, environmental protection, and codes of business conduct. The continuing evolution and increasing salience of the concept and practice of sustainability among individuals, organizations, and societies worldwide appears to warrant the development of conceptual approaches to theories of sustainability management for application to management research, education, and practice. While other management theories have been employed by many management scholars to help explain the need for and advancement of sustainability management, none of those theories appear to have the unique features, benefits, opportunities, challenges, or orientations to assist individuals, organizations, and societies to move toward sustainability as much and as soon as appears necessary.

However, since the consideration of theories of sustainability management is relatively new for most management scholars, the authors hope this article begins a dialogue among those stakeholders to better describe, develop, and apply this and related theories of sustainability management as significantly, effectively, and urgently as possible Impediments to National Development Consequent on Poor Governance and Leadership.

Olomola (2018) describes development as the advancement made through progressive and qualitative alterations in social, economic, cultural, technological as well as political conditions of a society, leading to an enhancement in the welfare of citizens. There are diverse impediments to national development with particular reference to Nigeria. Lack of good governance is a major impediment to national development. The quality of governance is the major determinant of a country's economic development. Good governance is partly characterized by creation of employment, security of life and properties. Security of lives and properties is fundamental to good governance. Good governance is thus an ingredient that provides a conducive environment for foreign investors which can promote economic growth and development (Bello & Lamidi 2018). The most topical issue in the governance of contemporary Nigerian nation is probably accountability and transparency in the handling of public funds. Accountability is a central part of governance which is characterized by foreseeable, open and enlightened policy making (i.e. transparent process). Transparency is another vital aspect of good governance. Transparency and accountability go hand in hand. Transparent decision making is crucial for public sector in making sound decisions for better performance (Afolabi 2016). Kolade (2019) asserted that the abuse of authority, and privilege of office; the absence of culture of accountability; and the inadequacies of stakeholder's dynamism could all hinder true/good governance.

Another huge hindrance to national development is corruption such as greed among the political leaders largely characterized by embezzlement and misappropriation of public funds, cheating, bribery, forgery, impersonation, rigging, hoarding of voters cards, multiple voters' registration, etc. which has constituted a huge impediment to development in Nigeria (Dagaci 2018). Corruption is one of the greatest threats to good governance today (Iyoha, et al 2015). It is a social problem which hampers development and robs people of the chances for any significant economic as well as social advancement (Okeyim, Ejue, & Ekanem 2013).

The 2020 Financing for Sustainable Development Report of the Inter-agency Task Force on Financing for Development outlines measures to address the impact of the unfolding global recession and financial turmoil, especially in the world's poorest countries. The Report's recommendations are based on joint research by the entire UN system, including more than 60 agencies and other international institutions, led by UN-DESA, with the IMF, World Bank, WTO, UNCTAD, and UNDP taking leading roles.

The report finds that even before the outbreak of COVID-19, one in five countries, home to billions of people living in poverty were likely to see per capita incomes stagnate or decline in 2020. Now, billions more are likely to be affected as governments struggle to cope with the pandemic. It highlights both immediate and longer-term actions to arresting the backslide and respond to the COVID-19 crisis. The first chapter provides an analysis of the challenging global

macroeconomic context, followed by the report's thematic chapter which looks at financing sustainable development in an era of transformative digital technologies. The remainder of the report discusses progress in the seven action areas of the Addis Ababa Action Agenda and presents policy options at the national and international level.

The seven action areas are: domestic public resources; domestic and international private business and finance; international development cooperation; international trade as an engine for development; debt and debt sustainability; addressing systemic issues; science, technology, innovation and capacity-building and data, monitoring and follow-up.

The FSDR calls for

A globally coordinated stimulus package, including reversing the decline in aid and increased concessional finance.

To prevent a debt crisis: Immediately suspending debt payments from poor countries. Beyond the crisis, reassess debt sustainability/revisit existing mechanisms. To stabilize financial markets by continuing to inject liquidity: In the medium-term, explore regulatory frameworks to limit over-borrowing for non-productive investments, such as repaying shareholders. Partnering with the private sector: In the short term, banks to roll over debt to SMEs and individuals that are cash strapped. In the medium-term, promote sustainable investment. Building back better for sustainable development: Public and private investment in sustainable development including in resilient infrastructure.

Strengthening social protection systems.

Investment in crisis prevention, risk reduction and planning. Eliminate trade barriers and restrictions that affect supply chains. Digital technologies present tremendous potential for the SDGs, but COVID-19 has underlined challenges and risks: Public policies should be adjusted to fully exploit their potential, while addressing exclusion and risks of discrimination, and ensuring benefits for society at large, including decent jobs.

CONCLUSION

Corruption slows down economic growth and investment. Economic growth and development in Nigeria for over twenty years has been soiled with misappropriation and embezzlement of funds even with the return of democracy, turning the country's economy into an underdeveloped nation with least position in international ratings (Abullahi 2016). The Corruption Perception Index (2013) published by Transparency International shows that Nigeria occupies the 144 position in the world. This plunged downward further from the 137 out of 177 countries surveyed in 2012. However, Nigeria was ranked as the 136 most corrupt country in the world in 2014 bettering the position of 2013 by eight places. Public policy in Nigeria is focused on the "affluent few" and only pays lip service to the "afflicted majority". The quick transfer of public wealth to the ruling elites and their allies under the pretense of privatization, the allocation of 25% of the recurrent expenditure of the Federal Government to just 469 members of the National Assembly attest to this fact (Ibeanu 2008). Corruption is wasteful because of the manpower used in monitoring and investigating corruption (Dike 2010). Corruption lessens the ability of the state to carry out its statutory obligations of providing social services such as healthcare, education,

good transportation system, water, etc. Once these services are not provided, the consequence would be underdevelopment.

Also, corruption has the capability to hamper investments, slow down social, economic, and political development, as well as endanger democratic values and increases distrust among citizen as well as investors. The likelihoods of instability in society are also increased since corrupt political leaders are usually under incessant fear of being overthrown or removed (Okeyim, et al 2013). Corruption is a scourge that is rapidly eating up our national entrails, subverted our national dreams and stunted our growth (Dagaci 2009).

Misappropriation and embezzlement is a type of behavior demonstrated by a public servant whether elected or appointed which includes a deviation from his or her formal duties because of personal gains to himself or herself or to other private persons with whom the public servant is connected (Abdullahi 2009). The effect of corrupt practices by the leaders is the erosion of accountability and transparency and a reduction in the quality of governance (Oshodi 2013, citing Ogwu 2015).

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PANDEMIC MARKETING STRATEGIES AND CUSTOMER PATRONAGE OF SMEs

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ABSTRACT

The study examined pandemic marketing strategies and customer patronage of SMEs. The study adopted the correlational research design. A sample of 660 respondents selected from 330 Small and Medium Enterprises (SMEs), out of the 1,200 registered enterprises operating in Port Harcourt Rivers State, Nigeria participated in the study. A 40-item 2 marketing professionals or experts validated 4-point scale instrument titled “Pandemic Marketing Strategies and Customer Patronage Inventory” (PMSCPI) with a reliability coefficient of 0.841 was used to elicit data analyzed using regression analysis. The study revealed that: innovation, knowledge, and empathy statistically and significantly contributed 53.7%, 61.2%, and 32.9% respectively to customer loyalty of SMEs. Again innovation, knowledge, and empathy statistically and significantly contributed 9.9%, 10.7%, and 6.3% respectively to customer retention of SMEs. Thus, among the recommendations was that: SMEs should adopt innovations (such as virtual advertising, home delivery, and shopping apps) as strategies for ensuring that their products and services reach, satisfy and influence their target customers continued loyalty and retention. Alongside, SMEs are encouraged to timely and humanely engage, communicate, and meet the changing customer needs for improved loyalty and retention.

Keywords: *pandemic marketing strategies, customer patronage, SMEs, Port Harcourt metropolis.*

INTRODUCTION

Businesses and organizations operate in environments susceptible to activities, crisis and events that significantly ignite intense changes that could enhance, retard, stifle or shrink their sales, patronage, and profitability including transforming their business operational strategies. As such an emergency or crisis situation (as the COVID-19 Pandemic) can affect organizations (i.e. small, medium and big) through the disruption of operations, plans, supply chain, and modus operandi based on the ensuing protocols (as restrictions, closures, quarantines etc.), measures and reactions for tackling a pandemic. Motti (2020) sees COVID-19 as a coronary disease and fast spreading global invasive pandemic that influences individuals, organizations, and Governments welfare, routine and functions respectively, thereby, compelling them to responsively re-strategizing and altering their pattern for maneuvering and navigating an environment (like business) based on the emerging experiences and challenges on what is termed as the “new normal” in the society.

In specificity, businesses (manufacturing firms) amid a pandemic are also re-strategizing, rebuilding and redesigning all strategies, ideas or procedures through stocking products and

delivering services in conformity with the trends (i.e. new normal) in order to thrive, survive and continually positioned to maintaining their trademark even during a catastrophic and economic repellant situation (as COVID-19). Small and medium-sized enterprises (SMEs) are businesses (as services, logistics, trading, etc.) with limited capital base, small workforce, and little or no share base but with the capacity to provide jobs, goods and services that compete with foreign products in the market (Rijkers, 2014). The Central Bank of Nigeria defines SMEs based on criteria as asset base (between 5 to 500 million naira) and staff strength (between 11 and 100 employees) (CBN, 2010). This leaves SMEs with minor holding and lean capital base businesses often requiring Governments intervention programmes as financing, trainings, and internship for acquiring the needed capacity and knowledge for growth and survival (Petrakis & Kostis, 2012).

Agwu and Emeti (2014) view SMEs as the vehicle for the conglomeration of labour intensive and capital saving entrepreneurial prospects and ventures for the intent of alleviating poverty and creating jobs towards the economic empowerment and equitable development of the nation's economy. Also, SMEs provides the means for reducing income disparities and developing pool of skilled and semi-skilled workers discharging services in support of industrial and economic growth. Nkwor-Azariah and Nkwor (2016) states that "support" is a vital performance tool aiding SMEs fronted with poor infrastructure (like epileptic power, rising cost of good internet service, logistics, etc.), uncertain access to growth finance, and other challenges to effectively navigate the business environment whilst retaining their brand loyalty and customer patronage.

Onyinyechukwu (2020) reviewed the National Bureau of Statistics report of 2010, which stated that SME sector is strategically placed to: employ up to 80 percent of jobs, increase per capita income, value addition to raw materials supply, expand export earnings, boost capacity utilization in vital industries, and unlock massive economic and GDP growth in Nigeria. In view of this, it positions SMEs as the drivers of economic and industrial transformation in the country, state, and locality. Despite this, the relatively low capacity and poor capital base are challenges and it has impacted their savings and confined cash flows to be plowed back into the business as reinvented capital, labour cost and operating expenses. In the light of this, Onyinyechukwu (2020) states SMEs are literally engaged in a capital and capacity survival debacle, and as such any emergency or crisis (like pandemic) that alters this operational routine of SMEs throws up more intense challenges that could worsen the survival fiasco and eventually lead to their shutting out of businesses.

Consequently, the pandemic (COVID-19) prompted the adoption of impulsive and artificial measures like lockdown, market shutdown, and border closure. These measures necessitated the restriction of movement of goods and services, people etc. causing economic shock that affected SMEs from playing their role in the economy as well as sustain livelihood of customers with changing consumption pattern and consumer buying behaviour (Acee-Eke & Ogonu, 2020). The fallout of these domestic and international restrictions severally affected the operations and obstructed the trade of SMEs which require physical movement of goods and services for their optimal performance, productivity and sustainability.

Furthermore, the realities of the prevailing situation, underscores the need for SMEs to adopt innovative strategies as virtual or online businesses, as an essential tool for continued

performance, survival, profitability, in other to navigate the challenging post-pandemic business climate that would most likely linger longer than expected. Onyinyechukwu (2020) emphasized that post-COVID-19 recovery priorities in every aspect of the business value-chain must be centred on revitalizing the enterprises. In order to strategically integrate pandemic-induced marketing strategies that are geared towards meeting the obviously anticipated customer boundless changing needs from the hitherto normal to the new normal for essential products (groceries, foods, sanitizers, face masks, soap) offer by SMEs that customers daily patronizes, there is need for new strategies and adjustments to put the firms in right footing (Acee-Eke & Ogonu, 2020).

Customer patronage provides the basis for a stable and growing market share. According to Cross et al (1988), the cost of winning customers is six times as much as to retain existing ones. Customer patronage entails the level of consent or support expressed in order to stir customer's exhibition of repurchase or repeat intention and satisfaction towards using a brand or product (Anetoh & Moguluwa, 2018). The extent of patronage is stimulated by customer's behavioural, attitudinal and psychological commitment and willingness to incur extra cost towards repurchasing a brand or product amidst other alternatives (Perutkova & Parsa, 2010). Ayodele (2016) reiterates customer patronage is measured by the number of brands purchased, ratio of purchases, and future purchase intention exhibited towards a brand even in the midst of change in quality and price. According to Kotler (2007), consumers have varying degree of patronage to specific products and services. Also, customer patronage inspires consumer loyalty and retention as conceptualized in this study, to expectedly help SMEs build their brand or products, grow their market share, promptly deliver services, and create marketing improvement strategies. Similarly, Nyakweba and Wesonga (2015) suggest consumers are better grouped into four according to their patronage status:

- Switchers – these are consumers who do not show any loyalty to any firm or service provider.
- Shifting patrons – are consumers who shift from one firm or service provide to the other.
- Split patrons – these are consumer loyal to more than one firm or service provider.
- Hard core patrons – those who purchase products and services from a particular firm or service provider.

Drawing from the view of James (2020), marketing is at the heart of strategies for attaining business goals and growth. James (2020) view marketing strategy as a business overall strategic plan for getting the interest of potential consumers and turning them into loyal customers of the products or services provided by such businesses (SMEs). Also, the adoption of proactive marketing strategies would enhance swift response to complaints, trustworthiness, adaptability, innovativeness, reasonable charges and friendliness of staff promptly delivering their products and services that enhances their value and competitive advantage (Aregbeyen, 2011). Adach (2020) states marketing strategies is a time sensitive issue requiring businesses to understand ways to re-evaluate their strategies and activate digital platforms for display and delivery of their products and services in a pandemic (as COVID-19) where businesses are on restrictions and

lockdown. Omowunmi and Idowu (2020) opine SMEs needs to resiliently and swiftly re-invent their strategies in crisis period or be stifled out of the market.

Furthermore, the restrictions on the physical operation and conduct of businesses in a pandemic stirred the innovative adoption and use of technological or online platforms as WhatsApp, Instagram, mobile shopping devices or apps for advertising and purchase products (Meyer, 2020). In the view of Akintemi, (2020) SMEs should intensified integration of new strategies and techniques for efficient delivering of goods and services towards wining customers' patronage through loyalty and retention for effective business growth, profitability and sustainability. There is no doubt therefore, that covid 19 has disrupted the global economy and by extension Nigeria economy as a result of its direct impact on businesses.

Now that business survival is the spotlight in a pandemic period as we have world over, this study expects SMEs to queue behind pandemic marketing strategies to ensuring that their businesses are in compliance with the post-covid 19 way of doing business. It is against this backdrop that we are joining in the discourse to believe that pandemic marketing strategies have effect on customer patronage of SMEs

Statement of the Problem

SMEs are established for survival based on the patronage (via sales) of its products and services by customers in order to grow their limited capital base, else they would become insolvent and unable to sustain in a competitive business environment. In particular, SMEs are challenged by faulty access to financial incentives which suffices as the main stimulus package driving the supposedly great strategies and exemplary leadership possessed by SMEs operators (Akintemi, 2020). Thus, limited capital base could affect SMEs proactively synthesizing openings for re-designing services and re-stocking products innovatively and excellently delivered in line with pandemic induced ingenious marketing strategies to stir customers reminiscence, loyalty, retention and repurchase, which are among the business (SMEs) growth and sustainability parameters.

Although, SMEs engaged in manufacturing, trading, and processing, it have been gasping for breath based on challenges (paucity of funds, non-disbursement or diversion of stimulus packages) that are hindering their performance (Agwu, 2014), and crystallizing to their oblivion or extinction of about 834 enterprises permanently closed in Rivers State between 2009 and 2014 (Josiah, Ozele & Agbo, 2016) before the covid-19 pandemic. Indeed, the pandemic requires SMEs ingenuity to new strategies (innovation, knowledge, empathy) for their survival, profitability, and sustainability. Instructively, a carefully-cultivated marketing strategy is fundamentally rooted in an enterprises value proposition, increased patronage and competitive advantage. Yet, fund could constrain businesses from breaking-even amidst the high volatile business environment fraught with uncertain financial incentive, high operating costs, and lack of stimulus package that chokes and affects survival of many SMEs that are heavily depending on increased customer patronage (loyalty and retention) of their services and products especially in a pandemic (COVID-19).

Furthermore, the restricted and closed work guidelines during crisis and pandemic requires SMEs to reprioritize and discover captivating marketing strategies such as innovation, knowledge and consumer empathy (Adach, 2020). That can profitably and competitively position brands store or outlets (i.e. SMEs) capably disposed to innovatively tackle complexities and challenges for achieving the expansion (i.e. size and capital), viability and continued operation of SMEs during and beyond the COVID-19 era. Previous studies focused on the performance status of small and medium scale enterprises in Rivers State (Nkwor-Azariah & Nkwor, 2016), Omowunmi and Idowu (2020) **examined** the marketing perspectives for reinventing businesses in a post COVID-19. However, not much study has been directed towards integrating pandemic responsive marketing strategies for the survival of Small and Medium Enterprises (SMEs). It is based on this premise that this study examined pandemic marketing strategies and customer patronage of SMEs.

Specifically, the purposes of this study were to determine:

1. the contribution of innovation to customer loyalty of SMEs.
2. the contribution of innovation to customer retention of SMEs.
3. the contribution of knowledge to customer loyalty of SMEs.
4. the contribution of knowledge to customer retention of SMEs.
5. the contribution of empathy to customer loyalty of SMEs.
6. the contribution of empathy to customer retention of SMEs.

The following research questions guided this study:

1. What is the contribution of innovation to customer loyalty of SMEs?
2. What is the contribution of innovation to customer retention of SMEs?
3. What is the contribution of knowledge to customer loyalty of SMEs?
4. What is the contribution of knowledge to customer retention of SMEs?
5. What is the contribution of empathy to customer loyalty of SMEs?
6. What is the contribution of empathy to customer retention of SMEs?

Fig. 1.1: Conceptual Framework

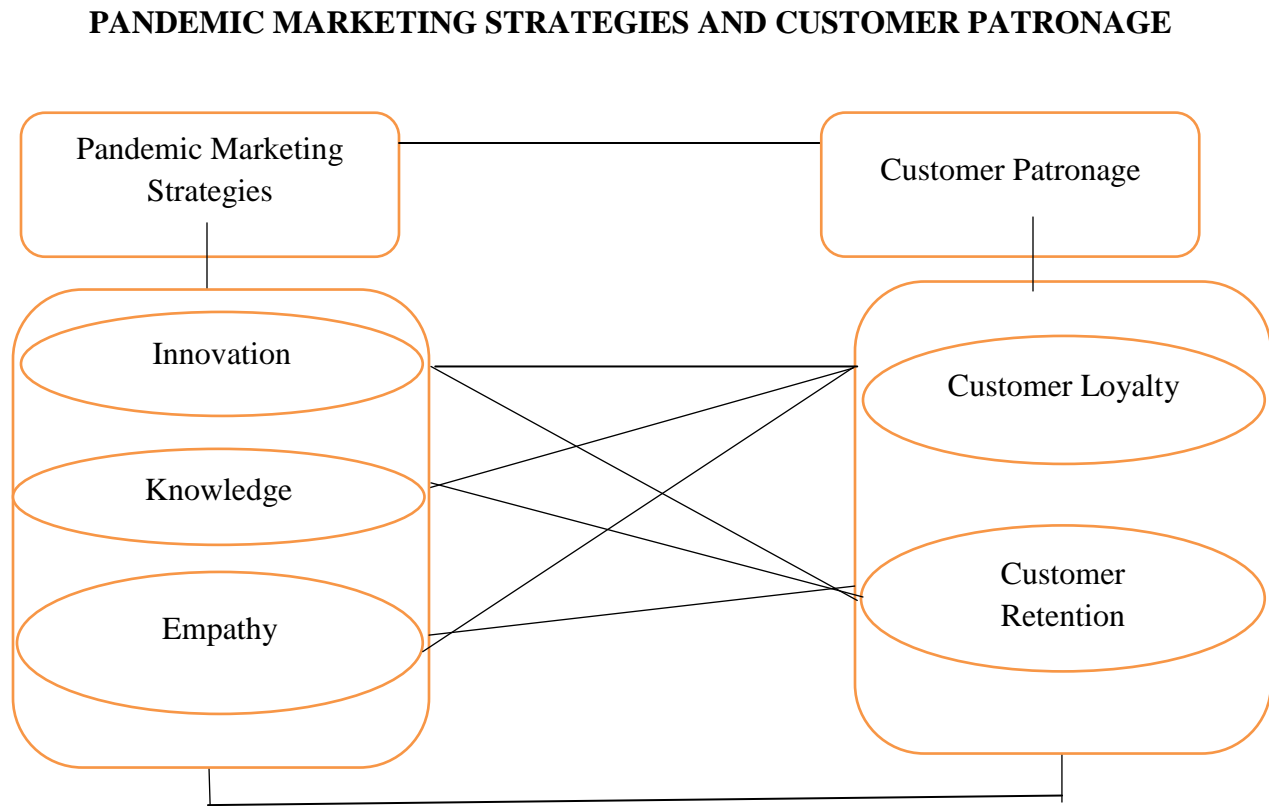


Fig. 1: Conceptual Model of Pandemic Marketing Strategies and Customer Patronage
Source: Researcher's Review of Related Literature (2020)

METHODOLOGY

Research Design

The study was a quantitative research that adopted the correlational research design. Nwankwo (2013) stated that the correlational research establishes the relationship between two or more variables in order to determine the effect of the independent variable (i.e. pandemic marketing strategies) on the dependent variable (i.e. customer patronage). In this study the independent variable with dimensions (innovation, knowledge and consumer empathy) was examined with the dependent variable with measures (consumer loyalty and consumer retention).

Study Area

This study was specifically carried out in mainly in Port Harcourt (comprising Port Harcourt City and Obio-Akpor Local Government Area), Rivers State (South-South Nigeria) where the 1,200 registered Enterprises (otherwise SMEs) are operating and providing services to the population

of 157,791,115 persons (Josiah *et al.*, 2016; Rivers State Ministry of Commerce and Industry, 2019).

Population for the Study

The population for the study comprised all the proprietors and staff in all the SMEs operating in Port Harcourt Rivers State, Nigeria.

Sample and Sampling Technique

A sample of 660 respondents or staff from 330 Small and Medium Enterprises (SMEs) participated in the study. The study adopted a three phase multistage sampling technique. Firstly, stratified sampling technique was used in the delimitation of Port Harcourt into twenty-two (22) strata classification via: Borokiri, Town/Old GRA, Marine Base, Rumuola-Rumuokwuota, Mgbuoba, Choba, D/Line, Ogbunabali, Mile 1, Mile 2, Mile 3, Rumuolumeni, Rumueme, New GRA, Rumuomasi, Elekahia, Rumuokoro, Agip, Olu Obasanjo, Rumuogba, Elelenwo, and Woji strata. In the second phase, random sampling technique was used in the selection of fifteen (15) SMEs (manufacturing, trading, processing, skilled and unskilled servicing, etc. outlets or firms) from each of the 22 strata classification totaling to 330 SMEs from this exercise. Thirdly, purposive sampling technique was used in the selection of 2 staff or respondent from each of the 330 SMEs operating in the 22 strata classification in the study area. This constituted a sample of 660 respondents or staff (comprising 2 staff from each of the 330 SMEs selected from each of the 22 strata classification of the Port Harcourt) that was used for the study.

Instrumentation

The study sourced both primary and secondary data. The primary data was sourced from a self-structured 40-item instrument titled “Pandemic Marketing Strategies and Customer Patronage Inventory” (PMSCPI). The PMSCPI instrument was patterned after a four point rating scale of “Very High Contribution” (VHC, 4 Points), “High Contribution” (HC, 3 Points), “Low Contribution” (LC, 2 Points), and “Very Low Contribution” (VLI, 1 Point). Furthermore, the PMSCPI instrument consists of three sections. Section A elicited the demographics of the respondents (i.e. staff of SMEs), Section B comprised of the 24 items variables on pandemic marketing strategies (via 8 each for innovation, knowledge, and customer empathy), while Section C comprised 16 items on customer patronage (via 8 each for customer loyalty and customer retention). Furthermore, the secondary data was sourced from text books, articles, manuals, documents, magazines, dictionaries, and other publications.

Validation of Instrument

The face and content validity of the PMSCPI instrument was determined by two (2) experts (comprising. 1 Marketer in University of Port Harcourt, and the other 1 from Ignatius Ajuru University of Education). These validates prior to the commencement of their validation, were presented with the topic, objectives and research questions of this study for their comments, suggestions, and views towards improving the PMSCPI instrument validity.

Reliability of the Instrument

The reliability or internal consistency of the PMSCPI instrument was ascertained using Cronbach Alpha (r_a) method. In doing this 50 copies of the PMSCPI instrument was administered to 50 staff of SMEs in Aba, Abia State (which was not used for the study). Then 50 copies of the

PMSCPI instrument were administered to the respondents and upon completion was retrieved, coded and analyzed using the Cronbach Alpha (r_a) method to obtain a reliability coefficient of .841, which necessitated using the PMSCPI instrument for administration.

Method of Data Collection

The face-to-face direct delivery technique was adopted by the researcher and three research assistants for the administration of the PMSCPI instrument to all the 660 respondents. Out of the 660 copies of the PMSCPI instrument administered to the respondents or staff of SMEs, only 608 copies (representing approximately 92% return rate) were validly retrieved and used for the analysis.

Method of Data Analysis

The collected data was scored, tabulated, coded, and analyzed using multiple linear regression analysis to answer the research questions through the SPSS 23.0.

RESULTS

Research Question 1: What is the contribution of innovation to customer loyalty of SMEs?

Table 1: Summary of Multiple Linear Regression Analysis on the contribution of innovation to customer loyalty of SMEs

Source	Sum of Squares (SS)	Df	Mean Square	F. Ratio	P-value	Remark
Regression	1635.094	1	1635.094	246.039	.000 ^b	S
Residual	3542.805	606	6.646			
Total	5662.367	607				

Multiple R (r_p) = .537^a

R. Square (r^2) = .280

Adjusted R² = .288

Standard Error of Estimate = 2.57792

a. Dependent Variable: Customer Loyalty

b. Predictors: (Constant), Innovation

Table 1 shows that the use of innovation to predict the customer loyalty of SMEs in Port Harcourt Rivers State Nigeria yielded a coefficient of multiple regression R (r_p) of 0.537 and multiple regression square (R^2) of 0.280. This also shows that F is 246.039 which is significant at $P < 0.05$ (i.e. p-value is less than 0.05). This shows that innovation contributed or accounted for 53.7 percent of the variance in customer loyalty of SMEs in Port Harcourt. In other words, approximately 54% of the variance in the change in customer loyalty of SMEs in Port Harcourt Rivers State Nigeria can be explained by pulling the different variables together. This implies that 46% of the variation in the customer loyalty in SMEs cannot be explained by the variables of innovation alone. Thus, there must be other variables.

Research Question 2: What is the contribution of innovation to customer retention of SMEs?

Table 2: Summary of Multiple Linear Regression Analysis on the contribution of innovation to customer retention of SMEs

Source	Sum of Squares (SS)	Df	Mean Square	F. Ratio	P-value	Remark
Regression	545.176	1	545.176	66.275	.000 ^b	S
Residual	4984.903	606	8.226			
Total	5530.079	607				

Multiple R (r_p) = .314^a
R. Square (r^2) = .099
Adjusted R² = .097
Standard Error of Estimate = 2.86809

a. Dependent Variable: Customer Retention

b. Predictors: (Constant), Innovation

Table 2 shows that the innovation to predict the customer retention of SMEs in Port Harcourt Rivers State Nigeria yielded a coefficient of multiple regression R (r_p) of 0.314 and multiple regression square (R^2) of 0.099. This also shows that F is 66.275 which is significant at $P < 0.05$ (i.e. p-value is less than 0.05). This shows that innovation accounted for 9.9 percent of the variance in customer retention of SMEs in Port Harcourt Rivers State Nigeria. In other words, approximately 10% of the variance in the change in customer retention of SMEs can be explained by pulling the different variables together. This means that 90% of the variation in the customer retention of SMEs in Port Harcourt cannot be explained by the variables of innovation alone. Thus, there must be other variables.

Research Question 3: What is the contribution of knowledge on customer loyalty of SMEs?

Table 3: Summary of Multiple Linear Regression Analysis on the contribution of knowledge to customer loyalty of SMEs

Source	Sum of Squares (SS)	Df	Mean Square	F. Ratio	P-value	Remark
Regression	2119.562	1	2119.562	362.562	.000 ^b	S
Residual	3542.805	606	5.846			
Total	5662.367	607				

Multiple R (r_p) = .612^a
R. Square (r^2) = .374
Adjusted R² = .373
Standard Error of Estimate = 2.41789

a. Dependent Variable: Customer Loyalty

b. Predictors: (Constant), Knowledge

Table 3 shows that the use of knowledge to predict the customer loyalty of SMEs in Port Harcourt Rivers State Nigeria yielded a coefficient of multiple regression R (r_p) of 0.612 and multiple regression square (R^2) of 0.374. This also shows that F is 362.562 which is significant at

$P < 0.05$ (i.e. p-value is less than 0.05). This shows that knowledge accounted for 61.2 percent of the variance in customer loyalty of SMEs in Port Harcourt Rivers State Nigeria. In other words, approximately 61% of the variance in the change in customer loyalty of SMEs can be explained by pulling the different variables together. This means that 39% of the variation in the customer loyalty of SMEs in Port Harcourt cannot be explained by the variables of knowledge alone. Thus, there must be other variables.

Research Question 4: What is the contribution of knowledge to customer retention of SMEs?

Table 4: Summary of Multiple Linear Regression Analysis on the contribution of knowledge to customer retention of SMEs

Source	Sum of Squares (SS)	Df	Mean Square	F. Ratio	P-value	Remark
Regression	589.124	1	589.124	72.255	.000 ^b	S
Residual	4940.955	606	8.153			
Total	5530.079	607				

Multiple R (r_p) = .326^a

R. Square (r^2) = .107

Adjusted R² = .105

Standard Error of Estimate = 2.85541

a. Dependent Variable: Customer Retention

b. Predictors: (Constant), Knowledge

Table 4 shows that the use of knowledge to predict the customer retention of SMEs in Port Harcourt Rivers State Nigeria yielded a coefficient of multiple regression R (r_p) of 0.326 and multiple regression square (R^2) of 0.107. This also shows that F is 72.255 which is significant at $P < 0.05$ (i.e. p-value is less than 0.05). This shows that knowledge accounted for 10.7 percent of the variance in customer retention of SMEs in Port Harcourt Rivers State Nigeria. In other words, approximately 11% of the variance in the change in customer retention of SMEs can be explained by pulling the different variables together. This means that 89% of the variation in the customer retention of SMEs in Port Harcourt cannot be explained by the variables of knowledge alone. Thus, there must be other variables.

Research Question 5: What is the contribution of empathy to consumer loyalty of SMEs?

Table 5: Summary of Multiple Linear Regression Analysis on the contribution of empathy to customer loyalty of SMEs

Source	Sum of Squares (SS)	Df	Mean Square	F. Ratio	P-value	Remark
Regression	1863.601	1	1863.601	297.292	.000 ^b	S
Residual	3798.765	606	6.269			
Total	5662.367	607				

Multiple R (r_p) = .574^a

R. Square (r^2) = .329

Adjusted R² = .328

Standard Error of Estimate = 2.50372

a. Dependent Variable: Customer Loyalty

b. Predictors: (Constant), Empathy

Table 5 shows that the use of empathy to predict the customer loyalty of SMEs in Port Harcourt Rivers State Nigeria yielded a coefficient of multiple regression R (r_p) of 0.574 and multiple regression square (R^2) of 0.329. This also shows that F is 297.292 which is significant at $P < 0.05$ (i.e. p-value is less than 0.05). This shows that empathy accounted for 32.9 percent of the variance in customer loyalty of SMEs in Port Harcourt Rivers State Nigeria. In other words, approximately 33% of the variance in the change in customer loyalty of SMEs can be explained by pulling the different variables together. This means that 67% of the variation in the customer loyalty of SMEs in Port Harcourt cannot be explained by the variables of empathy alone. Thus, there must be other variables.

Research Question 6: What is the contribution of empathy to customer retention of SMEs?

Table 6: Summary of Multiple Linear Regression Analysis on the contribution of empathy to customer retention of SMEs

Source	Sum of Squares (SS)	Df	Mean Square	F. Ratio	P-value	Remark
Regression	350.507	1	350.507	41.009	.000 ^b	S
Residual	5179.572	606	8.547			
Total	5530.079	607				

Multiple R (r_p) = .252^a

R. Square (r^2) = .063

Adjusted R² = .062

Standard Error of Estimate = 2.92355

a. Dependent Variable: Customer Retention

b. Predictors: (Constant), Empathy

Table 6 shows that the use of empathy to predict the customer retention of SMEs in Port Harcourt Rivers State Nigeria yielded a coefficient of multiple regression R (r_p) of 0.252 and multiple regression square (R^2) of 0.063. This also shows that F is 41.009 which is significant at $P < 0.05$ (i.e. p-value is less than 0.05). This shows that empathy accounted for 6.3 percent of the variance in customer retention of SMEs in Port Harcourt Rivers State Nigeria. In other words, approximately 6% of the variance in the change in customer retention of SMEs can be explained by pulling the different variables together. This means that 94% of the variation in the customer retention of SMEs in Port Harcourt cannot be explained by the variables of empathy alone. Thus, there must be other variables.

Discussion of Findings

The result in Table 1 revealed that innovation statistically and significantly contributed to customer loyalty of SMEs in Port Harcourt Rivers State Nigeria. This finding is in agreement with Gursoy and Chi (2020) that a pandemic (like COVID-19) calls for the adoption of innovation (like digital marketing, shopping apps, etc.) in the service delivery concepts, ideas or techniques in order for businesses to meet with the customers changing inclinations, leanings, demands and purchases or buying behaviours of goods and services. Corroborating this view, Pesach (2020) stated that crisis or pandemic provides opportunities for the adoption of persuasive, innovative, and effective marketing strategies or approaches that can instill customers continued loyalty, purchase and patronage which would enhance the growth and performance of businesses.

The result in Table 2 revealed that innovation statistically and significantly contributed to customer retention in SMEs of Port Harcourt Rivers State Nigeria. This finding conforms to the views of Adach (2020) that innovation (via improved branding, flexible shopping and timely delivery) stems as an appealing marketing strategy that would edify and fortify customers retaining a brand or product and service. This is capable of improving the sales, profit, capital base and performance of SMEs that are confronted with survival strategies in and post-pandemic era.

The result in Table 3 revealed that knowledge statistically and significantly contributed to customer loyalty of SMEs in Port Harcourt Rivers State Nigeria. This finding is consistent with earlier findings by Kalsi (2020) that knowledge of the need for flexibility, and shifting priorities suffices as the requisite marketing plan, approach and strategy and an indication of marketers and business operators creativity or ingenuity in meeting customers changing purchasing pattern, behaviours and expectations during crisis or pandemic situation is a vital in showing. Meyer (2020) assert that this marketing strategies would help businesses (like SMEs) to ensure their brand, product and services reaches their target clients or customers whose dedication or loyalty and patronage would increase SMEs performance, profitability and productivity whilst navigating through crisis or pandemic period.

The result in Table 4 revealed that knowledge statistically and significantly contributed to customer retention of SMEs in Port Harcourt Rivers State Nigeria. This finding aligns with the position of Pesach (2020) that awareness or familiarity with customer's crisis-induced purchasing pattern of products and services, is a demonstration of marketers and businesses commitment to retaining their customers and increased profiteering thereby, surmounting challenges that are tantamount to putting them out of business during and after COVID-19.

The result in Table 5 revealed that empathy statistically and significantly contributed to customer loyalty of SMEs in Port Harcourt Rivers State Nigeria. This finding is in agreement with earlier findings by Onyinyechukwu (2020) that aligning towards customer empathy (via honesty, uprightness, educative, etc.) is a proficient post-COVID-19 recovery marketing strategies that positions SMEs strengthened in all the phase of the business value-chain including making customers to always put their trust in the brand, product and service offered or marketed by SMEs. This would position SMEs profitable and competitive while navigating business stifling

situations (like COVID-19 pandemic) with plans to meet customers changing needs and purchases.

The result in Table 6 revealed that empathy statistically and significantly contributed to customer retention of SMEs in Port Harcourt Rivers State Nigeria. This finding is consistent with Rumack (2020) that customer empathy (via friendly message, humane appeal, sharing credible tips, offering rebates, prompt response to complaints, etc.) is a mindful, persuasive, smart, and proactive marketing strategies or measures engaged by SMEs in order to competitively and successfully navigating a crisis or pandemic situation (like COVID-19) whilst delivering services that would facilitate customer retention or repeat purchase.

CONCLUSION

The study concludes that SMEs adoption of marketing strategies (dimensioned via: innovation, knowledge and customer empathy) contributed to customer patronage (measured via customer loyalty and customer retention). This was through the hands-on information or specifics on customers changing needs (like households, decontaminators, health kits/materials, groceries, etc.) in order to improve SMEs productivity and survival in the Port Harcourt, Rivers State, Nigeria, and global business environment impacted by a pandemic.

Furthermore, SMEs or small businesses adoption of resilience, agile and flexible marketing strategies suffices as a way of retaining their customers whose loyalty would expand the marketing and advertising threshold of products and services that would help businesses effectively, profitably and competitively adjust during crisis or pandemic. Therefore, marketing strategies was found to facilitate SMEs maintenance of customer patronage while navigating a pandemic (like COVID-19) that have stifled, choked or disrupted businesses (like SMEs) including their immense roles in the manpower development, and stimulating the economy and export growth of a state (like Rivers State), and nation (like Nigeria).

RECOMMENDATIONS

1. SMEs should adopt innovations (such as virtual advertising, home delivery, and shopping apps) as tactics for ensuring that their products and services reach, satisfy and influence their target customers continued loyalty and patronage.
2. Government should assist SMEs discover modern and captivating innovations of delivering products and services in a way that it meets their goal of retaining and growing their customer base.
3. Operators of SMEs should improve their knowledge of understanding, predicting and quickly switching and stocking the changing needs and purchasing patterns of customers in order to enhance their profit and survival during pandemic.
4. SMEs are encouraged to increase their understanding and meeting customers changing purchasing and consumption behaviour in order to overcome the reduced sales and other challenges to businesses patronage and profitability during the COVID-19 pandemic.
5. Businesses should provide opportunities for regularly interacting, communication, reaching out, and winning customer loyalty as a support towards navigating the pressure and challenges caused by crisis or pandemic.
6. SMEs are encouraged to timely and humanely engage, communicate and meet the changing customer needs for improved loyalty and retention.

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EXPLORATORY STUDY OF PRESS FREEDOM IN THE COVERAGE OF COVID-19 PANDEMIC IN NIGERIA

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ABSTRACT

Coronavirus pandemic is currently ravaging the world with impacts felt in every sector of the economy. With this, the role of the press in providing in depth, objective, accurate and timely information is very crucial in preventing or reducing the spread of the virus and guide those affected towards services and treatment. Freedom is essential in the performance of the press in this regard. However, it was not clear how the press was free in the fight against the COVID-19 pandemic, hence, this empirical inquiry. Case study design involving four cases relating to the phenomenon was adopted to interrogate the puzzle in this study. Findings revealed the fights for press freedom by media organizations in Nigeria is not won yet as officials of government continue to abuse the right of journalists in the exercise of their legitimate duties like the coverage of COVID-19 pandemic. Arrests, charges, restriction on access to information, excessive fake news regulation, intimidation and physical attacks are used by the officials of government to prevent journalists from performing their legitimate watchdog functions amid the COVID-19 pandemic. Meanwhile, press freedom violations amid the COVID-19 pandemic in Nigeria has negative impact on the ongoing effort to stem the pandemic as it prevent the public from having access to privileged and timely information that would have assist them better in fighting the disease. We concluded that press freedom is an essential factor that strengthens media independence and enhances effective performance but the existing cases of media freedom violations can limit the performance of the media in winning this fight. The study therefore, recommended for a freer environment for the press while operating within the confine of the law and ethics of their profession amid COVID-19 for a more positive result.

Keywords: Exploratory Study, Press Freedom, Coverage, COVID-19 Pandemic

INTRODUCTION

The responsibility of the press as watchdog of the society is recognized all over the world. This places them as the Fourth Estate of the Realm after Executive, Legislature and the Judiciary. As a Fourth Estate of the Realm, the press holds executive, legislature and judiciary accountable to the public by exercising functions of watchdog and surveillance. Ideally, media has three essential roles to play in democratization process and good governance: as a watchdog over the powerful, civic forum (for political debate) and agenda-setter (Norris, 2006). Democracy largely leans on effective communication system channeled through mass media (Jacob, 2002 in Sani, 2014). Freedom of the press or press freedom, which is “the right of individuals to print (publish) and disseminate information and opinions including criticisms of government without any sort of

interference whether governmental interference or any other interference” (Oloyede, 2008 in Layefa and Johnson, 2016, p. 24) is therefore, an essential ingredient to make the press vibrant enough to perform its watchdog function. It is a cornerstone to judge maturity of democracy in many societies and without the right to freedom of expression, and free, independent and pluralistic media, there is no true democracy (Council of Europe, 2020). It is important to note that respect for freedom of expression and the right of public to access and receive information result to transparency and accountability of governments (Sani, 2014). Without an informed citizenry, democracy is a mere farce and it is the duty of the Press to ensure that voters are well informed and capable of participating actively in public affairs (Ndudi Elumelu in Touitou, 2017). Council of Europe (2020) reports that media in times of crisis play an essential role and have a particular responsibility to provide accurate and reliable information to the public- such information are crucial for our health.

The link between press freedom and effective media performance is recognized by most societies of the world as evident in the 2008 World Press Freedom speech delivered by the former American President, George W. Bush, when he emphasized importance of the role of the press and mentioned that press freedom was enshrined in the United States constitution (Bush, 2008). The notion is that, independence of press from the state is an essential factor in the democratic environment in mediating between private domain and political elite in public sphere (Karikari, 2004). In Nigeria, Section 22 gives the press the right to hold the government accountable to its citizens, it guarantees, “The press, radio, television and other agencies of the mass media shall at all times be free to uphold the fundamental objectives contained in this chapter and uphold the responsibility and accountability of the Government to the people.”

However, How free is the press in the discharge of its duty as watchdog as provided under this Section of the Constitution of the Federal Republic has been a gap difficult to bridge among scholars over the years, including in this COVID-19 era. This is in view of the fears expressed by the scholars in the past, including Touitou (2017, p. 7) that “Nigeria which professes to have one of the freest Press in Africa has a lot of limitations to press freedom”. It is contradictory to discover that the same constitution which guarantees press freedom takes away the same freedom it gives to media men. Section 39 (3) of the 1999 Constitution states as follows:

Nothing in this section shall invalidate any law that is reasonably justifiable in a democratic society: (a) For the purpose of preventing the disclosure of information received in confidence, maintaining the authority and independence of courts or regulating telephony, wireless broadcasting, television or the exhibition of cinematograph film; or (b) Imposing restrictions upon persons holding office under the Government of the Federation or members of the Nigeria Police Force or other Government security services or agencies established by law.

According to the Council of Europe Platform to promote the protection of journalism and safety of journalists (the Platform), from 2015 to 25 November 2019, 26 journalists have been killed, including 22 cases where there has been impunity, and 109 journalists are currently in detention; 638 serious press freedom violations have been perpetrated in 39 countries. Threats on media freedom and the safety of journalists have become so numerous, repeated and serious that they

are jeopardizing not only citizens' right to be properly informed but also the stability and smooth functioning of our democratic societies (Council of Europe, 2020). Nemeth (2020) notes that a free press is especially vital during times of emergency and there should be no state censorship or other undue restrictions on the free flow of information.

The outbreak of Coronavirus Disease 2019 also known as COVID-19 has posed a serious challenge to the world with all hands on deck to hurt its spread. As of August 22, 2020, there were 22812491 confirmed cases of the virus with 795132 confirmed deaths across 216 countries, areas or territories globally (WHO, 2020). **Rumours, mis- and dis-information about COVID-19 are spreading rapidly around the world and can be almost as harmful as the virus itself.** During a health crisis such as this, trusted, accurate and timely information can help communities prevent or reduce the spread of disease, and guide those affected towards services and treatment (Gunn, 2020). Amid the COVID-19 pandemic, the free flow of news and information is more essential than ever, ensuring open dialogue and the exchange of vital information (International Press Institute, 2020). This fact was reechoed by the UNESCO Director-General, Audrey Azoulay in the speech delivered on the World Press Day May 3, 2020 that:

It is particularly important to mark World Press Freedom Day this year during the global COVID-19 pandemic and to keep press freedom on the agenda in the present situation. It takes journalism to communicate the findings of scientists and disseminate real and reliable information and counter fake news that is dangerous to people's lives and to efforts to contain the spread of the pandemic (UNESCO, 2020, p. 1).

The above excerpt is a pointer to the fact that press freedom is also essential in the COVID-19 era. In an opinion piece, Benedict (2020, p. 1) unveils that:

During this COVID-19 pandemic, a robust media environment is critical: access to life-saving information is key in the fight against the virus. As governments impose a range of restrictions in attempts to curb the pandemic, journalists help hold authorities to account by providing analysis, engaging in debate about government actions, and creating a space for dialogue about the future we all hope to see.

Despite the relevance of press freedom, there are cases of freedom violations as the report by the International Press Institute (2020) indicates. According to the report, there were 426 media freedom violation cases across the globe as of the time of this study, ranging from arrest/charges, restrictions on access to information, censorship, excessive fake news regulation, and verbal or physical attacks. Nemeth (2020) affirms that **access to accurate information is essential to fighting a pandemic. However, many governments hide behind the emergency to restrict media freedom.** European Parliament (2020) report similarly indicates that as the coronavirus pandemic continues to have significant ramifications for public health, social welfare and the economy, the crisis also presents a significant threat to media freedom. According to the report, media freedom proponents have warned that governments across the world could use the coronavirus emergency as a pretext for the implementation of new, draconian restrictions on free

expression, as well as to increase press censorship. In many countries, the crisis has been exploited for just such reasons, with political leaders using it as a justification for additional restrictions on media freedom. In its 2020 World Press Freedom Index, Reporters without Borders argues that certain governments have used the crisis to impose media restrictions that in ordinary times would be impossible. This study therefore, is set out to identify cases of media freedom violations in Nigeria, who were involved, how they happened and the impact on the ongoing fight against the COVID-19 pandemic in the country.

Statement of the Problem

The outbreak of Coronavirus Disease 2019 also known as COVID-19 has posed a serious challenge to the world with all hands on deck to halt its spread. Yet, as of August 22, 2020, there were 22812491 confirmed cases of the virus with 795132 confirmed deaths across 216 countries, areas or territories globally. Free flow of news and information is more essential than ever, ensuring open dialogue and the exchange of vital information amid this pandemic (International Press Institute, 2020). Journalists ensure that they communicate the findings of scientists and disseminate real and reliable information and counter fake news that is dangerous to people's lives and to efforts to contain the spread of this pandemic (Azoulay, 2020, p. 1). Although despite the role that journalists are playing in that regard, there are cases of freedom violations as the report by the International Press Institute (2020) indicates. According to the report, there were 426 media freedom violation cases across the globe as of the time of this study, ranging from arrest/charges, restrictions on access to information, censorship, excessive fake news regulation, and verbal or physical attacks. However, there is a gap on how press freedom is violated in Nigeria and the impact of such violations on the fight against the COVID-19 pandemic in the country. This study therefore, is set out to bridge this gap by identifying cases of media freedom violations in Nigeria, who were involved, how they happened and the impact on the ongoing fight against the COVID-19 pandemic in the country.

Objectives of the Study

The overall objective of this study is to explore press freedom in reporting the COVID-19 pandemic in Nigeria. Specifically, the objectives include:

- i. To identify cases of press freedom violations amid COVID-19 era in Nigeria.
- ii. To examine how press freedom is violated in Nigeria amid COVID-19 pandemic.
- iii. To determine the impact of press freedom violation on the fight against COVID-19 pandemic in Nigeria.

Research Questions

- i. What are the cases of press freedom violations amid COVID-19 era in Nigeria?
- ii. How is freedom of the press being violated in Nigeria amid COVID-19 pandemic?
- iii. What is the impact of press freedom violation on the fight against COVID-19 pandemic in Nigeria?

LITERATURE REVIEW

Freedom is the right or ability to think, act, speak or write without interference. Press freedom is

therefore, the ability of the mass media to operate without the interference of the government. We are regarded as the apostles of the masses, the voice to the voiceless, the watchdog, the interpreters of news, the opinion molders, the pace-setters and the mouthpiece of new and current information. Unfortunately, from times past till now in the twenty –first century, the press have been victims of suppression, restriction and caution on and about various issues due to the suppression –power of press censorship. The press is the people involved in the news gathering business generally. Or all the people in gathering and reporting of the news, especially journalists and including Public relations practitioners (Touitou, 2017). Freedom of the press is a cornerstone to judge maturity of democracy in many societies. Respect for freedom of expression and the right of public to excess and receive information result to transparency and accountability of governments (Sani, 2014). Critical independence, democratic constructiveness and commercial viability are the cardinal principles of press organization. Governments have been using license and censorship to control the power of mass media and curtail its immense contribution and defense of fundamental human rights. As the Fourth Estate of the Realm, the press holds executive, legislature and judiciary accountable to the public by exercising functions of watchdog and surveillance (Bruns, 2008). Banistar (2006) in Touitou (2017), in a global survey of access to government information laws enunciates some of the benefits of freedom of information and press to include democratic participation and understanding; making government bodies work better; redressing past harm; and protecting other rights.

A pithy look at the journey in search of press freedom in Nigeria, however, reveals a fierce struggle by the press. Nigeria is a former political colony of Britain that got independence in 1960. The Federal Republic of Nigeria is a federal constitutional republic comprising 36 states and Federal Capital Territory, Abuja. The country is located in the West Africa and shares land borders with the Republic of Benin in the west, Chad and Cameroun in the east, and Niger in the north. Its coast in the south lies on the Gulf of Guinea on the Atlantic Ocean. Nigeria is roughly divided in half between Christian who mostly live in South and Muslims concentrated mostly in the North. A minority of the population practice traditional religions. Nigeria is the most populous African country and seventh most populous country in the world. According to CIA, The World Fact Record, Nigerian population estimate of July, 2013 accounts roughly 175 million (Sani, 2014).

The press organizations started in Nigeria with Iwe Iroyin newspaper in 1859 by Henry Townsend in Abekuta (Abati, 1998). Robbert Campbell established the second newspaper called The Anglo-African in 1863 primarily to promote the interactivity between Britain and Africa (Dare and Uyo, 1996). The Lagos Times and Gold Coast Colony Advertiser were established in 1880 by Richard Beale Blaize (Abati, 1998). The success of Lagos Times became the precursor to the proliferation of print media in the country. However, about nine decades after the establishment of the press, broadcast media started up in the 1936 with the establishment of Radio Distribution Service in Lagos disseminated British Broadcasting Corporation programs. In the 1950s, former Western Region established Western Nigeria Television, and then followed by rapid emergence of radio and television stations across the country. In 1961, Nigerian Broadcasting Corporation was mandated by law to regulate the broadcast media in the country. There is a combination of both public (federal and states government) and private media ownership. There are 48 television stations owned by the Federal Government which operate by

Nigerian Television Authority (NTA), state governments have 37 stations, and 15 are privately owned. The Federal Radio Corporation of Nigeria has 43 radio stations, 40 owned by states, 24 campus radio, and the Voice of Nigeria (VON) and 24 private (NBC, 2013). In the case of print media, there are over 90 titles of newspaper publications and over 40 hundred magazines titles. The accurate figure cannot be easy to get because of political and economic reasons that publications are closing down and new ones are coming up rapidly (Sani, 2014).

After independence in October 1960, Decrees¹ and regulations were promulgated to control and repress the press. Newspaper (Amendment) Act of 1964 and the Sedition Law of 1964 were among the several decrees the government. During the Nigerian civil war in 1967, the military promulgated war time Newspaper Decree 17 and Decree 24. Decree 24 gave absolute to the inspector-general of police and the army chief to detain without trail for an indefinite period anyone considered to a security risk (Sabowade, 1985 in Sani, 2014). Among first generation of Nigerian press who experienced censorship during the military colonialism include: Peter Enahoro, Tom Borha, Wilson Uwaifo, Michael Asaju, Sam Amuka, Neville Ukoli, Lateef Jakande, Sam Eguavven, Dan Agbase, Ray Ekpu, Lade Bonuola and Iro O morodion (Eribo and Jong-Ebot, 1997 in Sani, 2014). Several cases of arrests have been documented where a number of journalists have been arrested, intimidated and jailed for news reports the government considered embarrassing. For example, Tampson Thompson, Ndika Irabor of the Guardian newspaper, Femi Akande of Fame Magazine, Nosa Igeibor, Kola Ilori, Onome Osifo-Wiskey and Ayodele Akinkouotu of Tell Magazine were incarcerated while discharging their journalistic duties. It was also recorded that, police attacked and arrested members of the press of The Observer, The News and Daily Independent from 1999-2003 of Obasanjo civilian administration (Onadipe, 2002). This cruelty of police was as a result of accusation on the press of being critical and unfair reports and editorials on the Nigerian Government. As such, the press function of watchdog and surveillance were curtailed and repressed with marginalization of Nigerian populace. The Nigerian situation is among the bad cases of press freedom (Akinwale, 2010 in Sani, 2014).

There are a lot of factors in Nigeria that have militated against press freedom. According to Momoh (2002, p. 10), restrictive media laws could be said to have actually taken roots in 1903 with the enactment of Newspaper Ordinance of that year and the sedition Ordinance of 1909. As Momoh recalled, perhaps the most notorious press gag law was the 1917 Act". Nwanne (2014) adds that no doubt, these laws were put in place to curb the perceived "excesses" of the local press and sufficiently frighten them to desist from attacking the Colonial Administration. Most of those Draconian laws have remained in Nigeria's law books because the new rulers who took over from the colonialists were not interested in abrogating them. Not unexpectedly, therefore, in 1964, this earlier Act was amended and has been the basis of anti-press laws in Nigeria. The first civilian administration under Tafawa Balewa, the Prime Minister enacted the law. If the civilian administration was not particularly media-friendly, it was even worse with the subsequent military administrations, each of them trying to outdo each other in an effort to put the media in its "rightful place". Asemah (2011), International Press Centre (IPC) and Friedrich Ebert Stiftung (FES) (2010) and Ogumka (2015) in Touitou (2017) have identified factors that militate against press freedom in Nigeria. Asemah (2011), for instance discusses some factors militating against

press freedom as: Legal Pressure; economic and Political Pressure; Secrecy; and direct Censorship and Force.

International Press Centre (IPC) and Friedrich Ebert Stiftung (FES) (2010), revealed that freedom of expression and media freedom is guaranteed by the constitution but there are limitations to exercising these rights; Journalists in the democratic dispensation have become more assertive in practicing their profession but self censorship and other constraints exist especially in government owned media outfit; Media owners also limit the extent of journalistic practice because of the premium they place on their relationship with business and the political class; There are still laws in our statute books which restrict freedom of expression such as the Official Secrets Acts, Criminal Defamation Law etc; Protection of confidential sources is not guaranteed by law; Public information is not easily accessible; Broadcasting legislation is deficient, there are complaints on the very exorbitant licensing fees which only commercial broadcasters can afford; Editorial independence is not guaranteed from political interference especially in government owned media outfit, this is because these organizations are funded by the State and seen as tools for propaganda purposes; The harsh economic environment has a negative impact on the media and can compromise it; Some Private media outlets are not run as efficiently and professionally as expected, there are noticeable managerial lapses such as poor staff welfare and lack of administrative skill; Broadcasting regulation is not entirely transparent as most members of the Broadcasting regulatory agency are Government appointees who have no choice but do the bidding of their principal; Appointment procedure for members of the regulatory body is not open and transparent, civil society involvement is nil; There is regular interference by government in the state media, the boards appointed by government exist to protect and defend government interests; Appointments into boards of regulatory agencies are more of political patronage than for public good; There is problem of adequate funding of State broadcasting media outlets; Programming is not as diverse as expected; Self-censorship is prevalent in both State and privately owned media organization because of fear of loss of job, killings, official reprisal and libel cases; Politicians now own media organizations as such interference with editorial independence is a possibility; Salary and general working conditions of journalists are a far cry from being adequate as such corruption and compromise is prevalent. Ogumka (2015) in Touitou (2017) identified some ethical problems militating against freedom of the press as sycophancy; character assassination; confidentiality of source; invasion of privacy; inaccuracy; and lack of fairness.

There are also empirical evidence that show the relationship between press freedom and the media performance in and outside Nigeria. For instance, Layefa and Johnson (2016), in their study revealed that although, free press is yet to be realised, the resounding victories so far recorded in our political landscape as championed by the Nigerian press are pointers to the possibility of the realisation of free press in the Nigerian society. Among others, the authors see, especially, the Freedom of Information Act (FOIA), as a sound leeway to the realisation of free press in the Nigerian society. How soon then the press is going to achieve that is a question that one must continue to seek for an answer. Sani (2014), in his study revealed that the press in Nigeria is considerably free since it repeatedly covers issues that are considered critical to the government by giving such stories prominence to appear on the cover page. However, one may ask if it is true that the press in this country is free. Nwanolue and Ude-Akpe (2011), in their

study on “Freedom of the Press in the Eyes of Nigerian Law” have found that the 1999 Constitution acknowledges that media, being the watch-dog of the society is the main vehicle by which rulers misdeeds. The developmental function and roles of the media include gathering and dissemination of information, verification of news, education and enlightenment of the people, shaping of public opinion, setting of national agenda, safeguarding of right of individuals, interests, groups, advertisement of goods and services etc. saddled with this responsibility, the media cannot function effectively without proper legal backing. Nwanolue and Ude-Akpe (2011) argued that Chapter two of the 1999 Constitution on which Section 22 rests is filled with laudable provisions which in Nigeria are non justiciable. Since 1960, Nigeria press cannot be said to have enjoyed unrestricted freedom. According to these scholars, freedom of the press is not clearly spelt out in the 1999 Constitution. The situation was not better under military. They emphasized that a media that is not accurate, factual, detailed and authoritative cannot lay claim to holding public officials accountable, because its own sense of accountability can easily be challenged.

Ndinojuo and Udoudo (2018), in their study on “A Converted Democrat? Profiling the Attacks on Nigerian Journalists During Buhari’s Civilian Regime (2015-2017)” revealed that In spite of President Buhari’s government recent press freedom claim, no fewer than 38 newsmen and women were arrested or harassed and at least one killed by gunmen in the two-year period. Interestingly, none of the cases was linked directly to Buhari personally, unlike his term as a military dictator. Nevertheless, the cases of abuse recorded so far was an indication that President Buhari should initiate actions that safeguard the social responsibility credential of journalists. Touitou’s (2017) study concluded that in order to achieve the important aim of assisting to give democratic participation ‘meaning’, the press must fulfill their professional roles. Akeem’s (2010) study showed that although the press facilitated the development of democracy, challenges to press freedom were frequent. Nwanne (2014), in his study on another Look at press Freedom in Nigeria revealed that since independence, infractions on press freedom were mostly experienced during the military era with the enactment of many press gag laws. According to his findings, there have been improvements in the level of tolerance by post 1999 civilian administrations but much still has to be done to attain a reasonable level of press freedom. Oberiri (2017), in his study on “Exploring the Extent of Press Freedom in Nigeria” revealed that there are a lot of factors in Nigeria that impedes or militates against press freedom ranging from secrecy, legal pressure, direct censorship and force among others. Findings also revealed that Nigerian press freedom is a paradox and only exist on paper i.e. on Constitution but not in practice. Allen, Ogochukwu, Nwakego & Chukwuweike (2019), in their study on “Freedom of Information (FOI) Act and Journalism Practice in Nigeria: An Appraisal” revealed that the benefits which the FOI Act is envisaged to bring to journalism practice include legal coverage for the journalist as they accesses information; reduction in cost of accessing information; and reduction of risk involved in seeking sensitive information. According to the findings, there has been an encouraging increase in the number of individuals and organisations demanding for information pursuant to the provisions of the Act. However, these individuals and organisations are largely outside the media industry, implying that there is apparent reluctance on the part of Nigerian journalists to harness the FOI Act. Factors adversely affecting utilization of the FOI Act in Nigeria include the legal, political and judicial factors as well as poor culture of investigative journalism in Nigeria; while measures that could be taken towards a better future

performance include legal reforms, political commitment, judicial reform and more vibrant use of the FOI Act by journalists and other members of the public alike.

Olusegun and Omotayo (2014), in their study revealed that the institutionalization of an effective democratic society anchored upon the rule of law and fundamental human rights, especially in plural societies requires many measures of which the formation of media law and institutions is one of the most crucial. Too often, this process of building media that advances democracy is undertaken without a sufficient understanding of the many and varied factors involved. Indeed, laws are frequently looked at in isolation and as interchangeable parts that are separately advocated for the creation of effective and democracy-promoting media. While Ali (2015), in the study concluded that most Africans are fast at condemning government for using state media as agents of propaganda. Politicians in the opposition parties usually cash in on this common crime by African governments while trying to score cheap political points. But government is not the only culprit when it comes to the issue of ownership and control. Private media owners have also used their media to push forward their political ambitions or that of their political parties. The media are supposed to be used as tools for propagating developmental messages and media professionals owe a duty to society to report events in their correct perspectives and not coloring it to suite particular people or organizations. In a developing continent like Africa, the mass media remain the best option for government to bring development to the public. A close partnership between governments in Africa and the mass media will help development in the continent. There is need to put an end to this cat and mouse situation and focus on progress (Ali, 2015).

The empirical review indicates that the battle for press freedom is not won as so many factors still militate the freedom of media professionals in the exercise of their duties. The Coronavirus is an epidemic that is currently ravaging the world with impact felt in every sector of the economy. With this, the role of the press is very crucial in preventing or reducing the spread of the virus as during a health crisis such as this, trusted, accurate and timely information can help communities prevent or reduce the spread of disease, and guide those affected towards services and treatment (Gunn, 2020). But then, free flow of news and information is more essential than ever, ensuring open dialogue and the exchange of vital information (International Press Institute, 2020). As during this pandemic period, a robust media environment is critical: access to life-saving information is key in the fight against the virus. As governments impose a range of restrictions in attempts to curb the pandemic, journalists help hold authorities to account by providing analysis, engaging in debate about government actions, and creating a space for dialogue about the future we all hope to see (Benedict, 2020, p. 1). According to the International Press Institute (2020), there were 426 media freedom violation cases across the globe as of the time of this study, ranging from arrest/charges, restrictions on access to information, censorship, excessive fake news regulation, and verbal or physical attacks.

Theoretical Framework

Libertarian and Social Responsibility Media Theories anchored this study. These two theories are among the first four theories of the press before McQuail added two to make them six that define how the media operate. **Libertarian media theory** for instance is second in the list of theories of the press propounded by F. S. Siebert, T. B. Peterson and W. Schramm in the year 1963. The specific principles of this theory are that: (i) publications should be free from prior

censorship; (ii) there should be no compulsion to anything; (iii) publication of error is protected equally with that of truth in matters of opinion and belief; (iv) no restriction should be placed on the collection of information for publication provided it is done by legal means; (v) there should be no restriction on export or import or sending of messages across national frontiers; and journalists should be allowed to claim a reasonable degree of autonomy in their places of work (Daramola, 2003 in Anaeto, Onabajo and Osifeso, 2008). This theory, which came about as a result of the excesses in the authoritarian theory, emerged around the 17th Century and was relabeled free press theory by McQuail in 1987. The libertarian theory says humans are natural and inclined to seek truth and be guided by it. Under this theory, the people are presumed able to discern between truth and falsehood and, having been exposed to a press operating as a free marketplace of ideas and information, they will help determine public policy (Daramola, 2003 in Anaeto, Onabajo and Osifeso, 2008). Libertarian theory exists to check on governments and that means they should be free from governmental control. This does not mean freedom to defame or commit sedition or immunity to the rule of law and canons of civilized social conduct. The theory advocates that the press be seen as partner with government in search of truth, rather than a tool in the hands of the government (Anaeto, Onabajo and Osifeso, 2008).

Social Responsibility Media Theory propounded by F. S. Siebert, T. B. Peterson and W. Schramm (1963) has the following as its specific principles: (i) Media should accept and fulfill certain obligations to society; (ii) Through professional standards of informativeness, truth, accuracy, objectivity and balance, these obligations can be met; (iii) Media should regulate itself within the framework of law and established institutions to be able to carry out its responsibility; (iv) Whatever might lead to crime, violence, civil disorder or offence to minority groups, should be avoided by the media; (v) The media should reflect its society's plurality, giving access to various points of view and granting all the rights to reply; (vi) Based on the principle in (i), the society has the right to expect high standards of performance from the media. Intervention can only be justified to secure public good; and (vii) Accountability of media professionals should be to the society, employers and the market (McQuail, 1987 in Anaeto, Onabajo and Osifeso, 2008). The theory demands that freedom carries concomitant obligations, and the press, enjoys a privileged position under the government, is obliged to be responsible to society for carrying certain essential functions of mass communication. In general, socially acceptable press behaviour was to be anchored on self-regulation, but if the press would not voluntarily give them, then there must be certain social structures to ensure that it behaves in compliance with recognized social standards (Anaeto, Onabajo and Osifeso, 2008).

These theories are relevant to this study because they combined to demand for media freedom and liberty but with high regard to constituted social standards. Libertarian theory gives freedom to the media while social responsibility media theory patterns the exercise of that freedom among media professionals to avoid abuse of it. The press is to be seen as partner with government in search of truth, rather than a tool in the hands of the government to manipulate the public.

RESEARCH METHODOLOGY

This study adopted a multiple case study design with four cases covering the period between April, 2020 to August, 2020 to investigate how free media professional were in their reportage of COVID-19 pandemic in Nigeria. We used the case study approach for this study because it enabled us to answer not only “what” but also “how” and “why” type questions, while taking into consideration how a phenomenon was affected by the context within which it was situated (Baxter & Jack, 2008 in Vu and Feinstein, 2017). Yin (1989) in Capraro (2016) justifies the use of case study by contrasting its purpose with other methodological choices that an experiment...deliberately divorces a phenomenon from its context, so that attention can be focused on a few variables...a history, by comparison, does deal with the entangled situation between phenomenon and context, but usually with noncontemporary events...surveys can try to deal with phenomenon and context, but their ability to investigate the context is extremely limited. Four cases relating to the phenomenon were purposively selected for investigation because they were cases tracked, assessed and authenticated by the International Press Institute (IPI) Tracker on Press Freedom Violations linked to COVID-19 coverage as cases of press or media violations in Nigeria.

DATA ANALYSIS

Case One:

Nigerian Journalist Arrested for a Story related to COVID-19

Source: Committee to Project Journalists (2020)

Saint Meinpamo Onitsha, a journalist and founder of a private Naija Live TV news website, in Yenagoa, Bayelsa state was detained by the State Security Department when he responded to summons. He was questioned about a report published on May 2 regarding the alleged collapse of a COVID-19 isolation center in Nigeria’s North Central Kogi State. He was released without charge after been forced to apologize and deny allegations of his arrest by the security agency in the press conference. Onisha was dispossessed of his mobile phones and those of his wife by the security agency and were returned to him after being released.

The full report goes:

Abuja, May 19, 2020 — Nigerian authorities should cease their intimidation of journalist Saint Mienpamo Onitsha and ensure that security forces permit the press to work freely, the Committee to Protect Journalists said today

At about 1 a.m. on May 9, four masked Department of State Services agents forced their way into the home of Onitsha, the founder of *Naija Live TV*, an independent news website, in Yenagoa, the capital of Nigeria’s Southern Bayelsa state, blindfolded him, and drove him around for more than three hours before bringing him to the department’s local headquarters, according to the journalist, who spoke with CPJ via phone and messaging app, and a report by the privately owned *Sahara Reporters* newspaper.

At the headquarters, agents interrogated Onitsha about his sources for two reports he had published, and threatened him with criminal prosecution on false news charges, according to the journalist and a report by the privately owned *Daily Independent* newspaper.

The agents held him until May 12, when Onitsha appeared at a press conference organized by the security agency, in which he apologized for his outlet's reporting and denied allegations that agents had abducted him, and he was then released without charge, he told CPJ. Onitsha said he was coerced into making those statements in exchange for being released without charge.

The Department of State Services operates under Nigeria's coordinator of national security, which reports directly to President Muhammadu Buhari, according to the National Security Agencies Act.

The officers also took five phones belonging to Onitsha and his wife when he was arrested and only returned the phones after he was released, he said, adding that he could not tell if anything was deleted from the phones or if they were tampered with.

"There is absolutely no justification for seizing journalist Saint Mienpamo Onitsha from his home in the dead of night and subjecting him to days of interrogation for his reporting," said Angela Quintal, CPJ's Africa program coordinator, in New York. "The Department of State Services is far too often involved in the arbitrary detention and intimidation of journalists in Nigeria. It's a pattern that President Buhari should act swiftly to reverse."

According to Nigeria's constitution, any person detained by authorities must be arraigned in court within 24 hours if a court is within 40 kilometers of where they are detained. Onitsha told CPJ that the Department of State Services where he was detained was across the street from Bayelsa's Federal High Court Complex.

Onitsha said the officers who took him into custody questioned him on May 10 about his sourcing for a December 2019 report alleging that a court in Abuja, Nigeria's capital, had ordered the arrest of Bayelsa Deputy Governor Lawrence Erwhudjakpo, and a May 2020 report on the alleged collapse of a COVID-19 isolation center in Nigeria's Kogi State. He said he was afraid that the agents may torture him, but said they did not.

Onitsha said he was questioned again on May 12 by a man he believed to be the Department of State Service's Bayelsa state director. Before his release, Bello Bina, a former local politician for whom Onitsha had previously worked, signed a document vowing that Onitsha would appear at the Department of State Services office whenever summoned, the journalist said.

Peter Afunaya, a spokesperson for the Department of State Services, did not respond to CPJ's calls and text messages seeking comment. Contacted by CPJ over the phone, a spokesperson for the Kogi State governor, Mohammed Onogwu, declined to comment on *Naija Live TV*'s article or on Onitsha's detention, and told CPJ to contact the security forces. Doubra Atasi, a media aide to Erwhudjakpo, told CPJ that the Bayelsa deputy governor had not filed a complaint against Onitsha and that he could not comment on the matter.

Case Two:

New COVID-19 Misinformation Law used to arrest Nigerian Journalist

Source: Eze, J. (April 19, 2020)

A law in the Nigerian state of Ebonyi passed to penalize the spread of misinformation about COVID-19 and other infectious diseases was used to arrest and charge journalist, Chijioke Agwu. The reporter, a correspondent for *The Sun* newspapers, was detained on the orders of Ebonyi State Governor, David Umahi over a report he wrote about the Lassa fever, a viral illness endemic in parts of West Africa, including Nigeria. The governor accused Agwu of lying and breaking the new law – an allegation refuted by his employer.

The full report goes:

Coronavirus law used to arrest Nigerian journalist over health story

A Nigerian journalist, Chijioke Agwu, has been arrested for writing a story on Lassa fever which a state governor claims violates the state's coronavirus law.

The Ebonyi State Police Command, on Saturday afternoon, arrested the Ebonyi State correspondent of *The Sun* newspapers, on the order of Governor David Umahi, the media outfit has said.

The reporter, according to the newspaper, attended a press conference by the governor at the Government House where he was whisked away by the Chief Security Officer to the governor, and later handed over to the state's Commissioner of Police, Awosola Awotinde. The reporter is still being held by the police. It was learnt that the governor has instructed that he be charged to court.

Premium Times gathered that the governor, during the press briefing, which was aired live on the state's broadcast stations, confirmed the arrest. He said the reporter lied in a recent report he wrote on Lassa fever outbreak in the state. Report against Infectious diseases law – Governor

The Governor, during the briefing, said the reporter's actions contravened the recently passed Ebonyi State Coronavirus and other Dangerous Infectious Diseases and Related Matters Law 005 of 2020. The law was accented to by the governor on April 2.

While signing the law, the governor warned against spread of false information, quoting a part of the law. "The transmission, or dissemination through a computer system or network or otherwise, of false information regarding COVID-19 within the State and other Dangerous Infectious Diseases and or any circumstances related to or bordering on the outbreak or possible outbreak of COVID-19 within the State is hereby prohibited," he declared.

He said any person who provides false or misleading information intentionally or recklessly with a view to causing panic or disaffection amongst members of the public shall be liable under the Ebonyi State Coronavirus and other Dangerous Infectious Diseases Law, 2020, Quarantine Act,

Cap Q2 LF.N, 2004, Public Health Law, Cap 126 Laws of Ebonyi State of Nigeria 2009 and any other existing law, to a fine or imprisonment or both.

The Sun Newspaper, in a statement on its website, condemned the arrest, describing it as unfortunate. The paper noted that the head of The Sun South East Bureau, Magnus Eze, had informed the management of the arrest in a text message. "I have just been informed that Ebonyi Gov, David Umahi has ordered the arrest and prosecution of The Sun newspapers state correspondent, Chijioke Agwu, while he attended a press invitation at the Govt House. I was told that their grouse was a feature story on Lassa fever endemic in Ebonyi which centred mainly on NCDC statistics published in Daily Sun of Friday, April 17, 2020," Mr Eze's message read. The management wondered why the reporter would be arrested for doing his job.

"It is wrong to arrest a reporter for doing his job. Our correspondent was arrested as if he was a common criminal while doing his legitimate duty. It is unfortunate a governor can make such an order and a Commissioner of Police acted on it."

The paper further claimed that Mr. Umahi has a penchant for harassing journalists. "Sources say any time report on an issue in the state is published, the governor sometimes personally harasses and threatens reporters," the paper said. The paper further quoted unnamed sources as stating that "the governor does not want any report on the failure of his government reported by the media. When there is a communal clash, robbery, killings in the state, and they are reported, he gets offended. These things are replete in the state and it is the duty of the media to report them." The paper said since the arrest of the reporter, the police have barred access to him.

The Commissioner of Police, Awotinde Awosola, confirmed the arrest of the reporter. He, however, denied that the police have barred access to the reporter. "He is having a parley with my officers. We are investigating the matter," he said.

Case Three: Lockdown: Task Force attacks Delta NUJ Chairman, another Journalist

Source: Adurokiya, E. (April 1, 2020), *Nigerian Tribune* Newspaper

Officials of the Delta State Task Force on Environment attacked Michael Ikeogwu, chairman of the Nigeria Union of Journalists (NUJ), and Mathew Omonighoe, correspondent of the Daily Post, as they were covering the COVID-19 lockdown. The two journalists were in the Uvwie Local Government Area of the state to monitor the stay-at-home order by the government when they were stopped by the task force officials and assaulted. Omonighoe reportedly had his Nikon D3100 camera destroyed.

Full report goes:

Officials of the Delta State Task Force on Environment on Wednesday attacked the Chairman, Nigeria Union of Journalists (NUJ), Delta State council, Mr. Michael Ikeogwu. Also attacked was the correspondent of the *Daily Post*, Mathew Omonigho, who reportedly had his Nikon D3100 camera destroyed.

The duo were in Otio Street, Uvwie Local Government Area of the state to monitor the stay-at-home order by the government as a measure taken to curtail the spread of COVID-19 pandemic in the state.

Narrating his ordeal, Ikeogwu said that he had approached the environmental officials on why they should force residents to do sanitation despite the government order. According to him, he and his fellow journalist were held for over 45 minutes by the officials said to have been led by Mr. Kingsley Iweka. "It took the swift intervention of the Chairman of the Environment Task Force, Mr. Syvelster Oromoni, to free us from them through phone call. "I wondered what will become of the ordinary man in the society if government officials could assault journalists in this manner even after identifying ourselves. "Today is not environmental sanitation. Why should a task force constituted for environmental sanitation come out on a day that people are asked to stay at home to enforce environmental sanitation? "The action further endangers the lives of the people as it contravenes the social distance directive of the governor. "I wish to call on the state governor to look into this matter because many people will fall victim of this brutality before the end of the lockdown order. "It was the residents of the area who called us to come and see what was happening, how they were being forced to come and do environmental sanitation. However, I thank God it didn't go beyond that even as I go to treat myself because I was attacked. "I am disappointed with the attitude of the leader of the team, who, after I had introduced myself, ordered his boys to attack me and my colleague," he said. Ikeogwu, however, urged the state government to call the officials to order, noting that many journalists might become victims before the expiration of the two weeks lockdown of the state.

Reacting, Oromoni said that the task force gave the order that the people should come out and clean their environment. Oromoni, however, pleaded that "the matter should end there."

In a related development, operatives of the Nigeria Police, Warri Area Command, on Wednesday, arrested a number of persons across Warri and environs for violating the lockdown and stay-at-home order. Warri Area Commander, Mohammed Garba, while addressing journalists after surveillance with his convoy, said the stay-at-home compliance was 99.9 per cent. "Today being the first day, it is normal. We recorded 99.9 per cent compliance. We have to continue patrolling as we have done at least for the 14 days.

"People have been complaining but they have to comply. It is a government directive. So, I'm appealing to them to exercise patience. Fourteen days is just like 14 hours before you know it, it is over. "That is what we are trying to make them see, they should please comply with the Federal Government and the state government's directives. "We made some arrest for violation, though some people were saying that they were coming from other states, but that notwithstanding, we made the arrests."

Case Four:

Nigerian journalist Kufre Carter detained for 1 month, charged with defamation and conspiracy

Source: Source: CPU Media Trust (2020)

Kufre Carter, a presenter with the privately owned XL 106.9 FM radio station, was detained was detained for one month by the officers with Nigeria's Department of State Services in Southern City of Uyo, when he responded to a summons issued the day before. The charges stem from an April 25 article published in *First Reports*, which featured the audio of a phone call between two unnamed people that was critical of Akwa Ibom State Health Commissioner Dominic Ukpog's handling of the COVID-19 crisis in the state. The charge sheet alleges that Carter "caused [the article] to be published," and that the article and recording were "false" and contained "defamatory words against" Ukpog.

The full story reads:

Nigerian authorities should drop all charges against journalist Kufre Carter and ensure that the press is not harassed by the country's security forces, the Committee to Protect Journalists said today.

On April 27, in the Southern City of Uyo, officers with Nigeria's Department of State Services arrested Carter, a presenter with the privately owned XL 106.9 FM radio station, when he responded to a summons issued the day before, according to Inibehe Effiong, Carter's lawyer, who spoke to CPJ by phone and messaging app, and reports by the privately owned *First Reports* and *Premium Times* news websites.

Authorities barred Carter's lawyer or family from visiting him during his month-long detention, and released him yesterday afternoon on bail, according to a Facebook post by Effiong, who told CPJ that he attempted to meet with Carter multiple times, but was denied by Department of State Services agents.

During his detention, on April 29, a local court charged Carter with conspiracy and defamation, according to a copy of the charge sheet, which CPJ reviewed. Those charges were not dropped when Carter was released, according to Effiong's Facebook post, which said the journalist is due back in court on June 1.

The charges stem from an April 25 article published in *First Reports*, which featured the audio of a phone call between two unnamed people that was critical of Akwa Ibom State Health Commissioner Dominic Ukpog's handling of the COVID-19 crisis in the state, according to the newspaper's report. The charge sheet alleges that Carter "caused [the article] to be published," and that the article and recording were "false" and contained "defamatory words against" Ukpog.

First Reports editor-in-chief Ita Utioh told CPJ via phone that Carter had never worked for the newspaper, and that the article in question simply reposted audio that was already circulating on social media. “In this confusing set of circumstances, two things are clear: Nigerian authorities are overreacting to criticism, and the Department of State Services is once again arbitrarily targeting a journalist,” said Angela Quintal, CPJ’s Africa programme coordinator, in New York. “Detaining Kufre Carter for one month is a violation of his basic rights. Carter should never have been detained, and the charges against him should be dropped immediately.”

In a phone conversation today, Carter told CPJ that he could not comment on the case, as it was still before the court. XL 106.9 FM is an Akwa Ibom-based radio station that airs lifestyle programme and news, entertainment, and sports coverage. Carter primarily covers sports for the station, according to *Premium Times*.

If convicted, Carter faces a maximum sentence of two years in prison for conspiracy and the same for criminal defamation, and three years’ imprisonment for the allegedly false and defamatory *First Reports* publication, according to the charge sheet and the Akwa Ibom state criminal code, a copy of which CPJ reviewed.

Carter was released after providing the court a bail bond of 200,000 naira (\$512), according to Effiong. On April 29, the court had granted Carter bail under the conditions that he provide a bond of 3 million naira (\$7,692), a letter from his community leader confirming his identity, and a senior civil servant to act as surety, but Effiong said these conditions were too difficult to meet. The requirements were revised after Effiong filed an appeal, which the prosecution is contesting, he said.

Akwa Ibom State Attorney General Uwemedimo Nwoko told CPJ by phone that the prosecution had a right to appeal Carter’s bond conditions, but declined to comment further on the case.

Reached by phone, Ukpong told CPJ that he had nothing to do with Carter’s detention and could not speak further because he was not comfortable with telephone interviews. Effiong told CPJ and posted on Twitter on April 27 that the Department of State Services director of operations for Akwa Ibom state, Uchehukwu Nnatube, had called a member of his legal team and requested that Carter’s phone be handed over so authorities could “extract” evidence, but later told CPJ that he did not hand over the phone.

When contacted by CPJ, Nnatube told CPJ that he could not comment on Carter’s case because it was before a court. For years, CPJ has documented the repeated arbitrary detention of journalists by Nigeria’s Department of State Services, which operates under the coordinator of national security, who reports directly to President Muhammadu Buhari, according to the National Security Agencies Act.

In 2019, CPJ documented how Nigeria’s military targeted journalists’ phones and computers with digital forensics technology, seeking to extract information that would reveal sources for their reporting.

Discussion

Based on the data presented, it is found that there were cases of press freedom violations by the agencies of the Nigerian government in the coverage of COVID-19 pandemic. This is evident in cases presented where freedom of journalists linked to COVID-19 pandemic was in different forms violated by the security operatives of government and the environmental tax force. For example, in case one, Saint Meinpamo Onitsha, a journalist and founder of a private Naija Live TV news website, in Yenagoa, Bayelsa state was detained by the State Security Department about a report published on May 2, 2020 regarding the alleged collapse of a COVID-19 isolation center in Nigeria's North Central Kogi State. He was released without charge after been forced to apologize and deny allegations of his arrest by the security agency in the press conference. In case two, a law in the Nigerian state of Ebonyi passed to penalize the spread of misinformation about COVID-19 and other infectious diseases was used to arrest and charge journalist, Chijioke Agwu. The reporter, a correspondent for *The Sun* newspapers, was detained on the orders of Ebonyi State Governor, David Umahi over a report he wrote about the Lassa fever, a viral illness endemic in parts of West Africa, including Nigeria. The governor accused Agwu of lying and breaking the new law – an allegation refuted by his employer. In case three, officials of the Delta State Task Force on Environment attacked Michael Ikeogwu, chairman of the Nigeria Union of Journalists (NUJ), and Mathew Omonighoe, correspondent of the Daily Post, as they were covering the COVID-19 lockdown. The two journalists were in the Uvwie Local Government Area of the state to monitor the stay-at-home order by the government when they were stopped by the task force officials and assaulted. Omonighoe reportedly had his Nikon D3100 camera destroyed. While in case four, Kufre Carter, a presenter with the privately owned XL 106.9 FM radio station, was detained for one month by the officers with Nigeria's Department of State Services in Southern City of Uyo, when he responded to a summons issued the day before. The charges stem from an April 25 article published in *First Reports*, which featured the audio of a phone call between two unnamed people that was critical of Akwa Ibom State Health Commissioner Dominic Ukpomg's handling of the COVID-19 crisis in the state. The charge sheet alleges that Carter "caused [the article] to be published," and that the article and recording were "false" and contained "defamatory words against" Ukpomg.

It implies therefore that the fights for press freedom by media organizations in Nigeria is not won yet as officials of government continue to abuse the right of journalists in the exercise of their legitimate duties. This finding aligns with the finding in the study conducted by Oberiri (2017) which reveals that Nigerian press freedom is a paradox and only exists on paper i.e. on Constitution but not in practice. This also agrees with the report by the International Press Institute (2020), which indicates that there were 426 media freedom violation cases across the globe as of the time of this study.

Another finding of this study is that press freedom violations amid COVID-19 pandemic in Nigeria covered arrests of journalists by government security operatives and task force, charges, restriction on access to information, excessive fake news regulation, intimidation and physical attacks. This is evident in cases 1, 2, 3, and 4 presented where in case one, Saint Meinpamo Onitsha, a journalist and founder of a private Naija Live TV news website, in Yenagoa, Bayelsa state was arrested and detained; in case two, a law in Ebonyi passed to penalize the spread of misinformation about COVID-19 and other infectious diseases was used to arrest and charge

journalist, Chijioke Agwu, a correspondent for *The Sun* newspapers. He was detained on the orders of Ebonyi State Governor, David Umahi over a report he wrote about the Lassa fever, a viral illness endemic in parts of West Africa, including Nigeria; in case three, officials of the Delta State Task Force on Environment attacked and detained Michael Ikeogwu, Chairman of the Nigeria Union of Journalists (NUJ), and Mathew Omonighoe, correspondent of with the *Daily Post*, for hours as they were covering the COVID-19 lockdown; while in case four, Kufre Carter, a presenter with the privately owned XL 106.9 FM radio station, was detained for one month by the officers with Nigeria's Department of State Services in Southern City of Uyo for an article published in *First Reports* on April 25, 2020 which featured the audio of a phone call between two unnamed people that was critical of Akwa Ibom State Health Commissioner Dominic Ukpung's handling of the COVID-19 crisis in the state.

This implies that amid COVID-19 pandemic, arrests, charges, restriction on access to information, excessive fake news regulation, intimidation and physical attacks are used prevent journalists from performing their legitimate watchdog functions in Nigeria. This finding agrees with the finding in the study conducted by Oberiri (2017) which indicates that there are a lot of factors in Nigeria that impedes or militates against press freedom ranging from secrecy, legal pressure, direct censorship and force among others. Similarly, International Press Institute (2020) reports that there were 426 media freedom violation cases across the globe as of the time of this study, ranging from arrest/charges, restrictions on access to information, censorship, excessive fake news regulation, and verbal or physical attacks.

Furthermore, finding revealed that press freedom violations amid the COVID-19 pandemic in Nigeria has negative impact on the ongoing effort to stem the pandemic as it prevent the public from having access to privileged and timely information that would have better assisted them in fighting the disease. This is evident in cases 1, 2, 3 and 4 studied where the arrest, attacks or detention of journalists prevented them from timely coverage or reportage of such stories and denied or delayed the public from having access to such stories. This finding justifies the provisions of the libertarian and social responsibility media theories that anchored this study which seek freedom for media professionals to enable them function effectively. And just like International Press Institute (2020, p. 1) emphasized, "free flow of news and information is more essential than ever, ensuring open dialogue and the exchange of vital information" in this COVID-19 pandemic period.

CONCLUSION

There were cases of press freedom violations by the agencies of the Nigerian government in the coverage of COVID-19 pandemic. The fights for press freedom by media organizations in Nigeria is not won yet as officials of government continue to abuse the right of journalists in the exercise of their legitimate duties. Arrests, charges, restriction on access to information, excessive fake news regulation, intimidation and physical attacks are used to prevent journalists from performing their legitimate watchdog functions amid the COVID-19 pandemic in Nigeria. Press freedom violations amid the COVID-19 pandemic in Nigeria has negative impact on the ongoing effort to stem the pandemic as it prevent the public from having access to privileged and timely information that would have better assist them in fighting the disease.

Conclusively, press freedom is an essential factor that strengthens media independence and enhances effective performance but the existing of certain cases of media freedom violations can limit the performance of the media as evident in this study. There should be a freer environment for the press while operating within the confine of the law and ethics of their profession amid COVID-19 for a more positive result.

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DOWNSIZING STRATEGY AND ORGANIZATIONAL RESILIENCE OF MICROFINANCE BANKS IN RIVERS STATE, NIGERIA: THE POST-COVID 19 ERA PERSPECTIVE

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ABSTRACT

This work seeks to establish the link between downsizing strategies and organizational resilience of Microfinance Banks in Rivers state in the post COVID-19 era perspective. This study commenced before the COVID-19 pandemic, but the concluding part was caught up in the web of the pandemic which made the study relevant to the present times. Two hypotheses were generated and studied for the purpose of this study. The population comprised of ninety (90) management staffs that was conveniently selected from nine (9) licensed Microfinance Banks in Rivers State. Copies of questionnaire that was used to collect data were administered to Ninety (90) management staffs of these various Microfinance banks. Data collected were analyzed using the Pearson Moment Correlation Coefficient statistical tool with the aid of an SPSS v. 20.0. Results from the analysis was that there is a significant but negative relationship between relationship between downsizing strategy (workforce reduction strategy) and flexibility while a significant and positive relationship exist between downsizing strategies and adaptive capability. Base on the results, the researcher concluded that organizational downsizing strategy have positive and significant relationship with adaptive capability but a significant and negative correlation with flexibility. It was based on this conclusion that the recommendations were made with respect to the study as microfinance banks must adapt to the realities of the present post COVID-19 narratives.

Keywords: Downsizing, workforce reduction, adaptive capacity, flexibility, organizational resilience, COVID-19

INTRODUCTION

The nature of business in a complex environment means that unexpected events must arise, within and outside the firm. The suddenness of the COVID-19 pandemic has compelled businesses to re-defined their strategies to stay afloat. For any environment that is characterized by turbulence, unexpected situations, and continuously evolving environments, only flexible, agile, and relentlessly dynamic organizations can thrive (Lengnick-Hall, Beck & Lengnick-Hall, 2011). Furthermore, Akinola (2011) noted that development arising from the dynamic nature of the environment and the need for business organization to survive in today's fiercely global market have made many organizations to rethink new ways of doing business in order to remain relevant in the business environment, companies are therefore adopting various strategies to survive, grow and adapt to this ever changing environment.

Firms with excellent management and outstanding record of achievement, have to deal with setbacks, disruptions and unwanted surprises. What divides winning and losing firms is their capacity for resilience (Megele, 2014). Scholarly, studies have demonstrated that resilience is needed to better respond to and to “bounce back” from setbacks, whether major life changing events or less significant daily hassles (Fletcher & Sarkar, 2013). Shin, Taylor and Seo (2012) emphasizes that resilience is the ability to recover quickly from disruptions in functioning In an organisational context, Luthans (2002) from his own view stated that resilience is ‘the developable capacity to rebound or bounce back from adversity, conflict, and failure or even positive events, progress, and increased responsibility’ (in Bardoel , Pettit, Cieri & McMillan, 2014).

Organizational success and survival is measured in terms of its continuous adaptation (Eketu & Ahiazu, 2015). Therefore, for an organization to achieve success and still survive, downsizing is currently one of the most popular strategies being used by organizations in an effort to achieving success, survive and compete in the current business scenario (Bhattacharyya & Chatterjee, 2005)

Studies have shown that there is limited empirical researches to ascertain the relationship between downsizing strategies and organizational resilience. Most studies have majorly looked at downsizing strategy and how it affects organizational performance or downsizing strategy being an effective tool for businesses, forgetting the part where it can be used as an effective tool for organizational resilience. Similarly, no study has examined it from the angle of the Microfinance Banks, hence, creating a gap in literature, which this study intends to fill and essentially as the effect of the COVID-19 pandemic would force such firms to ventilate out of distress.

The point of departure for this study is to ascertain the relationship between downsizing strategy and organizational resilience of Microfinance Banks in Rivers State.

Statement of the Problem

Studies by financial experts and researchers have discovered that countless inter-related problems have affected the banking industry most especially the microfinance banks. These problems range from poor management occasioned by lack of experience, greed and get-rich-quick syndrome of the society, inhibitive political environment, capital inadequacy, ownership structure and political interference in the management of government owned institutions and their indebtedness to banks and widespread incidences of non-performing loans arising from economic downturn, poor lending and borrowing culture and poor credit appraisal (Agwu, Carter & Murray, 2014)

In Nigeria, the environment in which business and organizations operate today keeps changing rapidly. As a result of this, business interests like the microfinance banks are no exceptions. There are most often, forced to cut out wasteful and unproductive activities and concentrate resources in the areas of core competence in order to achieve sustainable competitive advantages (Teryima, Agburu, & Alabar. 2012).

It is worth noting that some of the commercial banks in Nigeria have been able to undergo downsizing in one way or the other. The post COVID-19 ripples would force the Banks to adjust

to the trending realities. The Union Bank of Nigeria also redesigned its corporate strategy by adopting this pragmatic approach in reversing the adverse trend of low optimization of staff and low return on investment witnessed by the bank between 1995 and 2010. Likewise some New Generation Banks such as Zenith Bank, Access Bank, Bank PHB now (Keystone Bank) amongst others, are also not left out in the quest for downsizing (Teryima, Agburu & Alabar, 2012). Similarly, in Pakistan, Habib Bank Limited (HBL) and Pakistan Telecommunication Company Limited opted for restructuring as a strategy for asset management which resulted in reduction of approximately 11,350 and 29,000 employees respectively (Ghausi, 2004; Bashar, 2001; Kiani, 2007 cited in (Teryima, Agburu & Alabar, 2012).

Therefore, organization finds downsizing as a major tool for survival when faced with difficult economic conditions. It is based on the above problem that this study intends to ascertain the relationship between downsizing strategies and organizational resilience in Microfinance Banks in Rivers State, Nigeria.

Conceptual Framework Review

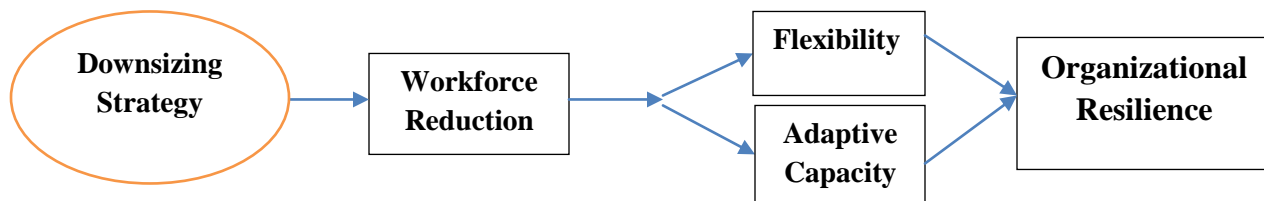


Fig 1. Conceptual Framework of Downsizing Strategy and Organizational Resilience

(Source: Downsizing strategy which represents the dimension of this study was adapted from the work of Cameron, Freeman, & Misra, (1991; 1993). Organizational resilience which also represents the dependent variable measures was adopted from the work of Lengnick-Hall, Beck, & Lengnick-Hall (2011).

Objectives of the Study

The main aim of this study was to examine the relationship between downsizing strategy and organizational resilience of Microfinance Banks in Rivers State. Specifically, the objectives triggered the formulation of the hypotheses.

Research Hypotheses

The following null hypotheses were formulated to drive the study.

H₀₁: There is no significant relationship between workforce reduction and flexibility of Microfinance Bank in Rivers state.

H₀₂: There is no significant relationship between workforce reduction and adaptive capacity of Microfinance Bank in Rivers state.

LITERATURE REVIEW

Theoretical Framework

Institutional Theory

McKinley, Sanchez, and Schick, (1995) proposed institutional theory to explain the effectiveness of downsizing. Mckinley et al. (1995, 2000) proposed that downsizing is caused by three institutional external social forces: constraining (downsizing decision from top management), cloning (imitation), and learning (e.g. through MBA courses). Managers implement downsizing due to the influences of social factors. It is because downsizing has been perceived as an institutionalized norm with its legitimacy. The following research supports institutionalization as a reason for downsizing: Budros (1999); Lamertz and Baum (1998), Mentzer (1996). Budros (1999) pointed out that some irrational external factors, such as institutionalization, social network (e.g. certain practices have been commonly perceived as an effective method) and irrational internal factors such as organizational culture and the traits of leaders also affect the scale of downsizing (Cheng-Fei, Tsai & Yen, 2008).

Organizational Downsizing

An Organization is a structured entity which is established to achieve specific goals with the use of its resources. Various management tools have been adopted by organizations which includes reengineering, mergers, acquisitions, reduction of duties, outsourcing and downsizing. All these have been applied in order for organizations to cope with the tough competition. For organizations to compete favourable, they need to adjust their structural hierarchy (restructuring) and redesign administration (reorganization) generally which in order words is known as downsizing (Malik, Ahmad & Hussain, 2010).

The concept of downsizing emerged from a number of disciplines and draws upon a wide range of management and organizational theories (Agwu, Carter, & Murray, 2014). It is now embedded in the managerial vocabulary and used as a strategic weapon for the right size and shape as well as a tool for aligning with Organisational mission and goals (Agwu, Carter, & Murray, 2014). Cameron (1994) calls downsizing “probably the most pervasive yet understudied phenomenon in the business world”.

The process of downsizing may consciously or unconsciously affect the work processes of an organization. In some cases, if the workforce is reduced, several consequences could affect the work which results to excess work, inefficiency, conflict and low morale. This may also cause other positive results such as improved productivity or effectiveness. Although, downsizing could be an effective tool to transform organizations, however, it could threaten the stability of human resources in firms. (Malik, Ahmad & Hussain, 2010).

The divergent reasons for and objectives of downsizing are summarized in the table below:

Table 1: Reasons and Objectives of Downsizing

Reason	Objectives
<ul style="list-style-type: none"> • Economic slowdown /recession • Labour and cost increases • Loss of market share • Low productivity • Reduced profit margin • New business strategies • Technological changes • Deregulation • Changes in government policy 	<ul style="list-style-type: none"> • Reduced labour costs • Improved profitability • Increased productivity • Improved customer service • Improved decision making • Reduced bureaucracy • Improved internal communication • Enhanced labour flexibility • Maximized stock value

Source: Vermulen, (2002).

Downsizing Strategy

Organizational downsizing is a prevalent strategy designed to improve organizational performance while selectively decreasing costs. It further refer to the methods utilized to achieve a workforce reduction. The term downsizing was first used in referring to strategies that are used to reduce personnel (Gandolfi & Hansson, 2011).

Selecting a specific downsizing strategy depends on three factors: the company's resources, its investments and its field of activity. This study adopts the workforce reduction as a way of downsizing

Workforce Reduction Strategy

This is generally thought of as a quick fix, short "grenade" type's solution. It includes transfer, outplacements, retirement incentives, buyout packages, layoffs and attrition (Cameron, 1994; Casci, 1993; De Meuse et al, 1994 in Teryima, Agburu & Alabar, 2012). Kinnie, Hutchinson and Purcell (2000) contend that workforce reduction is targeted at having less headcount and this is achieved through layoffs, sacks, early retirement, by-outs or attrition.

In a study carried out by Greenhalgh, Lawrence, and Sutton, (1998) and Wager, (1997), they found out that attrition, induced redeployment, involuntary redeployment, layoffs with

outplacement assistance and layoffs without redeployment assistance constitute the five ways of implementing workforce reduction.

Downsizing using the workforce reduction strategy has been regarded as the harshest way of improving efficiency, productivity and worker competencies because of its impact on both the leavers and survivors (Makawatsakul & Kleiner, 2003). The effectiveness of downsizing strategies is ultimately dependent on the reactions of both the survivors and leavers of the process.

Organizational Resilience

Resilience is a multidimensional, sociotechnical phenomenon that addresses how people, individuals or groups, manage uncertainty. Organizations respond to uncertainty in many ways; they centralize internal controls or they learn by being creative and adaptive (Lee, Vargo, & Seville, 2013).

Usually, discussions on resilience are characterized with concepts like bouncing back, robustness, absorption, flexibility and surviving and thriving within that environment (Lee, Vargo, & Seville, 2013). The traditional definition of resilience is backward-looking. A more effective approach is to use the organization's resources and capabilities to overcome current challenges and to build for greater opportunities and success in the future (Vogus & Sutcliffe, in Megele, 2014).

To be resilient, organizations rely on strong leadership, an awareness and understanding of their operating environment, their ability to manage vulnerabilities, and their ability to adapt in response to rapid change. These characteristics run parallel to a competitive organization whose leaders are able to leverage its strengths to adapt, ahead of its competitors, to rapid changes in their market or industry sector (Lee, et al, 2013).

Megele, (2014) posit that approaches required by organization can be drawn on the collective knowledge, skills and capabilities of its members through flexible routines and malleable processes to harness the potential of change.

Flexibility

Flexibility is the degree to which an organization has a variety of managerial capabilities and the speed at which they can be activated, to increase the control capacity of management and improve the controllability of the organization (Sharma, Sushil, & Jain 2010).

Flexibility is a multi-dimensional concept that portrays; a demanding agility and versatility; associated with change, innovation and novelty; coupled with robustness and resilience, implying stability, sustainable advantage and capabilities that may evolve over time (Bahrami 1992 as cited in Sushil, 2012). But its translation with respect to flexibility in organizations highlight this ambiguity and suggests that closer examination of these definitions are required to obtain a clearer grasp of the concept (Voberda 1996 in Sharma, Sushil, & Jain, 2010).

There is therefore room for an organization to be flexible in their business environment as it gives room for a considerable advantage over their rivalry in the industry.

Adaptive Capacity

In particular, organizations' ability to adapt has received a lot of attention from researchers. An organization's ability to adapt is at the heart of its ability to display resilient characteristics (Lee, et al, 2013). Kendra and Wachtendorf as cited in Lee, et al, (2013) argue that the idea of resilience as adaptive behaviour is increasingly being applied to the business environment to help explain how organizations manage the balance between stability and change.

Adaptability is the degree to which an organization has the ability to alter behaviour, structures; and systems in order to survive in the wake of the environmental change (Denison, 2007). Adaptability entails translating the demands of business environment into action. Organizations as an open systems exist in environment that is complex and uncertain. To survive and make profit, organizations need to adapt continuously to the different levels of environmental uncertainty (Amah & Baridam, 2012 in Umoh, & Amah, 2013).

Empirical Review

Gittell, Cameron and Lim (2005) examined the relationship between layoffs, and organizational resilience in the United States of America. The study focused on the impact on the Airline Industry responses to September 11th terrorist attacks in 2001. Some of these companies emerged successful, however, and demonstrated remarkable resilience while others languished. This investigation identifies the reasons why some airline companies recovered successfully after the attacks while others struggled. However, the most common organizational response to crisis is layoffs and a depletion of positive employee relationships. The presence of adequate financial reserves reduce the need to rely on layoffs, thus preserving relational reserves among employees, which boost an organization's ability to bounce back after a crisis has passed.

Dewi and Tikson (2018) in a similar study ascertained strategy of downsizing processes and its effect on survivors and organization. Theoretically, this study showed that downsizing has a relatively negative impact in terms of survivor's response, which leads to low employee morale, decrease in job performance, and commitment which has made the organization to find it difficult to achieve its intended outcome.

In another study by Ritter-Hayashi, Knoblen and Vermeulen (2017) they examined how success belongs to the flexible firm in nine developing countries in South Asia and Africa (Bangladesh, Ghana, India, Kenya, Nepal, Pakistan, Tanzania, Uganda and Zambia) for the years 2013 and 2014. How labour flexibility can retain firm innovativeness in times of downsizing. The study focused on process rather than product innovation because downsizing poses particular challenges for the latter given its dependence on knowledge exchange and collaboration across firm networks and technology institutions. The results of the study suggest that downsizing a firm's workforce negatively impacts process innovation in SMEs in emerging nations. However, the study indicates that labour flexibility can be a way for firms to overcome the innovation challenges associated with downsizing.

Chen (2001) in his study examined downsizing and flexibility: Recent employment restructuring in Chinese State-owned machinery manufacturing companies. The research focuses on the drive, process, and outcome of downsizing with respect to labour flexibility in the two state-owned machinery manufacturing companies from the management perspective. By employing the

Western downsizing approaches as developed by Cameron's (1994), empirical findings on downsizing in the two studied Chinese state firms are examined and analyzed. The research concludes that downsizing is a necessary but not sufficient policy. Massively laying off staff does not come without costs. To the contrary it generates new personnel problems such as unwanted quits and drain of human capital that are critical for the continuous business process of the downsizing firm.

METHODOLOGY

This study adopted a descriptive survey design. The study population covered Managers from nine (9) selected Microfinance banks in Rivers State. The population of 100 managers was adopted as the sample size based on the census study. The convenient sampling method was used to select the study. 18 statement items was used to gather data, downsizing strategy was measured using workforce reduction strategy (6 statement items). While organizational resilience was measured using flexibility (6 statement items), adaptive capacity (6 statement items). All items were adopted from the work of Rondeau and Wager (1998); Heese, Kullus and Kolodej (2014); Kara,inia, Haji, Salimi and Tahour (2018); Lee, Vargo and Seville (2013). All items were measured on a 4 points Likert-scale type ranging from Strongly Agree (SA) to Strongly Disagree (SD). The validity of the items in the questionnaire was authorized by experts and scholars while the reliability was determined by the Cronbach Alpha value. Items on workforce reduction strategy, flexibility and adaptive capacity are 0.856, 0.928, and 0.914 respectively. The Pearson Moment Correlation Coefficient was used to analyze the data collected with the SPSS v21.0

Analysis of Demographics of Participants

The analysis in Table 2 explains the demographics of the study participants comprising top level (71.6%) and middle level (28.4%) Officers of Microfinance Banks selected for this study. The participants include both men (59.3%) and women (40.7%) of which more of the participants are men. The ages of those that participated in the study were within the age brackets of 21-30 years (7.4%), 31-40 years (56.8%) and 41-50 years (35.8%). Their educational qualifications showed, Diploma/NCE (8.6%), HND/B.Sc. (53.1%) and PGD/Masters (38.3%) in while their years of operation in the firm was between 0-10 (67.9%), 11-20 (29.6%), 21-30 (2.5%).

Table 2: Demographics of Respondents

Variables	n	%
Gender		
Male	48	59.3
female	33	40.7
Age Group		
21-30 Years	6	7.40
31-40 Years	46	56.8
41-50 Years	29	35.8
Marital Status		
Single	28	34.6
Married	53	65.4
Educational Qualification		
Diploma/NCE	7	8.60
HND/BSc	43	53.1
PGD/Masters	31	38.3
Position		
Middle level officer	58	71.6
Top level officer	23	28.4
Years of Operation		
0-10	55	67.9
11-20	24	29.6
21-30	2	2.50

Source: Research Data, 2019.

Test of Hypotheses

Table 3: Relationship between Workforce Reduction and Flexibility.

		Correlation	
		Workforce Reduction	Flexibility
Workforce Reduction	Pearson Correlation	1	-.454**
	Sig. (2-tailed)		.000
	N	81	81
**. Correlation is significant at the 0.05 level (2-tailed).			

Hypothesis One: There is no significant relationship between workforce reduction and flexibility – Table 3 above reveals that there is a significant but negative relationship between workforce reduction and flexibility (where $\rho = -.454$ and $p = 0.000$). Hence, we find that workforce reduction strategy is negatively associated with flexibility and based on the decision rule of $p < 0.05$ for null rejection.

Table 4: Relationship between Workforce Reduction and Adaptive Capacity

		Correlation	
		Workforce Reduction	Adaptive Capacity
Workforce Reduction	Pearson Correlation	1	.638**
	Sig. (2-tailed)		.001
	N	81	81
**. Correlation is significant at the 0.05 level (2-tailed).			

Hypothesis Two: There is no significant relationship between workforce reduction and adaptive capacity – Table 4 reveals that there is a significant relationship between workforce reduction and adaptive capacity (where $\rho = .638$ and $p = 0.001$). Hence, the study revealed that work force reduction strategy and adaptive capacity and based on the decision rule of $p < 0.05$ for null rejection; we therefore reject the null hypothesis and restate that there is a significant and positive relationship between workforce reduction and adaptive capacity.

Discussion of Findings

Hypothesis One

Hypothesis one showed that there is a significant but negative relationship between workforce reduction and flexibility. This is revealed in the result were ($P = .000$) and ($Rho = -.454$). This means that when an organization adopts workforce reduction strategy, which includes attrition, induced redeployment, involuntary redeployment, layoffs with outplacement assistance and layoffs without redeployment assistance it has a negative effect on the employees based on their inability to respond quickly and effectively to disruptions which is tentatively supported by Ritter-Hayashi, Knoben and Vermeulen (2017).

Hypotheses Two

The result of hypotheses two reveals that workforce reduction have a significant and positive relationship with adaptive capability. This is shown in the analysis where ($P = .001$) and ($Rho = .638$). This means that when these banks downsizes, they have no other choice than to adapt quickly to their new environment in order for them to survive. Starr, Newfrock, and Delurey, (2003) stated that the whole essence of adaptation is to gain advantage over less adaptive competitors. This is supported by the study of Kendra and Wachtendorf (2003); Kaehler, Busatto, Becker, Hansen, Lucia and Santos (2014). Also Bravo and Egaña (2016) results indicate that downsizing is a strategy alternative that allows for better adaptation, if carried out proactively and associated to changes that are necessary within organizational structure and processes.

Conclusion

Firm's engage in downsizing their workforce during change period, uncertainties or when disruptive situations occurs which enables a company to better adapt to the environment. The Corona virus (COVID-19) pandemic, has changed the dynamics of the business landscape for microfinance banks which cannot be wished away easily. This strategy as an option would help most organizations to increase their efficiency and cut costs during this period. Evidently, most banks who are unable meet up their yearly capitalization or are involved in merger and acquisition usually adopts this strategy in order to cope with the stiff competitive environment. Therefore, this study draws its conclusion that organizational downsizing strategy have positive and significant relationship with its adaptive capability but a significant and negative correlation with flexibility. With regard to this negative result, there is need for urgent amendment to be made in microfinance banks most especially within their employee in their ability to respond quickly after downsizing workforce within the bank. Hence, there is need for more adaptive strategies.

Recommendations

It is based on the above conclusion that this study recommends the following:

1. Management should implement strategic workforce planning as this will enhance flexibility in order to cope with change or uncertainties during this pandemic triggered downsizing.
2. In order to achieve a successful downsizing, it is paramount for employees to understand the concept of change. Therefore it is important for microfinance banks to support and build adaptive capacity for employees of these banks during such period.

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ASSESSMENT OF COVID-19 PANDEMIC IMPACT ON SMEs MARKETING ACTIVITIES IN RIVERS STATE, NIGERIA

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ABSTRACT

This study aimed at investigating the impact of COVID-19 pandemic on SMEs marketing activities in Rivers State of Nigeria. A conceptual framework was used to illustrate a diagrammatic relationship between COVID-19 pandemic and SMEs marketing activities. The study adopted descriptive research design. The target population was all the SMEs registered with the Rivers State Chamber of Commerce and Industry, Port Harcourt, Rivers State. The study used purposive sampling technique and the sample size was 325. Data analysis was performed using regression analysis to show the effect of the independent variable on the dependent variable, and the Analysis of Variance (ANOVA) to explain the fitness of the model. The study revealed COVID-19 Pandemic significantly impacts SMEs in Port Harcourt, Rivers State. The study therefore concludes that, there is a strong, positive and significant impact of COVID-19 pandemic on SMEs marketing activities in Port Harcourt, Rivers State, Nigeria, and recommends amongst others that government should assist SMEs to assess fund which is a very effective tool for business sustainability during pandemic, to boost manufacturing, trade and supply chain activities.

KeyWords: Marketing activities, Covid-19 pandemic, Port Harcourt, Rivers State, SMEs,

INTRODUCTION

Businesses operate in environments susceptible to activities that significantly ignite intense changes that could enhance, retard, stifle or shrink sales, patronage, and profitability as well as transforming marketing operational strategies. It is therefore unavoidable that the novel covid-19 epidemic will have a considerable impact on the global economy and society at large. A global crisis as the covid-19 pandemic can either paralyze businesses (SMEs) or galvanize them to thrive. In the wake of the covid-19 pandemic, that's exactly the experiences of most businesses (SMEs). Emphatically, China is the foremost country traced to the stretch of the disease with more than 80,000 people contaminated. The World Health Organization (WHO) pronounced Covid-19 as a pandemic on March 11, 2020 (Congressional Research Service, 2020). The disease eruption has multiplied fast and projected to carry on dispersion to all part of the globe. Accordingly, marketers envisage the downward movement of marketing activities impetus on

track from March 2020 beyond, devoid of definite climax time (Segal & Gerstel, 2020). The Covid-19 pandemic is a human catastrophe upsetting billions of people on earth, and forcing harmful impact on the worldwide economy, industries, corporations and small and medium enterprises (SMEs).

The COVID-19 epidemic is an unanticipated worldwide observable fact, which has terrified countries into sudden disruption and successfully put businesses at a decline. It has affected living and all profitable activities particularly business enterprises as well as SMEs (Sansa, 2020; Ruiz Estrada *et al.*, 2020). SMEs have been heavily affected by the COVID-19 pandemic, due to the closures and reduced working hours recommended to curb the spread of the virus (IOM, 2020). This period has seen SMEs observe severe turn down in production and other marketing activities IOM (2020) stated. Le *et al.* (2020) revealed that SMEs were going through dilemma owing to interest payment, moribund inventory, workers' wages, and rental costs for the duration of this plague. The prospective impact of COVID-19 on the economy is an extensive thrash out theme in current times all over the earth. McCloskey and Heymann (2020), dispute that economic worn out can be anticipated by the economy owing to supply chain disruption, trade discontinuation, and restricted market demand. Runyan (2006) asserts SMEs are mainly sternly shocked in disaster due to their lesser altitude of watchfulness, superior propensity, elevated dependence on government and local agencies, and the superior emotional and financial influence on the owners.

Government attempts to preserve unparalleled public health and economic rejoinders by enforcing movement control, lockdown, confinement and social distancing amongst others (Craven *et al.*, 2020). The coronavirus may not swing back completely once the epidemic has given in Craven *et al.* (2020) stated. Currently, several industries face supply-side concerns, seeing that governments hold back the activities of dispensable industries and workforce are confined to their homes. SMEs at this point have to compete with digits of confrontations, as well as the execution of requisite health protection measures, condensed production and demand, and supply chain disruptions. SMEs seriously require a way forward to combat this state of affairs.

This state of affairs calls for scholarly investigations to supply companies with applicable strategies on how to scale through with the confrontations of the COVID-19 predicament. Despite the academic and managerial relevance of scholars in times like this, only very few studies have investigated the impact of COVID-19 on SMEs (Acee-Eke & Ikegwuru, 2020; Ikegwuru & Harcourt, 2020; Ratnasingam *et al.*, 2020; Duricin, 2020; Gain, 2020). The momentum with which the COVID-19 pandemic has erupted, the instantaneous health hazards for the entire economic actors and the stringent governmental restrictions just about it, crafts an inimitable circumstances that stimulates inquiry into the impact of COVID-19 pandemic on Small and Medium-Size Enterprises.

Against this backdrop, this study provides a synchronized substantiation of the impact of COVID-19 pandemic on SMEs in Rivers State, Nigeria. The paper is organized as follows. Section 2 discusses the literature on the impact of COVID-19 on SMEs and provides hypothesis. Section 3 introduces methodology Section 4 performs a proportional inert analysis on the effects

of COVID-19 on SMEs by using the regression analysis method. Finally, section 5 presents conclusions, implications, and suggestions for future research.

COVID-19 PANDEMIC

The starting point of the COVID-19 pandemic was in Wuhan in the Hubei Province of China. It is a type of disease which possibly will not be ascribed to any identified origin (WHO, 2020a, & 2020b). The eruption of the pathogen was confined to a regional seafood market in Wuhan, which was stopped by home authorities January 1st, 2020 began to spread instantly after its pronouncement as epidemiological alert (Zhu, *et al.*, 2020; Huang *et al.*, 2020). At that time, 41 people were already infected (Huang *et al.*, 2020). Earliest inquiries summed up that the disease was caused by a new virus that can be passed on from one person to another via personal contact (Chen *et al.*, 2020).

The initial state of affairs statement on the new COVID-19 Pandemic was published by the World Health Organization on January 21st, 2020, delineation 282 established cases in four countries together with China (278 cases), Thailand (two cases), Japan (one case) and the Republic of Korea (one case) (WHO, 2020a, 2020b). Sequel to that on March 11th, 2020, the World Health Organization (WHO) confirmed an epidemic of the extremely contagious COVID-19 disease (WHO, 2020a, 2020b), indicating its worldwide stretch. Since then, the rapid worldwide outbreak of the novel COVID-19 pandemic has triggered an alarming global health crisis.

Countless countries' governments have used procedures spectacularly touching the everyday life of humanity. The public health measure of “social distancing” has been extensively applied to unhurry the communication and spread of the COVID-19 pandemic. States and Countries have been utterly locked down, schools, universities and public facilities are shut down; as well as public events (sports, matches, concerts and marriages) are still been prohibited in a good number of countries.

Governments have set ruthless restrictions on firms in various industries, authorized social distancing and health protection plans and still locked down dispensable businesses in numerous countries, prompting concurrent demand including supply-side problems (del Rio-Chanoma *et al.*, 2020), while demand in industries such as healthcare has risen sharply, demand in other industries has dispersed. All-purpose effective demand and consumption in individual home have also been impinged upon (Muellbauer, 2020).

SMALL AND MEDIUM ENTERPRISES (SMEs)

The majority of companies globally are SMEs, which based on their relevant classification, encompasses just about 90% of all businesses in countries (Xi *et al.*, 2015), and depending on their powerful presence in the business scenery, SMEs' responsibilities in countries as employers of labour, wealth creators and innovators are noteworthy (Filser *et al.*, 2016). Small and medium-sized enterprises (SMEs) are of enormous worth to the unwavering and sustainable progress of the economy and fascinated towering consideration from governments globally. SMEs are sighted as a prompter of marketing activities, modernization and industry expansion, which can prop up economic growth, urbanization, employment, technological innovations, social

synchronization, and firmness. Small and medium sized enterprises account for a huge share of employment and a large share of enterprises in the private sector, which have made significant input in the growth of emergent countries, such as motivating marketing competitiveness (Etuk, Etuk & Michael, 2014). Small and medium enterprises (SMEs) are a remarkable influencer of economic progress (Obi, Ibidunni & Tolulope, 2018), being fundamental to most economy's growth worldwide, and predominant in budding developing countries (Ndiaye, Razak & Nagayer, 2018). Ikegwuru and Pokubo (2019) assert SMEs are significant to employment generations, marketing of goods and services, industry expansion, and also predominant in the growth of emergent economies such as Nigeria which has a high unemployment rate.

IMPACTS COVID-19 ON SMES MARKETING ACTIVITIES

Besides coronavirus worrying effects on human life, its novel strain has the potential to significantly slowdown not only the Chinese economy but also the global economy. China has become the central manufacturing hub of many business operations globally. Any disruption of China's output is expected to have repercussions elsewhere through regional and global value chains. Indeed, most recent data from China indicate a substantial decline in output (UNCTAD, 2020).

The outbreak of the Covid-19 no doubt has a great impact on small businesses, especially in developing countries. SMEs in Nigeria have had to deal with anxiety over uncertainties that might exist after the crisis, such as; challenges with cash flow, customer retention, and disruption in essential marketing operation processes. As the government and economy all over the world adapt to the impact of Covid-19, SMEs must implement strategies to help secure firm footings and prepare for post-covid-19 economic conditions, business recovery services, and long-term sustainability in the area of manufacturing, trade and supply chain logistics (Acee-Eke & Ikegwuru).

In Nigeria and probably in many other countries many watched the news about the COVID-19 outbreak like detached movie audiences until the nation recorded its first case on 27 February, 2020. Still, reality did not kick in until it began to spread in the weeks afterwards, forcing the Nigerian government at the state and national levels to impose lockdowns, isolations, border closures etc. around end of March, 2020. The impact of these measures according to Olatunbosun, (2020) was more harmful than anticipated. Many business owners are licking their wounds following the month-long lockdown, with inevitable courses of action such as cutting down their workforces, work hours, budgets and salaries. Businesses (SMEs) that pose a high risk of COVID-19 infections remain grounded as their owners strategize new business models and modes of engagement (Olatunbosun, 2020).

According to Olatunbosun, (2020), a Nigerian-based market research organization, SBM Intelligence, has made public a number of firms that will be positively and negatively impacted by the pandemic, as part of the narratives about the impact of COVID-19 on the Nigerian economy. The restrictions imposed by government no doubt affected the supply chain of raw materials and other materials used by firms. Burdened by the pandemic's negative impacts, Olatunbosun, (2020) states the Nigerian government has engaged with the private sector (SMEs) to chart a path towards solutions. Despite its gloomy side, the pandemic offers a unique

opportunity for local manufacturers in Nigeria to rise to the challenge of inadequate PPE supplies.

Countries, industries and companies suffer drastically from the outcomes of a universal epidemic as a result of instantaneous demand and supply upset. Demand turns down since consumers step down their purchases of dispensable goods and services. Supply is scared out of wits since scores of companies are basically not equipped to deal with the observable fact of disrupted supply chains (Simchi-Levi *et al.*, 2014). A lot of service and manufacturing sectors as a consequence have had to shut down their operations (delRio-Chanona *et al.*, 2020). The Covid-19 pandemic is making vulnerable the economic welfare of people and institutions (Sneader & Singhal, 2020), affecting global health order and looming the configuration of global economic order. Accordingly, several countries are in the first light of recession (OECD, 2020).

Chinese manufacturing is important to many global value chains, especially those related to precision instruments, machinery, automotive and communication equipment. Any significant disruption in China's supply in these sectors according to UNCTAD (2020) is deemed to substantially affect producers in the rest of the world. Many companies around the world are not comfortable due to the measures put in place to contain COVID-19 (restrictions to economic activities and movement of people), could hinder the supply of critical parts from Chinese producers, therefore affecting their own output (UNCTAD, 2020).

The impact of COVID-19 pandemic on SMEs marketing activities is remarkable. Even though harsh government measures and rejoinders to curtail the infection are indispensable, a good number of businesses are faced with disheartening consequences in both short and long-term period. Major challenges are shutting down of business, laying off workers, and thinned firms' capability for potential expansion (Wahyudi, 2014; Craven *et al.*, 2020; Smith-Bingham & Hariharan, 2020). Thus, the COVID-19 calamity has and will continue to have massive impact on SMEs worldwide.

EMPIRICAL REVIEW

Drawing from the study of Acee-Eke and Ikegwuru (2020), it examined corona virus containment measures and patronage of supermarkets in Rivers State of Nigeria, using responses from 250 respondents from supermarket in the area of Port Harcourt, Rivers State of Nigeria. The study adopted the convenient sample (non-probability sampling method) on 250 consumers. Out of the total of 250 questionnaires distributed, 200 (80%) questionnaires were retrieved and were useful. The Pearson Product Moment Correlation (PPMC) and Analysis of Variance (ANOVA) were also used for the analysis. The major findings of the study confirmed an overall strong, positive and significant association of the independent variables with the dependent variable. The study concludes the features of corona virus containment measures have strong, positive and significant association with patronage of supermarkets in Rivers State of Nigeria.

Similarly, Ikegwuru and Harcourt (2020) investigated the effect of corona virus containment measures on rapid-fire changes in purchase behaviour in Rivers State of Nigeria using a cross-sectional survey design and a convenient sample (non-probability sampling method) of 320 consumers from Senatorial districts of Rivers State. 296 (92. %) copies of questionnaire were

retrieved from respondents. The Analyses were carried out with reliability analysis, descriptive statistics and regression analysis in Statistical Package for Social Sciences (SPSS, Version 22.0). The results demonstrate that the stay at home, locking up of shops/markets and curfew/restriction of movement directives by government have a positive and significant effect on rapid-fire changes in purchase behaviour in Rivers State of Nigeria. The study therefore, concludes that corona virus containment measures significantly and positively influence rapid-fire changes in purchase behaviour of consumers in Rivers State of Nigeria.

Again Gain (2020) studied the impacts of the COVID-19 pandemic and associated control measures on food system SMEs in the processing and distribution sectors and grains, vegetables, and fruit value chains in 17 countries. 363 responses were received, with the majority emanating from micro- or small-sized firms, vegetables, and fruit value chains. It was found that, 94% confirmed being impacted by the pandemic, largely by way of decreased sales (82%), complication accessing inputs (49%), and complexity paying staff (44%). 84% of firms reported altering their production capacity due to the pandemic, generally decreasing it; 57% had distorted their product's sales price. 85% of respondents anticipated future impacts on their supply chains, as well as shortages of supplies (61%) and transportation and distribution disruptions (49%). 80% and 84% of firms confirmed taking actions to alleviate the impact of the virulent disease on their companies and to guard their employees, in that order. 81% and 64% of firms affirmed without delay requiring financial and technical support, correspondingly, to deal with the effects of the epidemic.

Also the findings of Ratnasingam *et al.* (2020), reveals two major issues i.e. the financial management and the supply chain disruptions creating the main cut on business operations. More firms in the processing and distribution sectors and grains, vegetables, and fruit value chains. Moreover, they revealed that a large amount of the SMEs were operating well below capacity, which was a gigantic financial damage on their business feasibility. Regrettably, the SMEs are also aware the weaker and vulnerable members of firms would go out of business. Drawing from the study of Beraha and Đuričin (2020) COVID-19 impacts on SMEs in Serbia by gathering data through an online survey, the study found that SMEs have to go through unmatched experiences like exchanging business, incapable of paying the fixed obligation, lay off employees, and restricted access to resources.

In another similar study, Robinson and Kengatharan (2020) assessed the potential effects of COVID-19 on Sri Lankan SMEs and found that SMEs are intensely suffering due to the shortage of materials, the decline in foreign and home demand for their products and services, complicatedness in repaying loan and interest, cancellation of orders, dire cash deficit, and lack of savings. The study put forward that the COVID-19 pandemic is sensitively demanding for both employees and operators of the SMEs for that reason, government relief and the best policies and guiding principle to hold up the SMEs are undeniably decisive for travelling through the catastrophe.

Other studies as Nyanga and Zirima (2020) examined reactions of SMEs in Masvingo, Zimbabwe to COVID-19 by means of qualitative techniques and revealed that SMEs were negatively affected by the lockdown and stopped their operations and had to lay off some of their employees. What's more, production in most cases was brought to a standstill and this

necessitated that the future following the lockdown was unwelcoming for them. The SMEs requested for government support to enable them to revive following the lockdown.

From the review of literature, the following research model was designed:

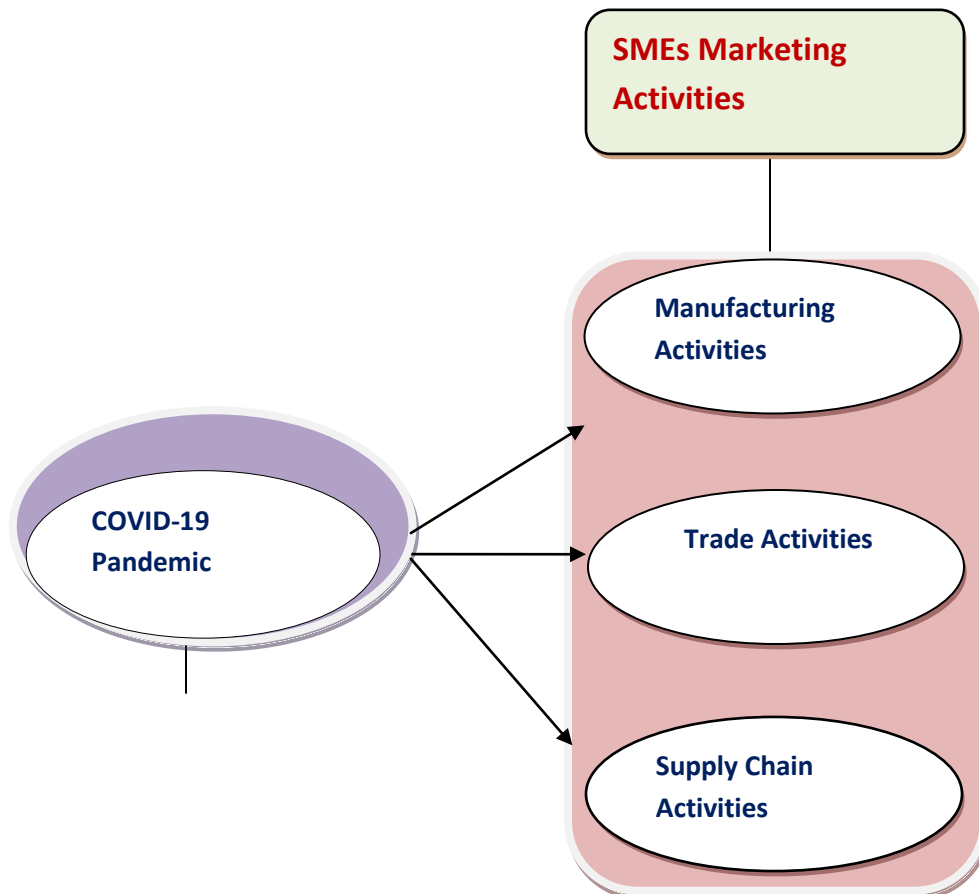


Figure 1: Research Model of Impact of COVID-19 Pandemic on SMEs

Source: Authors Desk Research, (2020).

Based on the research model the hypothesis below was formulated:

H₀₁: There is no significant impact of COVID-19 on SMEs marketing activities

METHODOLOGY

The study adopted a cross-sectional study on all the SMEs registered with the Rivers State Chamber of Commerce and Industry, Port Harcourt. There are approximately 2000 SMEs that are registered with the Rivers State Chamber of Commerce and Industry, Port Harcourt. The sample size for this study was obtained from the guideline developed by Krejcie & Morgan (1970), as cited in Sekaran & Bougie (2010). The application of this model, gave the study a minimum sample size of 325. The study adopted the purposive sampling technique. The *key informants* approach was used to assess Chief Executive Officers (CEOs) or branch managers. The study was therefore, a macro analysis. The researchers used regression analysis to show the effect of the independent variable on the dependent variable, and the Analysis of Variance (ANOVA) to explain the fitness of the model. The regression equation was as follows; $Y = \alpha + \beta_1 X_1 + e$

α = Constant β_1 = Partial regression coefficient

Y = SMEs Marketing Activities

X₁ = COVID-19 pandemic

e = error term

RESULTS AND DISCUSSION

Hypothesis one (H₀₁) states there is no significant impact of COVID-19 on SMEs business activities. Table 1 shows the statistical evidence of the impact of COVID-19 pandemic on SME marketing activities.

Table 1: Impact of COVID-19 Pandemic on SMEs Marketing Activities

Model summary

Model	R	R square	Adjusted Square	R std error of the Estimate
1	.983 ^a	.969	.963	.000

ANOVA^b

	Model	Sum of squares	Df	Mean square	F	Sig.
1	Regression	.063	1	.063	233.264	.000 ^a
	Residual	.002	289	.000		
	Total	.066	290			

Coefficients^a

		Unstandardized Coefficient		Standardized		
Model		B	Std. error	Beta	T	Sig.
1	(constant)	.1866	.064		28.968.000	
		.367	.024	.983	15.273	.000

Source: SPSS 22.0 window output (based on 2020 field survey data)

Decision: Since for hypothesis, the significant .000 is less than 0.05, there is a significant impact of COVID-19 pandemic on SMEs marketing activities. The regression helps us to conclude with the R (coefficient of correlation) that there is 98.3% direct relationship between COVID-19 pandemic and SMEs marketing activities. R-squared value of 96.3% shows that COVID-19 pandemic can affect SMEs marketing activities to a high degree.

The ANOVA Table explains the fitness of the model as shown by. The F-ratio in the model is 233.264, which is very significant at $p < 0.05$. This implies that there is significant evidence to extrapolate that COVID-19 pandemic is linearly related to SMEs marketing activities. This proposes that the model is measured to be fit and that COVID-19 pandemic has substantial impact on SMEs marketing activities. There is also a standardized coefficient of .983 which is perfect as well as corresponding P value (sig.) of .000 which is less than alpha (0.05). Therefore, we conclude that COVID-19 pandemic significantly impacts SMEs in Rivers State.

This research provides an empirical rationalization for a structure that investigates the impact of COVID-19 pandemic on SMEs in Rivers State of Nigeria. The hypothesis tested portrays that the sample of SMEs studies unmistakably demonstrates that COVID-19 pandemic explained a high percentage of the variance 96.9% (R^2 adj) SMEs marketing activities and has a strong, positive and significant impact on SMEs marketing activities in Rivers State. This finding is not absolutely very surprising; given that some prior studies reported likenesses which are associated to the impact of COVID-19 pandemic (Robson & Kengatharam, 2020; Beraha & Duricin, 2020; Ratnasingam *et al.*, 2020; Nyanga & Zirima, 2020). The significant results of the investigations anchored on the regression analysis technique can be underscored that COVID-19 pandemic input to illuminating SMEs marketing activities in Rivers State, was as a result of the upsetting force of the deadly disease that impacted almost all aspects of human activities. Through this study, the researchers offered companies with applicable strategies on how to muddle through with the confrontations of the COVID-19 predicament.

The study reveals the impact of COVID-19 pandemic on SMEs marketing activities in Rivers State was at a high level, the companies studied experienced obstacles in manufacturing, trade and supply chain activities. A good number of these SMEs were faced with disheartening consequences in both short and long-term period. Major barriers noticed visibly were cash flow issues, shutting down of businesses, laying off workers and thinned firms' capability for potential spreading out. COVID-19 pandemic impacted heavily on SMEs in Rivers State of Nigeria. This results is in line with earlier studies such as (Robson & Kengatharam, 2020; Ratnasingam *et al.*, 2020; Nyanga & Zirima, 2020), who found strong, positive and significant impact of COVID-19 on Srilankan SMEs, financial management and supply chain disruptions, and negative impact of lockdown on SMEs respectively.

CONCLUSION

The purpose of this study is to ascertain the impact of COVID-19 pandemic on SMEs' in Rivers. In a synopsis, the SMEs marketing challenge all through the instantaneous quarantine measures ushered in by the COVID-19 pandemic are characterized as operational problems in manufacturing, trade and supply chains for SMEs in Rivers State. There were also, problems in forefront detection of the future business bearing, and financial related problems such as cash flow problems; access to stimulus packages; risk of bankruptcy. Thus, COVID-19 pandemic is consequential for the failure of SMEs during the COVID-19 pandemic period, due to the high level of its impact amid the performance of manufacturing, trade and supply chain activities. The study therefore concludes that, there is a strong, positive and significant impact of COVID-19 pandemic on SMEs marketing activities in Rivers State of Nigeria.

RECOMMENDATIONS

The study therefore, recommends the following:

1. Government should assist SMEs to assess fund which is a very effective tool for business sustainability during pandemic, to boost manufacturing, trade and supply chain activities.
2. In this moment, government should rapidly strengthen the distribution apparatus of all marketing-related incentive packages and circulate the information noticeably, since this is indispensable in volatile potential of the Covid-19 pandemic predicament.
3. Marketing development bureaus should provide free and classified marketing consultative services to SMEs to enable them coordinate their marketing activities effortlessly in the course of this thorny state of affairs.
4. SMEs should identify critical marketing functions and develop recovery strategy such as Business Recovery Services (BRS) to enable them mitigate the impact of covid-19 on their businesses.
5. SMEs should review existing policies, procedures and response plan if they must survive the post-COVID 19 business challenges.

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POTENTIALS OF THE *MEDICINAL SYNTHETIC ALUMINUM-MAGNESIUM SILICATE*: $\text{Al}_4(\text{SiO}_4)_3 + 3\text{Mg}_2\text{SiO}_4 \rightarrow 2\text{Al}_2\text{Mg}_3(\text{SiO}_4)_3$ ON THE ECONOMY, POST COVID-19

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ABSTRACT

Molecules of Aluminum-magnesium silicate (AMS), a WHO and NAFDAC-approved medicine/pharmaceutical stabilizing agent consist of Nanoparticles which have negative electrical charges on their surfaces and positive charges on their edges. RNA viruses, including HIV and Covid-19 virus have positive electrical charges. DNA viruses and abnormal cells are negatively charged. Therefore, AMS prevents attachment of viruses to cells, by opposite charges-electrostatic attraction. Thus, viral replication is inhibited and extra-cellular viruses, mopped. The Nanoparticles also adsorb onto abnormal cells so that tumor cells are mopped and infected cells, destroyed. As Nanoparticles, they are able to reach viruses and abnormal cells in all organs/tissues. When 100 % of each viral infection is mopped, patients suffering the disease recover. Nigeria does not have deposits of AMS but there are abundant deposits of Aluminum silicate and Magnesium silicate in the country. These minerals which are also WHO and NAFDAC-approved medicines, were used for a reaction to get the **Medicinal synthetic AMS (MSAMS, Antivirt®)**. Dextrose monohydrate (Glucose®) was formulated with the **MSAMS** to convey the charged Nanoparticles (by active transport) across mucous membranes into blood, for circulation to organs/tissues. The **MSAMS** has proved effective against all nine viruses so far studied including HIV. As adjuvant, it has potentiated all five antimicrobial drugs so far studied and made them achieve ≥ 95 % reduction of infection-loads (preventing Antimicrobial Resistant infections : AMR). Also, at 75 % of their doses, antimicrobials formulated with **MSAMS** and used with antioxidants, regain efficacy against AMR. So, the **MSAMS** prevents AMR and makes drugs recover effects against AMR. Use of these solid minerals which are abundant in the country (Aluminum silicate and Magnesium silicate) to synthesize **MSAMS** which provides solutions to the three major health challenges of the world (Viral diseases, Abnormal-cell diseases including Cancers/other tumors and AMR) would diversify and enhance Nigerian economy.

1. Background

Special effort is required in developing antiviral medicines because most viruses cause immune deficiency and their small sizes enable them infect cells which are inaccessible to medicines of large molecules. So, antiviral medicines that act by physical effects need immunity to complement their effects while side effect of medicines that act against biochemistry of viruses become intolerable to patients when treatments continue for a long time (viral and animal cells-biochemistry are similar).

Under state of immune deficiency, infections in cells that are inaccessible to medicines cannot be cleared. Those inaccessible cells are the cells called “viral reservoirs” or “sanctuary cells”. That is reason patients of some viral diseases, such as HIV/AIDS are “incurable” while patients of viral diseases that do not cause severe immune deficiency (example Covid-19) recover in millions. So, antiviral medicines should be made to target physical activities of viruses instead of their biochemistry (to minimize side effects) while their molecules should be smaller than viruses (≥ 5 nm) so that they can reach all cells.

That electrostatic attraction would make electrically charged medicines mop pathogens of opposite electrical charges is an old scientific knowledge and that viruses and abnormal (infected/tumor) cells are electrically charged [1] [2] has been discovered. That most epidemics/epizootics, including HIV/AIDS, Ebola, Lassa fever, Covid-19, viral hepatitis and Avian Influenza are viral diseases, is already known.

Molecules of Aluminum-magnesium silicate (AMS), an already approved medicine/pharmaceutical stabilizing agent, consist of *Nanoparticles* [3] that are only 0.96 nm thick [4]. The AMS-*Nanoparticles* are smaller than any known virus (≥ 5 nm). They have negative and positive electrically charged ends [4] but unlike abnormal cells, healthy cells are neutral (bio-medical marker). The charges enable AMS mop/destroy viruses/abnormal cells, by opposite charges-electrostatic attraction. As a silicate, AMS also normalizes immunity [5] and as a stabilizing agent [6] it enhances efficacy of antimicrobial agents for effective treatment of secondary infections.

AMS is not one of the minerals found in Nigeria but the country has large deposits of Aluminum silicate ($\text{Al}_4(\text{SiO}_4)_3$) and Magnesium silicate (Mg_2SiO_4). These solid minerals were used for a reaction [7] to get the *Medicinal synthetic AMS* {MSAMS: $\text{Al}_4(\text{SiO}_4)_3 + 3\text{Mg}_2\text{SiO}_4 \rightarrow 2\text{Al}_2\text{Mg}_3(\text{SiO}_4)_3$ }. Dextrose monohydrate (simple sugar) was formulated with the MSAMS, to convey the charged particles across mucous membranes [8], into blood, by active-transport. Mopping viruses; Destroying abnormal cells; Normalizing immunity; Effective treatment of secondary infections, would cure any viral/abnormal-cell disease including, HIV/AIDS, Lassa fever and Covid-19.

The Nigerian MSAMS mops viruses by opposite charges electrostatic attraction. So, we are introducing opposite charges electrostatic attraction between medicines and pathogens as a mechanism of action for terminating infections of electrically charged agents which include viruses. We are also applying the principle of active transport to convey AMS (which is un-absorbable) into blood-circulation so that it functions as a systemic medicine. Ability of AMS to enhance efficacy of antimicrobial agents [9] so that secondary infections are effectively treated also helps in treating viral diseases.

With enhanced efficacy, lower doses achieve desired effects. Use of lower doses for treatments minimizes side effects of medicines. When side effects are minimized, immune responses of patients improve. Enhancing efficacy of antimicrobial agents and improving immune responses of patients lead to cure of even Antimicrobial Resistant infections thus increasing chances of patients of viral diseases to recover.

Reason existing ARVs do not achieve permanent cure of HIV/AIDS is that their molecules are too large to cross physiological barriers. For that limitation, they do not reach HIV infections “hidden” in some cells. So, even when viral loads in blood of patients they are used to treat become undetectable, the infection may still remain “hidden”. Since the MSAMS is made of ultra-*Nanoparticles*, it crosses physiological barriers and reaches HIV and HIV-infected cells in every organ/tissue. And since it acts by a physical effect, it is safe for any treatment-duration needed to terminate any HIV-infection.

2. RESULTS OF SOME EFFICACY-TRIALS OF MSAMS-PATENTS

I. Antivirt® (MSAMS formulation for viral and abnormal cell diseases in man)

Antivirt® on HIV/AIDS with MSAMS acting as antiviral medicine

Experiment: Nigerian Institute of Medical Research (NIMR), certified the Antivirt® toxicologically safe by testing it on mice before recruiting three HIV/AIDS volunteers (all adults), for phase one clinical trial of the medicine, patented as broad spectrum antiviral medicine and antiretroviral medicine [10]. A formulation of the MSAMS and Ampicillin trihydrate (Antivirt A®) and a formulation of the MSAMS alone (Antivirt B®) were submitted by the inventor for treatment of the patients which started in December 2019 and lasted till May 2020 . The patients were placed on oral medication with Antivirt® A for 30 days, at dose rates of 50 mg of the MSAMS/kg body weight and 7.5 mg of MSAMS-stabilized Ampicillin trihydrate/kg body weight, daily. After the first 30 days, they were on Antivirt® B at dose of 50 mg/kg. Each patient also took Immunace extra protection® (Vitabiotics, England), as source of antioxidants, at the rate of one tablet, everyday . The Antivirt® was taken at night, at least two hours after dinner (empty stomach) and the patients were asked to eat no other thing (except water) once they took the Antivirt® till the following morning. The Immunace extra-protection® was taken in the morning, immediately after meal (full stomach). If a patient needed to take any other oral medicines for any reason, such other medicine was taken at least two hours before the Antivirt® or two hours after. Viral loads of the patients were tested for every month. Their recovery rates were also assessed by their doctors every month.

Results: Means of their viral loads (ranked) increased ($P \leq 0.05$) from 10.00 ± 7.21 to 11.30 ± 5.51 in the first month (unmasking “hidden infection”) before decreasing ($P \geq 0.05$) to 10.67 ± 6.81 (in the second month), 8.67 ± 5.68 ($P \leq 0.05$: in the third month), 9.00 ± 5.57 ($P \leq 0.05$: in the fourth month) and 7.33 ± 6.03 ($P \leq 0.05$: in the fifth month) : Table 1.

This amounted to decrease of viral load-reduction by a mean of -41.03 % in the first month before the reduction rate started increasing to - 22.62 % (in the second month), 54.18 % (in the third month) 55. 27 % (in the fourth month) and 76.69 % (in the fifth month). The viral load-reduction rates are as on Table II while the laboratory results as reported by NIMR are on Table III.

WHO, reported that there is inverse relationship between viral loads and CD4-lymphocyte counts (immunity) in HIV/AIDS patients [11]. Reduction of viral loads by as much as 76.69 %

suggests immunity of the patients may have normalized ($CD4 \geq 500$). Synergy between normalized immunity and viral-mopping mechanism of the medicine would hasten recovery.

Since the Antivirt[®] reduced infection of HIV, an RNA virus (positively charged), by as much as 76.69 % in five months, despite the severe immune-deficiency associated with HIV, the medicine will terminate infections of *Covid-19 virus* (another RNA virus which is not associated with severe immune-deficiency) in a much shorter treatment-duration.

Table 1: Monthly Ranked viral loads of HIV/AIDS patients being treated with the Antivirt[®]

Patients	Ranked	Viral	loads			
Treatment-Months :	0	1	2	3	4	5
1	16	17	18	15	14	
13						
2	12	11	9	7	10	
8						
3	2	6	5	4	3	
1						
Mean	10±7.21 ^c	11.3±5.51 ^d	10.67±6.81 ^c	8.67±5.68 ^b	9±5.57 ^b	
7.33±6.03 ^a						

Table 2: Monthly viral load reduction-rates (%) in HIV/AIDS Patients treated with the Antivirt[®]

Months:	1	2	3	4	5
	-135.36	-137.02	60.33	73.66	78.65
	59.82	67.58	76.48	64.38	69.18
	-47.54	1.57	25.74	27.70	82.24
Mean	-41.03	-22.62	54.18	55.27	76.69

Table 3: Monthly viral loads of HIV/AIDS patients being treated with the Nigerian Antivirt®

	0	1	2	3	4
5	1810000	4260000	4290000	1720000	1130000
916000	438000	176000	142000	103000	156000
135000	3450	5090	5010	3780	3680
904					

II. ADMACINE® (MSAMS-Ampicillin for animals)

a) MSAMS acting as adjuvant to Ampicillin against *Salmonella gallinarum*.

Experiment : Four groups, each of 10 randomly selected chicks, infected with *Salmonella gallinarum* were treated with Ampicillin trihydrate (AT) for 5 days. Two groups were treated at dose rates of 10 mg and 7.5 mg of AT per Kg body weight respectively, with 100% Ampicillin. Two other groups were similarly treated with the Ampicillin-MSAMS drug. The fifth group served as control. Bile of 5 chicks from each group was harvested. Then 0.1 ml of bile from each chick was added to 0.9 ml of normal saline to get a 1:10 dilution. Again 0.1 ml of the 1:10 bile-dilution was added to 0.9 ml of normal saline to make a 1:100 dilution. Finally, 0.05 ml of each diluted bile was plated on Mc-Conkey agar and incubated at 37°C for 24 hours. The *S. gallinarum* colonies (X) were counted and expressed as colony forming units per ml (CFU/ml) by the formula: $CFU/ml = x/5 \times 10,000$. Means of the CFU/ml of the five groups were compared for statistical differences, by ANOVA.

Results : Normal dose of Ampicillin (10 mg/kg) led to only 80.68% reduction ($P < 0.05$) of CFU/ml of bile of *S. gallinarum*-infected chicks. When the drug was stabilized with the MSAMS the reduction improved ($P < 0.05$) to 86.36%. Reducing the dose to 75% of recommended dose of Ampicillin (7.5 mg/kg) and stabilizing it with the MSAMS improved rate of reduction of the infection load ($P < 0.05$) to 97.84%.

b) MSAMS acting as adjuvant to Ampicillin against resistant *Escherichia coli*

Experiment: Five groups, each of 5 randomly selected chicks, infected with Ampicillin-resistant-*E. coli* were used. Two days before infecting the chicks, 2 groups were placed on poultry feed, fortified with additional 375 mg of Vitamin A, 10 mg of Vitamin C, 75 mg of Vitamin E and 12.5 mg of Selenium for each 25 kg bag. Three groups were left on ordinary

poultry feed. The 2 groups on the fortified feed were treated with Ampicillin and with the Ampicillin-MSAMS drug formulation respectively, at dose of 7.5 mg/kg for 7 days. Two of the groups on ordinary feed were treated at dose of 10 mg/kg with 100 % Ampicillin and with the Ampicillin-MSAMS drug formulation respectively, for seven days while the third group on ordinary feed served as control. Means of *E. coli* CFU/ml of bile of the groups of chicks were compared for statistical differences, by ANOVA.

Results: Recommended dose of Ampicillin (10 mg/kg) led to reduction ($P<0.05$) of load of Ampicillin-resistant *E. coli*, just by 50 %. When the drug was stabilized with the MSAMS, rate of the drug-resistant infection reduction decreased ($P<0.05$) from 50 % to 43.91%. Use of 75 % of the recommended dose (7.5 mg/kg) stabilized with the MSAMS plus immune stimulants in feed of the chicks led to reduction ($P<0.05$) of load of the resistant infection by 95.78%.

III . BERNAZINE® (MSAMS-piperazine citrate)

Experiment: Five groups of randomly selected mice, infected with *Helignosomoides bakeri* were treated with 110 mg/kg (piperazine), 110 mg/kg (Piparazine in MSAMS), 82.5 mg/kg (Piparazine) and 82.5 mg/kg (Piparazine in MSAMS), respectively. The fifth group served as control. *H. bakeri* Eggs Per Gramm (EPG) of feces of each mouse in the five groups were counted. Mean EPG of the groups were compared for statistical differences, by Analysis of variance (ANOVA).

Results: Recommended dose of Piperazine (110 mg/kg) led to only 82.94 % reduction ($P<0.05$) of EPG of feces of *H. bakeri*-infected mice. When the drug was stabilized with the MSAMS, the rate of reduction improved ($P<0.05$) to 92.04 %. Reducing the dose to 75 % of Piperazine's recommended dose (82.5 mg/kg) and stabilizing it with the MSAMS improved rate of reduction of the EPG ($P<0.05$) to 96.82 %.

IV. ISMERQUINE® (MSAMS-Chloroquine)

Experiment: Fifteen albino mice, infected by intra-peritoneal (IP) inoculation of 1 ml of blood of a donor mouse which contained 2×10^8 *Plasmodium berghei* per ml were randomly assigned into five groups of three each and treated at two Chloroquine dose levels (7 mg/kg and 5.25 mg/kg). Three groups were treated at Chloroquine dose of 7 mg/kg with: Chloroquine alone, Chloroquine-MSAMS drug formulation and Chloroquine—MSAMS drug formulation plus B-vitamins, respectively. The fourth group was treated at 75 % of Chloroquine-dose (5.25 mg/kg) with the Chloroquine-MSAMS drug formulation plus B-vitamins while the fifth group was not treated (control). To ensure safety for the mice and uniformity for the experiment, the two Chloroquine formulations were reconstituted, such that each mouse was drenched same volume (0.1 ml) to deliver different doses (7 mg/kg or 5.25 mg/kg) from different formulations (Chloroquine and MSAMS-Chloroquine):

For each of the treated groups treatment was initiated 10 days post infection (PI) and lasted for 7 days. *Plamodium berghei* parasitaemia, packed cell volume of blood, hemoglobin concentration, total red blood cells counts and body temperature of the five groups were tested for, on days: 1, 7, 14 and 21 post treatment (PI). Means of: parasitaemia, packed cell volume, haemoglobin

concentration, total red blood cell counts and body temperature for the different groups were tested for statistical differences.

Results:

Mean parasitaemia, 42.00 ± 15.74 of the group treated with 7 mg/kg (Chloroquine phosphate alone) did not vary ($P \geq 0.05$) from 52.50 ± 11.99 , 37.22 ± 11.88 and 33.57 ± 12.62 of the untreated group, the group treated with 7mg/kg (Chloroquine-MSAMS) and the group treated with 7mg/kg (Chloroquine-MSAMS plus B-vitamins) respectively but mean parasitaemia, 00.00 ± 00.00 of the group treated with 75% of recommended dose of Chloroquine (5.25 mg/kg) stabilized in MSAMS plus B-vitamins was significantly ($P \leq 0.01$) lower than parasitaemia of both the untreated group and of the other treated groups.

Mean PCV, 37.64 ± 2.55 of the group treated with normal dose of Chloroquine (7 mg/kg) did not vary (≥ 0.05) from 41.00 ± 6.00 of the untreated group or from 35.89 ± 3.74 , 41.75 ± 5.57 and 37.40 ± 5.25 of the groups treated with 7 mg/kg of Chloroquine in MSAMS, 7 mg/kg of MSAMS- Chloroquine drug formulation and vitamins and 5.25 MSAMS-Chloroquine drug formulation and vitamins respectively.

Means of hemoglobin concentration (Hb), 12.55 ± 0.85 , 11.97 ± 1.25 , 15.18 ± 1.39 , 13.47 ± 1.69 and 13.70 ± 2.00 of the groups of mice treated with 7 mg/kg, Chloroquine, 7 mg/kg Chloroquine in MSAMS, 7 mg/kg Chloroquine in MSAMS and with vitamins, 5.25 mg/kg Chloroquine in MSAMS and vitamins and the control respectively, were not significantly ($P \geq 0.05$) different.

Means of Red blood cell count (RBC) of groups of mice treated with Chloroquine at dose of: 7 mg/kg (46.71 ± 3.41), 7 mg/kg with MSAMS-Chloroquine drug formulation (45.50 ± 4.24), 5.25 mg/kg with MSAMS-Chloroquine drug formulation and vitamins (45.65 ± 3.63) and of the untreated group (44.00 ± 3.08) did not vary ($P \geq 0.05$) but RBC, 59.28 ± 3.14 of the group treated with 7 mg/kg of the MSAMS-Chloroquine drug formulation and vitamins was significantly ($P \leq 0.05$) higher than mean RBC counts of the other groups.

Means of rectal temperature: 38.07 ± 0.37 , 37.62 ± 0.49 , 38.58 ± 0.25 , 38.33 ± 0.40 and 37.80 ± 0.20 of the groups of mice treated with 7 mg/kg, Chloroquine, 7 mg/kg Chloroquine in MSAMS, 7 mg/kg Chloroquine in MSAMS and vitamins, 5.25 mg/kg Chloroquine in MSAMS and vitamins and the control respectively, were not significantly ($P \geq 0.05$) different.

V. FRANCOCCINE® (MSAMS-Sulphadimidine)

a). Against coccidia

Experiment : Fifty two, day-old cockrel chicks were used in experimental studies. In the first study, at day 28 of age, all the 52 chicks were infected by oral administration of 1ml of a coccidial suspension which contained 77328 infective *Eimeria tenella* and *E. maxima* oocysts. Seven days post infection, two sick chicks were sacrificed to confirm diagnosis of coccidiosis by post mortem examination and by microscopic demonstration of coccidia.

The remaining fifty chicks were assigned into five groups (A to E) of ten chicks each. Group A was treated with 5g of a drug formulation containing 20% sulphadimidin in the MSAMS, per liter of drinking water. Group B was treated with 1 g of 100% sulphadimidin per liter of drinking water. In group C, the drug formulation containing 20% sulphadimidin in MSAMS was added to their drinking water at the rate of 2 g per liter. As control for group C, 0.4 g of 100% sulphadimidin was added per liter of drinking water of chicks in group D. Group E served as untreated control.

All the treated groups received treatment for three days at first. The treatment was withdrawn for the following two days before they were treated for another three days. To assess efficacy of the treatment, clinical signs, mortality and oocysts output per gram of feces were recorded. Fecal oocysts count and mortality in the groups treated with sulphadimidin-MSAMS drug formulation were compared with those of their controls.

Results: Clinical signs of coccidiosis observed in the chicks, included wing drooping, inappetance, depression, ruffled feathers and bloody-diarrhea. Post mortem lesions seen at necropsy included ballooning of the small intestines, petechial haemorrhages on serosal surfaces of the intestines. The intestinal walls were thickened, with their lumens filled with blood and tissue debris. By the end of the first round of treatment, all the clinical signs including bloody diarrhea had ceased in group C, treated with 2 g of the 20% sulphadimidin in MSAMS. The clinical signs also ceased, from the first day of second round of treatment, in group B which was treated with 1 g of the 100% sulphadimidin powder per liter of drinking water. However, the clinical signs (bloody diarrhea) persisted in group A, treated with 5 g of the sulphadimidin—MSAMS drug-formulation and in group D, treated with 0.4 g of 100% sulphadimidin per liter of drinking water. Groups A and D had mortality of 3 (30%) each. Groups B and C had 1 mortality (10%) each. Untreated group E had 9 mortalities (90%).

Parasitological assessment showed that group A, treated with 5 g of the 20% sulphadimidin in MSAMS, had the least oocyst count per gram of feces (13,000), followed by group B, treated with 1 g of 100% sulphadimidin per liter of drinking water (15,000). Group C, treated with 2 g of the 20% sulphadimidin —MSAMS drug-formulation per liter, had oocyst count of 16,000 per gram of feces while group D, treated with 0.4 g of 100% sulphadimidin per liter of drinking water, had the highest oocyst count per gram of feces (965,000). The only survivor in the untreated control group E, had oocyst count of 52,500 per gram of feces.

Since 5 g of 20% sulphadimidin drug-formulation contains same amount of sulphadimidin as 1 g of 100% sulphadimidin, it was expected that groups A and B would give same results. Instead, persistence of bloody diarrhea in group A and the 30% mortality were significantly different from the results in group B in which the bloody diarrhea ceased and only 10% mortality was recorded. However, the low oocyst count of 13,000 per gram of feces recorded in group A and the 15,000 per gram recorded in group B were approximately same. This suggests that sulphadimidin effectively treated coccidiosis in both groups A and B. In group C, clinical signs ceased after three days of treatment and mortality was only 10%, while group D, treated with 0.4 g of sulphadimidin, equivalent of 2 g of a 20% sulphadimidin drug formulation per liter, had a mortality of 30% and the clinical signs did not cease. Group D also had the highest oocysts count

per gram of feces. These results suggest that the treatment was ineffective in group D while it was effective in group C.

It was therefore concluded that incorporating the MSAMS in sulphadimidin potentiated its anticoccidial activity. The 5 g of the 20% Sulphadimidin formulation per liter of drinking water became overdose hence the high mortality and persistence of bloody diarrhea which is clinical sign of overdose of Sulphadimidin, but with low oocyst count per gram of feces. Also, 2 g of the 20% Sulphadimidin in the MSAMS drug-formulation which is equivalent of 0.4 g of 100% Sulphadimidin per liter, which was ineffective in group D became effective with only 10% mortality, 16,000 oocysts per gram of feces and cessation of clinical signs after only three days of treatment, in group C.

The MSAMS may have potentiated action of Sulphadimidin. The relatively low oocysts count per gram of feces recorded in the only survivor of untreated control may be a result of “self cure” phenomenon.

b). Against resistant *Escherichia coli*.

Experiment: Five groups of randomly selected chicks, infected with Sulphadimidine-resistant *Escherichia coli* were used for an experiment. Two groups were treated at Sulphadimidine's dose rate of 1 g/liter of drinking water with a 100 % Sulphadimidine powder and with the Sulphadimidine-MSAMS drug formulation, respectively. Two other groups were treated with the 100 % Sulphadimidine and with the MSAMS-Sulphadimidine drug formulation at Sulphadimidine's dose rate of 0.75 g/liter. The fifth group served as control. After 5 days of treatment, the chicks were sacrificed and dilutions of their bile plated on Mc-Conkey agar and incubated at 37°C for 24 hours. *E. coli* colonies in each culture were counted and expressed as CFU/ml. Means of *E. coli* CFU/ml of bile of the different treatment groups were compared for statistical differences, by ANOVA.

Results: Normal dose of Sulphadimidine (1 g/liter of drinking water) led to increase ($P<0.05$) of load of Sulphadimidin-resistant *E. coli* infection by 259%. When the drug was stabilized with the MSAMS, load of the resistant infection increased further ($P<0.05$) by 789.10%. Reducing the dose to 75% (0.75 g/liter) and stabilizing it with the MSAMS reduced load of the resistant infection significantly ($P<0.05$) by 84.34% (Cure).

VI. SAL-TRAVITE® (MSAMS-Cotrimoxazole)

a). Against resistant *Salmonella pullorum*.

Experiment: Three groups (A, B and C) of chicks infected with a Cotrimoxazole-resistant *Salmonella pullorum* isolate were placed on commercial feed to which additional levels of Vitamins A, C and E were added and treated with (100 %, 75 %, and 50 %) doses of cotrimoxazole stabilized in MSAMS. Three other groups (D, E and F) were similarly infected and treated but were on the commercial feed without additional levels of the vitamins. Group G was fed with the normal feed, similarly infected but treated with 100 % dose of Cotrimoxazole

without the MSAMS. Group H was also fed with the normal feed and infected but was not treated.

Results: Normal dose of Cotrimoxazole could not cure Cotrimoxazole-resistant *S. pullorum* infection (77 % infection-reduction \leq 80 % which leads to clinical recovery) . When the normal dose was stabilized with MSAMS, it worsened the resistant infection (-212.6 % and -230.96 % reductions rates) but 75 % of dose of Cotrimoxazole stabilized with MSAMS and antioxidants achieved cure of the resistant infection (96.23 % infection-reduction \geq 95% which leads to termination of infections).

3. CONCLUSION

MSAMS is a broad spectrum antiviral medicine, antiretroviral medicine and anticancer medicine. It is also adjuvant that potentiates other medicines.

As adjuvant it improves efficacy of antimicrobials formulated with it. Improving efficacy of antimicrobial medicines reduces their doses required to achieve desired effects and their side effects. Reduction in doses, reduces costs of production to improve profit for pharmaceutical industries while reduction of side effects enhances immune response of treated patients and leads to enough clearance of infections such that development of drug-resistance is prevented. Even already resistant infections become curable. Since there is no limit to antimicrobial medicines that would require their efficacies to be improved, there would also be no limit to number of patents Nigeria can register from the MSAMS. Every pharmaceutical company, anywhere in the world would require it, either as a medicine for diseases caused by electrically charged pathogens or as adjuvant, to improve other medicines or for both purposes.

Both Aluminum silicate, Magnesium silicate and Aluminum-magnesium silicate are medicines already approved by regulatory agencies all over the world including NAFDAC (for Nigeria). So, all that is needed is for Nigerian government to invite World Health Organization and other agencies to confirm efficacies of the MSAMS and grant necessary approvals. That would diversify and grow the Nigerian economy, post Covid-19.

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EFFECT OF COVID-19 ON WORLD ECONOMIES

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ABSTRACT

The objective of the study was to examine the effect of COVID-19 on economies. Economies need to implement a reconstruction and development program for their countries. At the individual level, citizens should not waste this crisis. This is a time for us to enrich our physical, spiritual, and emotional health, and not just focusing on avoiding the coronavirus. Create a new normal daily routine by eating well, exercise, and get sufficient rest. Enrich our mind by reading some great books, learning a new skill, visualize and document your long-term goals and plan to pursue those goals with passion when the Covid-19 pandemic is over. Spillover of Covid-19 pandemic into countries declined oil prices, which was an external shock, caused by the pandemic. The structural problems in countries at the time prolonged the economic crisis. The scope and severity of the economic crisis is a clear signal that growth and development reforms are needed in countries. In retrospect, some Governments used fiscal and monetary stimulus package as a partial solution to revive falling aggregate demand.

Keywords: *Economies, Effect of COVID-19*

INTRODUCTION

The outbreak of pandemic Covid-19 all over the world has disturbed the political, social, economic, religious and financial structures of the whole world. World's topmost economies such as the US, China, UK, Germany, France, Italy, Japan and many others are at the verge of collapse. Besides, Stock Markets around the world have been pounded and oil prices have fallen off a cliff. In just a week 3.3 million Americans applied for unemployment and a week later another 6.6 million people started searching for jobs. Also, many experts on economic and financial matters have warned about the worsening condition of global economic and financial structure. Such as Kristalina Georgieva, Managing Director of International Monetary Fund (IMF), explained that "a recession at least as bad as during the Global Financial Crisis or worse". Moreover, Covid-19 is harming the global economy because the world has been experiencing the most difficult economic situation since World War-II. When it comes to the human cost of the Coronavirus pandemic it is immeasurable therefore all countries need to work together with

cooperation and coordination to protect the human beings as well as limit the economic damages. For instance, the lockdown has restricted various businesses such as travelling to contain the virus consequently this business is coming to an abrupt halt globally.

The public health sector in Nigeria has poor infrastructure such as poor emergency services, few ambulance services, ineffective national health insurance systems, insufficient primary health care facilities, and these problems in the public health sector have often been linked to the high maternal and infant mortality rates in the country (Muhammad et al, 2017). Currently, Nigeria operates a two-tiered healthcare system with a large public healthcare sector and a smaller private healthcare sector. Compared to developed countries, the private healthcare sector in Nigeria is very small because of the limited funding for private health insurance. Also, the majority of Nigeria's healthcare spending is still dominated by out-of-pocket expenditure which account for 70% of total health expenditure⁸, which suggest that most Nigerians either do not rely or trust the health insurance systems in the country or they are unaware of the availability of health insurance. Despite the introduction of the National Health Insurance Scheme (NHIS) in 2004, the population covered by health insurance in 2019 was about 5 percent of the total population.

The Nigerian pharmaceutical industry also has its own problems. The Nigerian pharmaceutical industry is one of the largest in West Africa, and accounts for about 60% of the market share in the region. But most of the active pharmaceutical ingredients (API) used in Nigeria are imported from China, and only 10% of the drugs used in Nigeria are manufactured locally in the country. The industry is facing many problems such as poor infrastructural and unreliable utilities, scarcity of skilled workers, poor access to finance, lack of appropriate government incentives, policy incoherence by the government, poor demand due to robust competition from Asian companies particularly China, high cost of doing business as a result of imported and expensive production inputs, regulatory problems, among others. Nigeria has a drug market that is almost unregulated because the health agencies have difficulty in preventing the importation of illegal drugs and difficulty in tracking informal drug sellers that operate without a registered license (Fatokun, 2016). It is estimated that informal drug sellers in the country account for more than 70% of the pharmaceutical market and these informal agents import substandard and falsified drugs through informal channels. Research shows that 78% of low-quality medications came from private facilities compared to public facilities⁹, and most of these private facilities are unregulated. The unregulated drug market in Nigeria is the major factor responsible for the circulation of low-quality medicines in the country (Klantschnig and Huang, 2019).

The failings in Nigeria's public health sector made it difficult for Nigeria to cope with the fast-spreading Covid-19 disease during the outbreak. Local drug manufacturers could not manufacture drugs that could temporarily suppress coronavirus in infected patients because the APIs used to manufacture suppressant drugs could no longer be imported because China had shut down its factories and closed its borders to control the coronavirus pandemic that was ravaging China at the time. Also, there were insufficient isolation centers in many states including in Abuja and Lagos. The number of infected patients in Lagos grew worse to the extent that a stadium had to be converted to an isolation center. In the end, the Covid-19 outbreak overwhelmed the poor public health infrastructure in Nigeria.

Keeping in a view the staggering situation G-20 nations called an emergency meeting to discuss worsening conditions and prepare a strategy to combat Covid-19 as losses could be reduced. The spread of the epidemic is picking up speed and causing more economic damages. It is stated by the U.S. official from federal reserves that American unemployment would be 30% and its economy would shrink by half. As far as the jobs of common people are concerned, there is also a real threat of losing their jobs because with business shutting down that shows that companies will be unable to pay to workers resultantly they have to lay off them. While when it comes to the stock market, it is severely damaged by Covid-19 such as the stock market of the United States is down about thirty percent. By looking over the existing condition of several businesses, most of the investors are removing its money from multiple businesses in this regard \$83 billion has already removed from emerging markets since the outbreak of Covid-19. So, the impact of Covid-19 is severe on the economic structure of the world because people are not spending money resultantly businesses are not getting revenue therefore most of the businesses are shutting up shops.

It also observed that the economic recovery from this fatal disease is only possible by 2021 because it has left severe impacts on the global economy and the countries face multiple difficulties to bring it back in a stable condition. Most of the nations are going through recession and collapse of their economic structure that points out the staggering conditions for them in this regard almost 80 countries have already requested International Monetary Fund (IMF) for financial help. Such as Prime Minister of Pakistan Imran Khan also requested IMF to help Islamabad to fight against Novel Coronavirus. Furthermore, there is uncertainty and unpredictability concerning the spread of Coronavirus. So, the Organization for Economic Cooperation and Development (OECD) stated that global growth could be cut in half to 1.5% in 2020 if the virus continues to spread. Most of the economists have already predicted about the recession to happen because there is no surety and still no one knows that how far this pandemic would fall and how long the impact would be is still difficult to predict. Besides, Bernard M. Wolf, professor, Economics Schulich School of Business, said that “it is catastrophic and we have never seen anything like this, we have a huge portion of the economy and people under lockdown that’s going to have a huge impact on what can be produced and not produced”.

As Covid-19 has already become a reason for closing the multiple businesses and closure of supermarkets which seems empty nowadays. Therefore, many economists have fear and predicted that the pandemic could lead to inflation. For instance, Bloomberg Economics warns that “full-year GDP growth could fall to zero in a worst-case pandemic scenario”. There are various sectors and economies that seem most vulnerable because of this pandemic, such as, both the demand and supply have been affected by the virus, as a result of depressed activity Foreign Direct Investment flows could fall between 5 to 15 percent. Besides, the most affected sectors have become vulnerable such as tourism and travel-related industries, hotels, restaurants, sports events, consumer electronics, financial markets, transportation, and overload of health systems. Diane Swonk, Chief Economist at the Advisory Firm Grant Thornton, explained that “various nations have multinational companies that operate in the world because the economy is global. For instance, China has touch points into every other economy in the world, they are part of the global supply chain. So one should shut down production in the U.S. by shutting down production in China”.

ECONOMIC EFFECT OF COVID-19

In December 2019, a cluster of pneumonia cases from an unknown virus surfaced in Wuhan, China. Based on initial laboratory findings, the disease named Coronavirus disease 2019 (abbreviated as COVID-19), was described as an infectious disease that is caused by severe acute respiratory syndrome coronavirus. The COVID-19 outbreak has since spread to about 196 countries and territories in every continent and one international conveyance across the globe. While there are ongoing efforts to curtail the spread of infection which is almost entirely driven by human-to-human transmission, it has accounted for over 400,000 confirmed cases with over 18,000 deaths.

Beyond the tragic health hazards and human consequences of the COVID-19 pandemic, the economic uncertainties, and disruptions that have resulted come at a significant cost to the global economy. The United Nations Trade and Development Agency (UNCTAD) put the cost of the outbreak at about US\$2 trillion in 2020. Most central banks, finance ministries and independent economic experts around the world have taken solace in the prediction that the impacts might be sharp but short-lived, and economic activities would return to normal thereafter. This line of thought mirrors the thinking of the events that shaped the 2007 global financial crisis. However, it is quite instructive to note that the 2007 crisis which emanated from the United States' subprime mortgage crisis was mainly an economic phenomenon, with its fallout spreading across many regions of the world. When compared to COVID-19, the 2007 crisis could be described as minor and manageable. The tumultuous events that COVID-19 had spread across the globe cut across every facet of human existence and the consequences may linger beyond the second half of 2020.

LACK OF SOCIAL WELFARE PROGRAMS

Before the Covid-19 outbreak, there were major social problems in Nigeria which include child abandonment, armed robbery, homelessness, mental health problems, divorce, and problems of single parenting. These social problems can only be addressed with serious social welfare policy and program. But, currently, social welfare activities in Nigeria is under developed, poorly funded and is unavailable to majority of those who need them (Ahmed et al, 2017). Nigeria does not have a national social welfare program that offers assistance to all individuals and families in need such as health care assistance, food stamps, unemployment compensation, disaster relief and educational assistance. The consequence of not having a national social welfare program became evident during the coronavirus outbreak of 2020. During the outbreak, people had little to rely on, poor citizens did not have welfare relief that could help them cope with the economic hardship at the time. There were no housing subsidies, energy and utilities subsidies, and assistance for other basic services to individuals that were most affected by the coronavirus outbreak. There are debates on the benefit of using social welfare programs to alleviate poverty and to help citizens cope with disasters (Luenberger, 1996; Dolgoff et al, 1980; Abramovitz, 2001), and social welfare theories provide different perspectives on how social welfare can be designed to meet the basic needs of the people (Fleurbaey and Maniquet, 2011; Arrow et al, 2010; Andersen, 2012).

So far, the provision of social welfare services to vulnerable citizens in the population is the most proven way to protect them from economic hardship in bad times (Ewalt and Jennings Jr, 2014),

and the lack of such welfare services for vulnerable people, households and poor individuals during the coronavirus outbreak in Nigeria caused severe pain and economic hardship to households and poor individuals. The implication of this is that social welfare is not a policy priority by policy makers in Nigeria.

EFFECT ON BUSINESS SHUTDOWNS

The immediate impact of the lock-down is visible, with entire sectors more or less shut down. There is an expectation of private sector economic activity to be down by more than 20% in most European countries. The economic consequences will go beyond the immediate impact. The lockdown generates demand and supply shocks, impacting the entire economy –even after the lockdown is lifted.

IMPACT ON INDIVIDUAL COMPANIES CAN BE MAPPED OUT:

- Place of operation and the way the national economy is affected by the lockdowns.
- The industry the company operates in, and the spill-over effects from the industries it transacts with.

Company specific drivers:

- Supply effects: Disruptions in the value chain for goods (e.g. network equipment from China) have direct impact on production capacity.
- Demand effects: specific for the company, including competitive considerations. For example, increased need for network solutions due to lock-down.

FUNDAMENTAL CHALLENGE TO SOCIETY

Primary challenge is to get the reproduction number, or R_0 , below 1.

- This implies that each infected person infects less than 1 person, resulting in the virus dying out.
- Without any containment measures, R_0 takes a value between 2 and 3.

EXIT STRATEGY

Three main elements to exit strategies

- 1.Limit contagion: Identify sick and isolate population to prevent contagion.
- 2.Immunise the population: The R_0 is likely to drop below 1 naturally, with the rate depending on epidemiological factors and containment strategies.
3. Develop vaccine: Theoretically, a lockdown could continue until a vaccine is developed.

Illustrative path of recovery in the three scenarios

The recovery path is expected to depend on the length of the lock-down; supply and demand effects become increasingly pronounced.

•**Supply effects:** Value-chain disruptions –both domestic and global. Also, otherwise healthy companies go into default due to lack of revenue or value chain disruptions, leading to increasingly lower production capacity.

•**Demand effects:** Loss of income has a direct negative effect on the demand for goods and services, or the propensity to consume. Also, uncertainty about the development of the pandemic

make households and companies hold back on investments. Finally, the global crash in the stock market and possible decline in property prices leads to increased propensity to save.

USING MONETARY AND FISCAL POLICY MEASURES

In response to the Covid-19 outbreak, the monetary authority, the Central bank, said it would provide support to affected households, businesses, regulated financial institutions and other stakeholders to reduce the adverse economic impact of the Covid-19 outbreak. The central bank provided support in six ways. One, it granted extension of loan moratorium on principal repayments from March 1, 2020. This meant that any intervention loan currently under moratorium would be extended by one year. Two, it offered interest rate reduction on all intervention loan facilities from 9% to 5% beginning from March 1, 2020. Three, it offered a NGN50bn (US\$131.6m) targeted credit facility to hotels, airline service providers, health care merchants, among others. Four, it provided credit support to the healthcare industry to meet the increasing demand for healthcare services during the outbreak. The loan was available only to pharmaceutical companies and hospitals. Five, it provided regulatory forbearance to banks which allowed banks to temporarily restructure the tenor of existing loan within a specific time period particularly loans to the oil and gas, agricultural and manufacturing sectors. Six, it strengthened the loan to deposit ratio (LDR) policy which allowed banks to extend more credit to the economy. On the other hand, the fiscal authorities had to review and revise the 2020 national budget of N10.59 trillion (US\$28 billion). The government announced that the budget was reduced by NGN1.5 trillion (\$4.90 billion) as part of the measures to respond to the impact of coronavirus on the economy and in response to the oil price crash. The new budget was benchmarked at US\$30 per barrel from US\$57 per barrel in the previous budget.

A WEAK AND UNDERDEVELOPED DIGITAL ECONOMY

Before the Covid-19 outbreak began, Nigeria already had a weak and underdeveloped digital economy. There were hardly any university or school that offered a full educational curriculum online from start to finish. Most businesses, including banks and technological companies, operated using the traditional ‘come-to-the office-to-work’ model as opposed to the ‘working-from-home’ model. The outbreak of the novel coronavirus brought challenges to the business environment in Nigeria. It impacted industries and markets in the short term. The operations of these markets and industries would have been minimally affected if they had a large digital operation infrastructure. The only services that were offered through the existing digital infrastructure during the Covid-19 outbreak were telecommunication services, digital bank transfers and internet services.

The digital economy would have played a major role in driving recovery from the economic crisis if Nigeria’s digital economy was robust and well-developed. For instance, in Nigerian schools and universities, educators can put coursework online so that students quarantined at home don’t have to miss out on key aspects of their education while school is closed or when students can’t get to school. E-commerce apps that enable online buying and selling can allow buyers and sellers to make purchases and sales while staying in their homes. Also, telehealth apps for health and wellness checks can allow individuals in all affected areas to take extra precautions to monitor their vital signs and learn how to reduce their risk of infection. Also, family members can visually check on their parents, grandparents and siblings without

physically visiting them which provides a level of comfort that would be impossible over the phone. Online delivery businesses can use virtual assistants to help ensure that goods purchased from online grocery stores are delivered when customers need them. Businesses that don't want their workforces to travel or whose employees are uncomfortable taking trips can stay connected with team members, clients and prospective clients around the world using software platforms video conferencing technologies. All these are possible when there is a robust and well-functioning digital economy.

Outside Nigeria, digital technology helped many businesses in developed countries survive the effect of the Covid-19 outbreak, and it created an opportunity to enhance the country's digital economy. In the future, a well-developed digital economy in Nigeria, achieved through intense digital technology penetration, will play a greater role in reducing the effect of recessions in the country, and will also help in supporting economic activities, social activities, the development of good health care systems.

CONCLUSION

Economies did implement reconstruction and development programs for their countries. At the individual level, citizens should not waste this crisis. This is a time for us to enrich our physical, spiritual, and emotional health, and not just focusing on avoiding the coronavirus. Create a new normal daily routine by eating well, exercise, and get sufficient rest. Enrich our mind by reading some great books, learning a new skill, visualize and document your long-term goals and plan to pursue those goals with passion when the Covid-19 pandemic is over. Spillover of Covid-19 pandemic into countries declined oil prices, which was an external shock, caused by the pandemic. The structural problems in countries at the time prolonged the economic crisis. The scope and severity of the economic crisis is a clear signal that growth and development reforms are needed in countries. In retrospect, some Governments used fiscal and monetary stimulus package as a partial solution to revive falling aggregate demand.

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COVID-19 CRISES MANAGEMENT: A CONTINGENCY PERSPECTIVE

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ABSTRACT

The spread of COVID-19 crisis resulting in large-scale travel restrictions continue to wreak havoc on the global businesses across different industries. In a bid to control the spread of the pandemic, countries of the world including Nigeria, have introduced lockdown which has significantly affected the almost all industries. The purpose of this study is to examine the aligning content of COVID-19 with the contingency management thought. The methodology adopted is literature review. This paper examined the adverse effect of Coronavirus (COVID-19) to the business across the globe. The findings based on the review of extant literature reveals that the coronavirus known as COVID19 has negatively affected a lot of businesses across the globe. The paper recommends that business organizations should focus on core competencies and capability development strategy for survival in the presence of such pandemic.

Keywords: *Crises Management, COVID-19, Proactive Strategies, Reactive Strategies*

INTRODUCTION

Organisations are operating in a rapid unpredictable economic environment. The changes in the environment have a significant impact on the survival and success of the organisations (Tomecko & Dondo, 2012). The issue of crisis management strategy has generated interest among most management experts. According to McConnell (2010) it is through crisis management strategy that a firm will be able to secure itself from threats brought about by the changes in the environment. Crises are developments or trends that emerge from an organization's internal or external environments and are perceived to have the potential to affect an organization's performance (Drennan, McConnell & Stark, 2015; King & McGrath, 2002). As environmental turbulence increases, crisis emerge more frequently that challenge the way an organization formulates and implements its strategy.

The COVID-19 was first reported in Wuhan, Hubei province, China, in the late 2019. As noted by the Johns Hopkins University on May 27, 2020, the number of confirmed cases reported around the world has been steadily growing, reaching 5.69 million with 355,575 deaths (Johns Hopkins University & Medicine 2020). In view of this exponential growth, the COVID-19 was declared a world pandemic by the World Health Organization—WHO (2020) on March 11.

The COVID-19 pandemic outbreak created a crisis that has forced many businesses to close, leading to an unprecedented disruption of commerce in most industry sectors. Retailers and brands face many short-term challenges, such as those related to health and safety, the supply chain, the workforce, cash flow, consumer demand, sales, and marketing. However, successfully navigating these challenges will not guarantee a promising future, or any future at all. This is because once we get through this pandemic, we will emerge in a very different world compared to the one before the outbreak. Many markets, especially in the fields of tourism and hospitality, no longer exist. All organizational functions are intended to prioritize and optimize spending or postpone tasks that will not bring value in the current environment. Companies, especially start-ups, have implemented an indefinite hiring freeze. At the same time, online communication, online entertainment, and online shopping are seeing unprecedented growth (Donthu & Gustafsson, 2020).

The COVID-19 outbreak is likely to cause bankruptcy for many well-known brands in many industries as consumers stay at home and economies are shut down (Tucker, 2020). In the US, famous companies such as Sears, JC Penney, Neiman Marcus, Hertz, and J. Crew are under enormous financial pressure. The travel industry is deeply affected; 80% of hotel rooms are empty (Asmelash & Cooper, 2020), airlines cut their workforce by 90%, and tourism destinations are likely to see no profits in 2020. Furthermore, expos, conferences, sporting events, and other large gatherings as well as cultural establishments such as galleries and museums have been abruptly called off. Consulting in general and personal services, like hairdressers, gyms, and taxis, have also come to a standstill due to lockdowns. Finally, important industries like the car, truck, and electronics industries have abruptly closed (although they started to open up two months after their closure). There are an endless number of questions we could ask ourselves in connection to this rather abrupt close-down. For instance, how do we take care of employees in such situations? Why are companies not better prepared to handle such situations (e.g., putting aside earnings or thinking of alternative sources of income)? How are the companies and even countries using the current situation to enhance their competitive situation? One of the countries that seem to be using the situation is China that is buying European based infrastructure and technology (Rapoza, 2020).

While some businesses are struggling, some businesses are thriving. This is true for a number of Internet-based businesses, such as those related to online entertainment, food delivery, online shopping, online education, and solutions for remote work. People have also changed their consumption patterns, increasing the demand for takeout, snacks, and alcohol as well as cleaning products as we spend more time in our homes. Other industries that are doing well are those related to healthcare and medication as well as herbs and vitamins. Typically, when studying markets, it is assumed that they are static, a natural conclusion since they tend to change slowly. However, if there is one thing the COVID-19 outbreak has shown us, it is that markets are dynamic (Jaworski, Kohli, & Sahay, 2000) and can move rapidly. Furthermore, a market is not just a firm; it is a network of actors (i.e., firms, customers, public organizations) acting in accordance with a set of norms. These systems are sometimes referred to as dynamic ecosystems that exist to generate value (Vargo & Lusch, 2011).

In a context where severe disruptions (e.g., manufacturers closed or partially closed, airports operating with harsh restrictions, shortages of medical equipment and supplies) are recorded in

the global SCs (Ivanov 2020a; McKinsey & Company 2020; World Economic Forum—WEF 2020a), a good number of industries (automotive, electronics, medical equipment, consumer goods, etc.) also experience ripple effects (Dolgui, Ivanov & Sokolov, 2018; Ivanov 2020a, b). For example, as China is considered a world's factory, the pandemic's disruptions to SCs around the world started there before spreading elsewhere (Deloitte 2020). The severe ripple effects from this challenge require different crises management strategies and actions.

Crisis management is a strategic activity whose aim is to minimise risks thus making it possible for an organization to take greater control of its own destiny. It is a planning process for crisis management in order to mitigate against possible undesirable occurrences and devise favourable strategies for risk minimisation. A crisis is an event that occurs suddenly; demanding quick reaction, distorts organization strengths, creates uncertainty and puts an organization's reputation at risk. Depending on its intensity, it can permanently change an organization's character (Millar, 2008). According to Fearn – Banks (2006) crisis management is a process of planning for unpredictable eventualities. He also adds that crisis is an issue that is difficult to resolve because of pressure of time, high uncertainty as well as limited control. Crisis management is therefore of great importance to every organization (Burnett, 2008).

Crisis management is a new field of study and practice, which has attracted empirical studies on its management. Mostafa (2006) conducted a research on Egyptian hospitals on crisis management preparedness entitled —Strategic Preparation for Crisis Management in Hospitals: Empirical Evidence from Egypt. The study focused on hospital managers' perceptions concerning the preparation for crisis management. The findings indicated that there was a positive relationship between external strategic orientation and readiness for crisis. He also found out that there was a positive relationship between long-term strategy and readiness for crisis. Firms should be proactive in the prevention of crises by ensuring that, skilled human resource is under protection at all times to avoid high staff turnover, requisitioning only the supplies needed at a particular time in order to avoid obsolete supplies and keeping abreast with the latest technology. Risk assessment is also important in order to anticipate and shield against any incidences in advance (Gartner, 2010).

The main aim of crisis management is to device strategies that make it possible for an organization to deal with a crisis successfully and in a timely way. A crisis management team should be in place to make critical decisions in case of a crisis. The team takes the responsibility to management crisis and to restore order. The purpose of this study is to examine the relationship between crises management and its alignment with the contingency management thought.

LITERATURE REVIEW

Crisis Management Strategies

Crisis management strategies are of special importance to the mobile telephone service providers because the firms will be in a position to respond quickly to risks. Teams should be put in place that would make decisions in extra ordinary situations (Rozek & Groth, 2008). Scholars have classified crisis into many categories for example Coombs (2002) has classified it into nine categories; natural disasters, malevolence, technical break downs, human break downs, challenges in supplies, technological changes, organizational misdeeds, workplace violence and

rumours. Coombs (2009), later grouped crisis into five clusters namely; rumours, natural, disasters, malevolent accidents and misdeeds for such as obsolete supplies.

Crisis management has undergone progressive evolution during the last 20 years (Jacques, 2007). Coombs (2007a) considers crisis management as a critical function in an organization because if it is not effectively managed, it can result to loss of specialised employees leading to disruption of key functions. The safety of human resources is of great importance. It would take a long time to recover from the loss of well-trained human resources in case of an incidence. It is unfortunate that some companies are not aware of the real costs of employee turnover. Employee turnover is expensive to an organization and affects business performance. It is difficult to manage employees' turnover. In research by Pearson & Clair (2008) stated that when turnover rate rises organizations should recognize that their workforce and financial performance are at risk. Therefore, organizations should lay strategies to mitigate and eliminate or lower the turnover.

Dimensions of Crisis Management

Proactive Strategy

An organisation that is proactive is a conformist one. It would rather eyeball a crisis than allow it to fester. Robin et al (2011) described proactiveness as a personality attribute that describes people prone to take action to avert an unpleasant situation; same applies to organisations. Rotter (1996) opined that proactive organisations tend to have an internal locus of control where they believe they have the capacity and the responsibility to control their own fate. Frankl (2013) is of the opinion that being proactive helps organisations to successfully preserve their strength and confidence in the midst of obstacles.

Reactive Strategy

Being reactive is failing to do what should have been done initially. According to Bailey (2016), being reactive is associated with having the ability to confront pressure that comes your way in real time. In relation to crisis management, it is a situation in which planning decisions take place during and after the crisis situation (Karam, 2018). A reactive manager is one who will usually wait for crisis to occur or emerge before taking necessary steps to manage and eradicate it in order to achieve continuity in business operations. This strategy is characterized by quick thoughts processes which are logical and planned to turn things around (Bailey, 2016).

COVID-19 Crises Management

A crisis is a business or organizational problem that is exposed to public attention, and that threatens a company's reputation and its ability to conduct business (Weiner, 2006). Coombs (2007) agree that a crisis is a sudden and unexpected event that threatens to disrupt an organization's operations and poses both a financial and a reputational threat. Crises can harm stakeholders physically, emotionally and/ or financially. A wide array of stakeholders is adversely affected by a crisis including community members, employees, customers, suppliers and stockholders. During crises effective crisis management has a significant importance endeavouring to avoid damage for corporate reputation. Weiner (2006) notes that a crisis can take on many forms, including natural or man-made disasters, environmental spills, product tampering or recalls, labour disruptions or criminal acts to name a few. Payne (2006) believe that the interaction of reputation and response may be such that traditional strategies do not apply in

all cases For this reason, Grundy, Moxon (2013) suggest when considering an appropriate crisis response, organisations must assess the type and scale of crisis they are facing.

Literature suggests three important aspects of crisis management endeavouring to avoid damage for corporate reputation: the role of CEO, organizational activities and communication strategy. According to Turk, Jin, Stewart, Kim, Hipple (2012), positive relationships between a company and its stakeholders plus a CEO who plays a visible leadership role during a crisis may allow for a more aggressive, yet defensive communications strategy during a crisis. There is the interconnectedness of reputation, leadership and communication. So there is a need for a CEO to play a visible leadership role during a crisis, a long-held tenet of crisis management. The world as it is today is being overwhelmed by the outbreak of the novel severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2) virus that is responsible for the COVID-19 disease (Shereen, Khan, Kazmi, Bashir & Siddique,2020). The World Health Organization (WHO) declared the new wave of infection with predominantly respiratory system symptoms a pandemic on March 11th, 2020 with most countries reporting increasing numbers of morbidity and mortality rates (Cucinotta & Vanelli, 2020). The major drivers of the outbreak appear to be both symptomatic and asymptomatic persons infected with SARS-COV-2 from whom the virus can spread via droplets or direct contact with contaminated surfaces (World Health Organization,2020). This forcefully and rapidly led to a systematic lockdown of most countries of the world (Whitworth,2020). Since the WHO had recommended a multi-prong preventive approach that includes physical distancing, hand washing with soap and water for at least 20 seconds and respiratory etiquette as mitigating measures, the lockdown eventually became a key method of restricting on-going community spread of the virus (Shereen, Khan, Kazmi, Bashir & Siddique,2020). The resultant effects of these stringent public health actions have led to enormous economic losses, disruption of the 'usual' physical and social contacts, massive loss of jobs and means of livelihood and increase in mental health issues (Fernandes,2020; Torales, O'Higgins, Castaldelli-Maia & Ventriglio,2020).

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COVID-19 has caused a severe industrial collapse as manufacturing companies are now facing a crisis. Production plans are postponed which definitely has spillover effects. Car manufacturers like, Ferrari and Volkswagen, are suspending production in Europe. They are closing operations due to industrial shutdown as well as for lack of parts. The effect is also noticeable in luxurious goods, like Swiss watches. The manufacturers are facing problems due to lack of parts and components. The supply chain disruption will surely have a major impact on the business cost for the manufacturing companies in foreseeable future. Hasbro, a toy manufacturing company is also suffering as 70% of the source of its goods is from China. Due to the shutdown of different factories in China and the disruption of the transportation route, it has been extremely difficult for manufacturing companies like Hasbro to market its products (Fernandes,2020).

In a mission to control the spread of the virus, social distancing is to be maintained; which has caused the shutdown of various local businesses, supermarkets, financial markets, corporate offices along with coast -to-coast businesses. As a result, many economists are anticipating high levels of inflation, because both supply and demand have been affected by the pandemic. Travel agency services, hotels, restaurants, home electronics\furnishings, sport events are sectors that have been more vulnerable to the current pandemic (Mahar, Mahar & Early ,2020).

The COVID-19 pandemic in Nigeria and around the globe has resulted in business leaders and owners having to swiftly mobilize and make short term decision. A decision such as the reduction in production output and or even shutting down operation temporarily could have long term implications that may not be foresighted. This, thus, would have an impact on private business financial performance, as a result of the lockdown policy or order by the President of the Federal Republic of Nigeria. Empirical studies have also suggested that both pandemics and epidemics harm the financial performance of firms. Kim, Kim, Lee and Tang (2020) investigate the influence of macroscopic and infectious epidemic disease outbreaks on the financial performance of the restaurant industry. Nine events on four epidemic disease outbreaks during 2004–2016 were analyzed. Event study method and Mann-Whitney U test were used as the research method and inferential statistic respectively. They found out that confirmed the negative influence of epidemic disease outbreaks on the restaurant industry, and identified all the three firm characteristics serve as risk-mitigating factors.

Covid-19 Crises Management: A Contingency Perspective

The COVID-19 emergency responses of many states have revealed important inconsistencies. In many European countries, the authorities have adopted a one-size fits-all policy and imposed the same measures everywhere. More worryingly, some governments—notably in Africa— have not performed their own adapted risk assessment before copy-pasting strategies from abroad (Broadbent & Smart, 2020). This is problematic, since it makes little sense to use a predictive model developed from a country where the median age is (Pawson & Tilley, 1997) and translate it to a country with a median age of (World Health Organization, 2005), without adjusting the parameters. In addition, current policies fail to account for regional or trans-border contextual parameters, where either more stringent or relaxed measures could be more suitable depending on geographical determinants. The universal lockdown of a whole country may not be necessary when there are only one or two epidemic outbreaks separated by hundreds of miles, especially if containment is quick and determined. What we suggest, in order to be effective, is that policies

should fit each context and be adaptive at the territorial or ecosystem level, versus being unreflectively and uniformly bounded by national jurisdictions. Hence, this calls for a contingency approach to the containment of the pandemic. This is the best way to not impose measures that are too coercive, which may face legal constraints and may be counterproductive, eroding public trust and cooperation. (Parmet WE, Sinha,2020; Gostin & Hodge,2020). In the post-COVID-19 recovery phase, we hope the lessons learnt from local, national and global responses to this pandemic will foster support, by policymakers and by the public, for tailored policy responses that support stronger and more integrated local health systems.

Coronavirus (COVID-19) is a great wake up call. It has clearly demonstrated how fragile business is. It has created disruption in the supply chain both domestically and globally, especially with respect to food and energy. It has compelled business adapt contingency approaches powered by technological innovations in the face of survival threats. It is hard to imagine how business could run today without smart phones, the internet, eCommerce, and Zoom meetings. The economic crisis generated by the lockdown and social distancing mandates to combat the coronavirus has been a good wake up call for businesses in general and industrial businesses in particular. The best way to survive is adopting a contingency management perspective.

Due to the highly contagious nature of the SARS-CoV-2 virus, ensuring a safe social distance between people has proven to be an effective way to reduce viral infections in communities (Fong, Gao, Wong, Xiao, Shiu, Ryu & Cowling, 2020). Initially implemented with the onset of COVID-19 (believed to have originated in Wuhan, China), social distancing measures include the closing public areas (such as parks and plazas) and the maintenance of physical distances between people in areas that cannot be closed (such as markets and health care facilities). These social distancing practices have had a major impact on industries that rely on high levels of human interaction, such as hospitality and tourism, which are suffering greatly during this period (Hoque, Shikha, Hasanat, Arif & Hamid 2020). Strategic response initiatives and creative innovations to navigate the COVID-19 crises can only be driven by adopting a contingency approach and in this way, a new paradigm can emerge in which technologically driven capabilities' can facilitate a better business survival than we knew prior to the COVID-19 pandemic.

Managing uncertainty especially during the COVID-19 pandemic involves strategies that help firms either reduce (risk management) or cope with (strategic management) un-certainty; reducing uncertainty is a natural motivator that guides firms' behavior, whereas coping with it allows firms to adapt their strategy to deal with the type of uncertainty faced by them (Sniazhko,2019).Uncertainty reduction involves information gathering, proactive collaboration or cooperation, and networking; whereas, uncertainty coping consists of flexibility (diversification and operational adaptation), imitation (copy competitors and early movers), reactive collaboration and/or cooperation, control and avoidance (Simangunsong, Hendry & Stevenson, 2012). Contingency management is needed to achieve the foregoing.

During times like these, reactive collaboration and/or cooperation (e.g., shifting the risk and uncertainty to the firms' partners) is the most common strategy used by firms to handle environmental or industry uncertainty. Firms may also try to avoid uncertainty when the level of

environmental and industry uncertainties is much greater than their worst expectations. Overall, managing uncertainty involves reducing the probability of undesirable outcomes and their impact on the businesses at various stages of the value chain (Figueira-de-Lemos & Hadjikhani, 2014). For instance, Aldens is family owned butcher SME, based in Oxford and established in 1783, supplies universities, restaurants, pubs, etc., and they faced an 85% reduction in orders overnight (Midcounties, 2020). Aldens partnered with regional Mid counties Co-op retailer to supply fresh meat and substitute those product lines that were in jeopardy because of increased consumer demand and disrupted supply chains. Similarly, many SMEs in fashion industry have started making face masks and lab coats, to meet the insatiable demand for these personal protective equipment (PPE). Similarly, many alcohol factories are now producing hand sanitisers, while a small firm (Isinnova) was able to create a system to use the Decathlon diving Mask as a pulmonary ventilator (Murdock, 2020). It is important to state that only firms that adopt a proactive COVID-19 management using contingency models will survive.

In this context, it may also be useful to see the experience of Samsung, a South Korean giant in consumer electronics and home appliances, during the ongoing Covid-19 crisis. Being fully aware of the risks of single sourcing, Samsung has established a vast manufacturing network over the years with factories in Brazil, India, Indonesia, South Korea, and Vietnam, to fulfill its huge production demand and to reduce its dependence on China. Unsurprisingly, this has helped Samsung shift its production from one location to another during the ongoing Covid-19 crisis, thereby facing just a slow-down, and not a complete shutdown in production. Similarly, to compensate for the closure of retail stores, Samsung has leveraged its contracts with mobile phone retailers and Benow (a payment and EMI technology firm) to create an e-commerce platform so that its retail business can continue to sell and deliver the products to its customers (Mukherjee, 2020). Samsung has also launched additional services to maintain its customer relationships, such as “Free Repairs for the Frontline” program to offer free smart phone repair services to healthcare workers and special discounts for first responders and healthcare professionals (Mihai, 2020)

CONCLUSION

COVID -19 is the deadly virus that has nearly locked down the entire universe. It has claimed several millions of lives worldwide. Presently, there is no known cure for the virus. The pandemic have influences on education, economy, religious, sporting, social, banking activities, and others. Global economic and social life has been severely challenged since the World Health Organization (WHO) declared the COVID-19 disease a pandemic. Travel, tourism and hospitality, in particular, have been massively impacted by the lockdowns used to maintain social distance to manage the disease.

RECOMMENDATIONS

- i. Organizations should pursue the proactive crises strategies rather than the reactive in crisis management strategies in order to respond well and have a positive corporate identity management.
- ii. The paper recommends that business organizations should focus on core competencies and capability development strategy for survival in the presence of such pandemic.

- iii. In the wake of the pandemic, managers should think more of innovate means of continued production by looking increasingly to the adoption of e-commerce platforms.

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POTENTIALS OF COVID -19 FOR ECONOMIC GREATNESS IN EDUCATION IN NIGERIA

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ABSTRACT

School closures as a result of Covid-19 interrupted learning and threw students, teachers, parents and all other stakeholders in confusion and disarray. To determine the potentials of Covid-19 for economic greatness in education, this paper examined and analysed the effects, experience gained and potentials of Covid-19 greatness in education as well as some of the challenges faced by education. The paper analysed; interrupted learning, poverty, poor healthcare and high economic costs among others. Similarly, the paper discussed the prospects of distance learning and different learning models towards addressing some of the challenges of school closures. The paper recommended among others review of national budget on education, provision of infrastructural social protection, safety and hygiene as well as adequate sensitization.

Keywords: Covid- 19, Education, Economic, Potentials, Greatness.

INTRODUCTION

Coronavirus otherwise known as Covid-19 Pandemic which affected all aspects of life including educational system the world over. In Nigeria, Covid-19 forced government to suddenly close all schools, colleges, polytechnics and universities. The closures of these institutions were indefinite and resulted to serious disruptions in academic calendar of events. This situation has far-reaching economic and social consequences in the society.

School closures as a result of Covid-19 have exposed a number of economic and social issues including the need for online learning, distance schooling, food insecurity, student debt, homeless, access to healthcare inadequacies in social protection system, loss of job, restriction of movements among others. The impact of Covid-19 was more severe for disadvantaged families especially children, causing serious disruption of learning, malnutrition, childcare problems and economic meltdown among low income earners.

In the light of the above situation (school closures), universities recommended use of distance learning programme , open educational applications and platforms that schools and teachers can use to reach learners remotely. This approach may limit the disruption of education and academic calendars. However, it appears that only the few privileged members of the society are enjoying the system. The vast majority of the population are left out of the system. To this end, therefore, this paper will focus on the following;

- i. School closures and its effect on education
- ii. Experiences gained during Covid-19

- iii. Potentials of Covid-19 for economic greatness in education
- iv. Challenges of school closures to education
- v. Recommendations
- vi. Conclusion
- vii. References

SCHOOL CLOSURES AND ITS EFFECTS ON EDUCATION

School carries high social and economic costs for people across communities in the world. According to UNESCO (2020) the impact of school closures is more severe for boys and girls and their families. UNESCO noted that the resulting disruptions increase the already existing disparities within the educational system and other aspects of life. Such as:

- Interrupted learning: schools provide essential learning and when schools close, children and youths are deprived opportunities for better growth and development.
- Poor nutrition: school provides opportunity for supporting children with balanced diet, when schools close meals are compromised. Thus children and youths who rely on free meals provided at schools are denied. As such food and healthy nutritioun do not longer come for students.
- Confusion and stress for Teachers; usually, when schools close unexpectedly and for unknown durations, teachers got disenchanted and disilled because they are known for respect to their obligations. Teachers are also known for maintaining connections with their students and provide support services to learning. All these are abruptly stopped when schools close
- Parents unprepared for distance and home learning, it is worthnoting that facilitating children learning from home is a huge challenge to parents especially when it comes at a time of economic meltdown due to Covid-19.
- Gaps in childcare: Absence of schools creates gaps that give rise to risky behaviours among children of working parents.
- High economic costs: working parents are more likely to stay at home and care for children at the expense of their jobs. This means loss of jobs and reduction in incomes
- Unintended strain on healthcare systems: Healthcare systems such as hospitals and clinics were thrown into confusion, unexpected demand of healthcare facilities. This means parents and individuals take responsibilities of providing healthcare to members of their family.
- Increased pressure on schools and school systems that remain opened; it is obvious that only schools that are operating get learners. Most of these schools that remain opened are privates and not affordable by many less .privileged families.
- Social isolation: schools are known as hubs of social activity and hub and interaction. When schools close many children and youths miss out on social contact that is essential to learning and development.
- Challenges of measuring and validating learning: calendered assessments such as examinations that determine admission, placement, and advancement to new education levels. As such institutions are thrown into disarray and cancellation of terms and sessions when schools close. Strategies to postpone, skip or administer examinations at

distance location raise serious concerns about fairness, especially when access to learning becomes variables. Disruption to assessments results in stress for students and then families as it triggers disengagement.

- Infrastructural damages: buildings that are not used for a long time as a result of school closures gradually started developing structural defects. Classrooms, halls lecture theatres, laboratories and other facilities were all closed when schools are not on sessions. Thus disuse and decay occurred. Consequently, termite or isopteran set in various buildings.

EXPERIENCES GAINED DURING COVID-19

The best experience is the one an individual happens to go through and acquire new knowledge and skill of a particular job or activity. This means an activity that has been performed repeatedly for a purpose. A new experience therefore, is what people have tried to do or done to survive the effects of covid-19. People developed new knowledge skills and competences in acquiring education, economic survival, personal hygiene, social protection and healthcare among others. When schools were closed abruptly and for unknown time, families started feeling the effects of lockdown variously:

- Many parents who are struggling with home schooling realize the value of teachers who always take care of the children during school hours. When schools closed, parents took over the burden.
- Home schooling has made parents and families realize how demanding and complex a teachers work can be. When schools close, parents home take notice.
- When schools were suddenly closed, teachers experienced the need to switch to remote learning. Teachers are therefore, struggling with many challenges in their efforts to meet the development needs of their students.
- Teachers resorted to new strategies of development in training and retraining through online learning,
- Lockdown and social isolation have made activities such as meetings, seminars, conferences and other congregations possible through online learning operation or mechanism.
- Families and individuals have gained new experience of personal hygiene social isolation and protection through regular hand washing, use of facemask and physical distance. similarly, people have become more conscious about attending social gatherings and congregations
- Families have learnt to manage meager incomes and resources ultimately. Families seek for alternative sources of income generation to support basic needs as a result of loss of jobs. Thus youths and young adults have gained new experience on vocational jobs.

POTENTIALS OF COVID-19 FOR ECONOMIC GREATNESS IN EDUCATION

Potentials refer to latent qualities or activities that may be developed and lead to future success or usefulness. When schools were closed in mid-April 2020 over 192 countries were affected involving more than 90% of the world's learner's almost 1.6 billion children and young people (UNESCO, 2020). It is worth noting that while some governments are starting to order teachers

and students back to work, education which is one of the most important drivers in human capital investment continues to be largely closed for business.

UNESCO (2020) observed that how long schools will remain closed, how students learning will be affected, and how greatly this will affect the poorest and most vulnerable populations remain difficult to say. This gives rise to questions, such as whether it is possible for recovered patients to be reinfected to how long it will take to develop a more viable along. However, it is obviously known that learning will be lost and such losses will not likely be evenly distributed.

It is worth noting that when children lose out on education, they lose out on future opportunities including economic benefits, such as additional earnings with ear reaching consequences. UNESCO (2020) noted that the consequences of school closures cannot be overestimated and protected that every additional year of schooling equates to 10% in additional future earnings. This explains the number of moths of education closures to estimate the loss in marginal future earnings. In this connection, Psachanopous, Collins, Patrinos and Emilliana (2020) projected that potential loss of future earnings as a results of the current school closures can be estimated as follows:

- Uneven quality of learning.
- Differences in provision of effective distance learning.
- Loss of jobs by family members and increased poverty level among people in the society.
- Scarcity of jobs in future to support the child education and healthcare by families
- Education as one of the most important drivers in human capital investment continues to be largely closed for business which affected sources of income for many people.
- Young people are forced by these closures to make sacrifice in so many ways :
- Continues school closures have protected multiple effects across countries, continents and generations even yet to come. This indicates that governments have to rethink about their economic policies and charge directions on various sectors.
- The most enduring part of school closures is the impact on children and young people of the pandemic which is more likely to take the form of long crisis rather than short sharp shock. This demands change in mind set and re orientation of youth and young people towards better future life.

In ensuring safety when schools and learning facilitated reopen, Federal Ministry of Education (FME) (2020) emphasizes implementation of Covid-19 guidelines to the later; sensitization, safety and hygiene, social protection, learning, financing and build back better. FME (2020) proposed alternative learning models which include: outdoor learning, staggered attendance, alternate attendance, platooning, decreased interaction, flexible schedule and creative delivery. All these alternative learning models for social distancing require adequate planning provision of resources and gradual implementation.

CHALLENGES OF SCHOOL CLOSURES TO EDUCATION

The challenges faced by schools and education systems are enormous. UNESCO (2020) FME (2020) and Johnson (2020) observed and noted among others the following challenges:

- School closures interrupted learning and created serious gap in students, academic performance
- Gaps in health care systems, especially child healthcare
- The situation resulted to high-economic costs in all sectors, especially education and health care delivery
- Loss of jobs and reduction in income generation by families
- Increased in droption rates, particularly among low income families
- Increase in crime rates and violence especially among youth's and community members
- Social isolation demands caution and resilient which are usually difficult to achieve at all times
- Challenges associated with distance learning strategies
- Increased pressures on schools and school systems.
- Students with special needs particularly those with disabilities and disadvantaged groups are badly affected by the long school closures because they cannot cope with effective remote learning strategies
- Increased burden on parents who need to stay home or find new arrangements if children have to stay at home
- Unlike in some countries of the world, in Nigeria schools were closed abruptly. As such academic calendars were distorted as a result students, teachers and parents were thrown into confusion
- Increased demands on schools to provide additional infrastructural facilities including isolation centers in the face of scarcity of funds
- Enforcing and supporting implementation of covid-19 guidelines and preventive actions while schools open
- Limiting physical contact by reducing social and extra-curricular activities which in themselves useful in achieving the hidden curricular in schools
- It is important to note that both governments and private sectors are faced with serious shortages of funds due economic meltdown. Payments of salaries are in shamble and provision of additional facilities required for managing Covid-19 pose serious problem to most organizations.

Similarly, UNESCO (2020) observed and noted the following challenges:

- Interrupted learning
- Gaps in child healthcare
- High economic cost
- Loss of jobs
- Reduction in income to families
- Increased in drop on irate particularly from low income families
- Increased in crimes and violence
- Issue of social isolation
- Demands for distance learning
- Pressure on schools and school systems

- Students with special needs are badly affected by the long school closures because they cannot cope with effective remote learning stresses
- Increased burden on parents who need to stay home or find new arrangements if children have to stay at home
- unlike in some countries, in Nigeria, school closures were abruptly without any caution as such academic calendars were distorted and students, teachers and parents were thrown into confusion.
- The need for more isolation centers by schools
- Enforcing and supporting implementation of guidelines and preventive actions while schools open.
- Limiting physical contact by reducing social and extra-curricular activities which are equally useful in achieving the hidden curriculum in schools
- Most not all schools lack the basic infrastructure to accommodate the needs for schools reopening.
- Lack of funds by most schools even to pay salaries let alone provision of additional basic infrastructure and facilities required for Covid-19 management.

RECOMMENDATION

According to FME (2020) for schools to be reopened, it has to be demonstrated that it is safe for teachers and learners to go back to school in a phased and gradual reopening. This means schools' reopening is only advocated to minimize the risk of infections in schools and resurgence of coronavirus infections in the community. In view of this, the following steps or actions are recommended.

- All schools should prepare to reopen when the time comes. To ensure adequate preparation, central planning is essential by giving due consideration to finance, infrastructural and human resources.
- Federal government should re-adjust national budgets for education
- All schools must have operational budget and ensure that both teaching and non-teaching personnel are paid their salaries
- Health authorities should ensure that all schools, are fit for reopening by adhering to the infrastructural provision, adjustment; safety of buildings and their surroundings before reopening.
- Schools should guarantee the well being of returning students and ensure that the risk of contagious is minimized.
- All schools must ensure that renovation and improvement of schools buildings as well as installation of necessary hygiene facilities such as washrooms, toilets, bathrooms, washing stations, running and other items like soap and disposable hand towels.
- Federal, state and local governments should ensure that teachers are adequately, mobilized and explore measures of employment, and or deployment to areas affected by high teacher morality rates during the crisis.
- Federal, state and local education sectors should train teachers to monitor children, students and identify those experiencing particular difficulties when they are back in schools.

- Federal, state and local government should take responsibility for ensuring that learners are safe to learn at home. In this connection all learners should participate in an inclusive arrangement irrespective of their locations access online learning facilities.
- Schools should review and reassess learning needs of learners due to long stay away from schooling.
- Alternative learning models should be adopted by all schools depending on locations, infrastructural facilities, learner's population and availability of teachers.
- Federal, state and local governments should ensure proper sensitization of schools and communities on social protection by providing Information, Education and Communication (IEC) facilities in the system.
- Federal, state and local governments should ensure proper school feeding programme by providing regular balanced meals to learners, especially at pre-primary and primary school levels.
- Federal, state and local governments as well as private sectors should create employment opportunities to support families mitigate the effects of the crisis
- Federal, state and local governments should create more access to education to reduce dropout rates and provide inclusiveness for all categories of learners including out of school children.

CONCLUSION

School closures were sudden and interrupted academic calendars in all institutions of learning. The situation created serious gaps in living and healthcare. It resulted to lockdown, loss of jobs, crimes, violence and high poverty level. School closures threw parents, learners, teachers and all stakeholders in education sector into confusion. Consequently, it calls for policy review, special budgetary provision, alternative learning models and diversification of income generation to support education and healthcare of families. Schools reopening strategies should be phased gradual through careful planning while giving consideration to finance, infrastructure and human resources.

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THE IMPACT OF COVID-19 ON BUSINESSES IN NIGERIA

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ABSTRACT

The adverse effect of the Corona-virus outbreak is devastating the entire world leading to global economic crisis. Businesses around the world are feeling this impact and their existence are being threatened as going concerns. This paper examined the impact of Covid-19 on Businesses in Nigeria. The study employed secondary data which were sourced from the Nigerian Stock Exchange (NSE) weekly reports from the period before the lockdown (Pre-Covid-19) ranging from 17th January, 2020 to 20th March 2020 and compared with the Period during the COVID-19 lockdowns from 3rd April, 2020 to 5th of June 2020 and analyzed using ordinary least squares regression technique. Findings revealed that consumer goods index and industrial goods index had a significant impact on the stock market All-share Index during the COVID-19 period while banking sector index and Oil/Gas index did not significantly impact on the NSE all share Index during the lockdown in Nigeria. The study recommends that businesses should take advantage of the Federal Government intervention on loan moratoriums and other measures to assist financial position of companies to cushion the effect of the COVID-19 pandemic on businesses in Nigeria.

Keywords: Covid-19, businesses, All-share index, Sector Index. Nigeria

1.0 INTRODUCTION

The Corona virus pandemic is causing a great loss of life and immense human suffering all over the world. It is the biggest public health crisis in decades, resulting to global economic crisis with a halt in production in affected countries around the world, a collapse in consumption and confidence, and stock exchanges responding negatively to heightened uncertainties. (OECD, July 2020). Economic forecasts show an increasingly negative outlook in terms of the magnitude of the global economic downturn set off by the widespread corona virus (COVID-19).

The OECD Predicted in late March 2020 that the commencing direct effect of the quarantine could be a downturn in the level of output of between one-fifth to one-quarter in economies around the world with a decrease in consumers' expenditure by around one- third.

Lately, several other International organizations have made predictions on the economic impact of the COVID-19 pandemic. The IMF June 2020 outlook predicts a decrease in global GDP by 4.9 percent in 2020, 1.9 percentage lower points below the April forecast, followed by a partial recovery, with growth at 5.4 percent in 2021 (IMF, 2020). World investment report (Unctad, 2020) in June 2020 predicted a drop in global foreign investments by up to 40 percent in 2020, with a further decline by 5-10 percent in 2021. The International Labor Organization (ILO) estimates a global rise in unemployment of between 5.3 million ("Low case") and 24.7 million ("High case") as a result of the pandemic signaling that sustaining business operations will be extremely difficult for small and medium sized enterprises (SMEs) in particular.

The World Trade Organization (WTO) reported a decline in the volume of global merchandise trade in Q₁ 2020 by 3% year-on-year, and expects an unprecedented decline in Q₂ of 18.5%, likely leading to a drop of 32% over 2020. In Nigeria Price water-house coopers (PWC) International Ltd. Working with organizations and government agencies in a bid to help SMEs prepare and respond to the different scenarios emerging as a result of the COVID-19 pandemic focused on six key areas for Businesses to tackle. These include crisis management and response, the workforce, operations and supply chain, finance and liquidity, tax, trade and regulatory, and finally strategy and brand (PWC, 2020).

Klynveld Peat Marwick Goerdeler (KPMG) offered cues from KPMG leaders to enable entrepreneurs cope and position businesses to be resilient in the face of the COVID-19 pandemic and any other future global threat, some areas covered include Business impact series, customer first approach during unprecedented times, cyber and fraud risk, the impact of COVID-19 on the Nigerian consumer, COVID-19 support measures from the CBN, COVID-19 and the Nigerian Telecommunications, Media, Cyber security, going concern considerations, the impact of COVID-19 on the banking sector, KPMG News letter (issue 7)- Navigating the pandemic amongst others. This paper examines the effect of the corona virus pandemic on businesses in Nigeria, proffering measures to cushion the negative impact on these enterprises.

1.2 STATEMENT OF THE PROBLEM

The corona virus pandemic (COVID-19) has affected supply chains globally, crude oil prices have dropped drastically around the world, stock exchanges and financial markets globally are responding negatively to heightened uncertainties, sporting and entertainment events have been cancelled all over the world, travel bans and restriction of air flights and movement of people have been put in place across borders through land, sea and rail routes globally. Governments all over the world have put up measures to curtail the spread of COVID-19 through lockdown measures (Partial or total), health and safety measures, policies in trade and commerce amongst others. Nigeria is not left out in this battle (Bako, Y.A & Olopade, O.J, 2020).

Households and micro, small and medium sized enterprises are the hardest hit by the effect of the pandemic. Businesses therefore require a review of their processes in other to continue as going concerns because of the pivotal role they play in boosting economic development being growth supporting sectors of the economy. Nigeria before this pandemic has suffered various challenging crisis, raising questions regarding her status as the giant of Africa, these limitations have further been exposed by the COVID-19 pandemic revealing gaps in the society, business sector and government, showing years of non-functionality of key sectors. (Mckinsey, 2020).

Other economies globally are focusing on measures to close up the gaps resulting from the effect preserve life foremost in the health sector is also implementing re-opening strategies for all sectors of the economy. KPMG Business leaders offered cues for businesses to take to cushion the impact of the pandemic, some of which are examined in this study. They include Covid-19: A Business Impact Series: Financial, Tax and Regulatory considerations to manage COVID-19, , The Twin Shocks(COVID-19 Pandemic & Oil Price Crisis) and Implications for Nigerian Family Businesses amongst others. This study examines the impact of COVID -19 on Businesses in Nigeria.

1.3 PURPOSE OF THE STUDY

The main aim of this study is to examine the effect of the corona virus pandemic on businesses in Nigeria.

The specific objectives are

1. To determine the extent to which banking sector index impacted on the All share Index of The NSE
2. To ascertain the extent of impact of Consumer Goods index on the All share index of The NSE
3. To ascertain the extent of impact of Industrial sector Index on the All share index of The NSE
4. To determine the extent to which Oil/Gas sector index impacted on the All share Index of The NSE

1.4 RESEARCH QUESTIONS

1. To what extent does Banking Sector Index Impact on the All Share Index of The NSE
2. To what extent does Consumer Goods Index Impact on the All Share Index of The NSE
3. To what extent does Industrial Sector Index Impact on the All Share Index of The NSE
4. To what extent does Oil/Gas Sector Index Impact on the All Share Index of The NSE

1.5 HYPOTHESES

The following hypotheses were formulated for this study.

Ho₁: Banking Sector Index has not significantly impacted on the All Share Index of the NSE

Ho₂: Consumer goods Index did not significantly impact on the All Share Index of the NSE

Ho₃: Industrial Sector Index has not significantly impacted on the All Share Index of the NSE

Ho₄: Oil/Gas Sector Index has not significantly impacted on the All Share Index of the NSE

2.0 LITERATURE REVIEW

Corona viruses (Cov) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and severe Acute Respiratory Syndrome (SARS). A novel corona virus (CoV) is a new strain that has not been previously identified in humans (WHO, 2020). Corona viruses are zoonotic, meaning they are transmitted between animals and people. Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death (WHO, 2020).

Standard recommendations to prevent spread of the disease include washing hands regularly with soap and running water, using alcohol based sanitizers, covering mouth and nose when coughing or sneezing, avoid close contact with anyone showing symptoms of respiratory illnesses such as coughing and sneezing (LABMATE, 2020). The first report of the corona virus were delivered to the World Health Organization (WHO) in late December 2019, Health experts in Chinese city of Wuhan described it to have pneumonia- like symptoms. Since then, the disease has claimed more than 694,000 lives, global cases over 18 million as at August 2020 (Worldometer, 2020).

Corona Virus in Nigeria and Measures to Curb the Spread

The first case of corona virus disease covid-19 was confirmed by the Federal Ministry of Health in Lagos State on the 27th of February 2020. The case was an Italian, who works in Nigeria and returned from Milan in Italy to Lagos on the 25th of February, 2020. The virology laboratory of the Lagos State Teaching Hospital which is part of the network of Nigeria Center for Disease Control (NCDC) confirmed the case (Wikipedia, 2020). The NCDC was set up as a national emergency operations center to control and contain the spread of covid-19 in Nigeria, the centre urged Nigerians to follow precautionary measures such as regularly and thoroughly washing hand with soap and water, and the use of alcohol based sanitizers, maintaining social distances in public spaces, stay at home measures for persons with cough or sneezing symptoms, following good respiratory hygiene such as covering your mouth and nose with tissue when you cough or sneeze and dispose tissue after use, or using sleeve f clothing , bending elbows to sneeze. Contacting the NCDC toll free number to report if citizens feel unwell with symptoms like fever, cough and difficulty in breathing, staying informed on latest developments about COVID-19 (NCDC, 2020). After the first case, cases have raised every day. As at 23rd April, the nation had 873 confirmed cases and 48 deaths (Wikipedia, 2020).

A sweeping quarantine was implemented for three major states to help contain the spread of the novel corona virus in Nigeria. The President Mohammadu Buhari announced a 14-day lockdown in Lagos Ogun and the nation's capital Abuja (Mbah,F, 2020).

The lockdown was however extended on the 13th of April 2020 by president Buhari in an address from the state house Abuja telling Nigerians about the state of affairs of the nation and measures taken to curb the spread of COVID-19. Some measures taken included: beefing up the health sector with equipment to intensify case identification, testing, isolation and contact tracing of infected persons. Testing laboratories were doubled, over 7000 healthcare workers were trained on infection prevention and control and NCDC teams were deployed to 19 states of the Federation. State governments, media houses, celebrities, public figures all partook in sensitizing of citizens on hygienic practices, social distancing and issues associated with social gatherings to curb the spread of the dreaded disease. The government of Nigeria to ease the pains of the restrictive policies during the lockdown provided palliative measures such as food distribution, cash transfers, and loan repayment waivers. Security agencies were also ordered to maintain vigilance and enforce the restrictive orders by the president.

Easing the corona virus Lockdown in Nigeria

Easing the corona virus lock down imposed on Nigeria's key urban areas in a bid to restart Africa's largest economy took off on the 4th of May, 2020. The nation's economy is predicted to suffer because of the collapse in the oil price. Standard Chartered Bank which forecasted that the economy will grow by 2.5% refracted that forecast and predicted that because of the impact of the corona virus the growth of the economy this year will only be 0.2%. the Nigerian government has since revised its budget for the year, slashing its revenue projection by about 40% and applying for emergency support from the International Monetary Fund of \$3.4bn (£2.7bn). (Orginmo N, 2020). The country's economy will be hard hit by the pandemic since over 90% of its workforce is employed in the informal sector with no access to government support. Small companies have been hardest hit and many have been forced to lay off staff with no help from

the government, since government targeted only the most vulnerable groups as beneficiaries of the covid-19 palliatives (Oliisah C, 2020).

The Minister for Industry, Trade and Investment, Amb. Mariam Katagum. (PM News, 2020).

The debilitating business climate in the country occasioned by the outbreak of corona virus pandemic and shrinking profitability of many business concerns have led to massive 32,000 requests for loan restructuring by bank customer (Business am live, 2020). The deputy governor, financial systems stability department CBN, Aisha Ahmad said 17 Commercial Banks have submitted request as at July, 2020 to restructure over 32000 loans for individuals and businesses impacted by Covid-19 pandemic. The pandemic according to the World Bank has become a threat in the banking sector and could push another five million Nigerians into the poverty bracket. The 32,000 loan requests for individuals and businesses represent 32% of total industry loan portfolio, with the manufacturing and general commerce sectors constituting the bulk of the restructured facilities (PM News, 2020).

The Effect of COVID-19 on Businesses in Nigeria

Financial, Tax and Regulatory Anticipations in Managing Covid-19 Disruptions

In the wake of the Covid-19 disruptions on business concerns globally, the following thoughts should be upper most on the minds of business operators in these trying times (KPMG, 2020).

1. Cash Flow Management

As businesses witness a fall in revenues and debtors delay in making payments because of the pandemic, effective cash flow management is key. Sources to explore include emergency funding through loans, existing cash pooling arrangements or equity. Tax returns can be delayed. The FIRs and some state tax authorities have extended deadlines in response to the crisis.

2. Strong Compliance Processes and Administration

This may not be easy since most staffs are working from home and business owners are focused on the survival of their businesses. The business will have to maintain company secretarial and general governance obligations while working from home. Organizations will need to put the following measures in place:

- Existing business continuity plans may not be feasible in handling a pandemic of this nature, incident management and scenario plans that are specific to this crisis will have to be developed. (PWC, 2020)
- Focus on factually and effectively communicating to stakeholders for example it is the duty of public companies to disclose information about large scale office closures to the general public.
- Plan on how to meet government priorities by keeping up to date with new COVID-19 related reliefs from governments and tax authorities.
- Assess remote working strategy including asking employees to temporally stop work or work remotely or relocate. thoughts about the business maintaining regulatory compliance across the value chain eg. Cyber security, trading, supervision, data privacy regulations.

- Considering and addressing tax impact of contractual variations, changes to payment terms and orders, terminations and other similar events.

3. **Workforce**

Issues to address include how to support remote working at scale:

- Attend to immediate global mobility concerns such as reviewing travel rules, HR policies and first-aid plans. Expatriates working in Nigeria who have had to be evacuated because of the crisis need to be taken into consideration, in terms of relocation plans, working from another location, immigration requirements, extension of business visas and temporary working permits, local filling requirements, tax consequences etc. (KPMG, 2020).

All over Nigeria, because of the lockdowns most employees are working from home. Special arrangements like rotational shifts have been made. Key considerations here include:

- Relevant employment laws covering employees which address liability in the event of accidents and injuries sustained while working from home.
- Extra pay from employers covering extra utility expenses such as internet, electricity etc. Organizations need to address strains on a firm's existing information technology communications infrastructure to support remote working. (KPMG, 2020).

4. **The Effect of Travel Restrictions for Directors Unable to Attend Board Meeting**

The evaluation of citizen's resident in other countries, and travel bans have affected physical attendance at board meeting. One key issue to consider is:

- Are virtual meetings allowed where directors cannot attend meetings in person, as stipulated by the companies and Allied Matters Act (CAMA) and other regulations like those issued by the Nigerian Stock Exchange (NSE)? Is it necessary to have a quorum meeting physically in one place with others dialing in or can the meeting be entirely virtual?

5. **Effect on Supply Chain Disruptions**

The pandemic had affected supply chains; Lack of staff by suppliers or vendors due to illness or lockdown, disruption of transport routes, import or export bans insolvencies etc. Measures to take are:

- Identify alternate supply chain scenarios: Switch suppliers or selling channels, a change in the quantity or type of product or services bought or sold may come in play, transport routes will need to be modified (KPMG, 2020).
- Activate preapproved parts or raw-materials substitution: Adapt allocations to customers and pricing strategies taking into consideration indirect tax consequences. The impact on a group's transfer pricing policy if profitability changes due to supply shocks and new prices for inputs and or changed demand and pricing on outputs are some considerations for businesses in these trying times (KPMG, 2020).

Economic and Regulatory Measures Taken By The Federal Government Against Covid-19

The Federal Government ordered cessation of movement in Nigeria's commercial cities Lagos, Ogun and the FCT on the 30th of March, 2020, to curb the spread of COVID-19. Essential services like hospitals and medical related establishments, health care related manufacturing and distribution, telecommunications companies, broadcasters, print and electronic media staff were exempted from the restrictions. All seaports in Lagos remained operational within guidelines. Relief materials were distributed all around Lagos and Abuja as easing measures. (KMPG, 2020). Moratorium was extended for FG funded loans with repayment in 3 months to all Trader Moni, Market Moni and Farmer Moni loans as well as FG funded loans issued by the Banks of industry, Bank of Agriculture and the Nigerian Export-Import Bank (KMPG, 2020).

A Presidential Task Force (PTF) was created as a National response body against COVID-19. The FG directed all ministers to develop a comprehensive policy for a "Nigerian economy functioning with COVID-19".

The ministers are to be supported by the Presidential Economic Advisory Council and Economic sustainability committee in carrying out the mandate. The Minister of Agriculture and Rural Development, the National Security Adviser, the Vice Chairman National Food Security Council and the Chairman Presidential Fertilizer initiative are to work with the PTF on COVID-19 to minimize the impact of the pandemic on the nation's 2020 farming season. (PWC, 2020).

The Federal Capital Territory Internal Revenue Service (FCT-IRS) extended the deadline for filling of Personal Income Tax (PIT) returns by 3 months from 31 March, 2020 to 30 June 2020, in response to the disruptions to businesses brought by the COVID-19 Pandemic.

The Naira depreciated in value and dropped to its weakest level since February, 2017 as recorded by the parallel market (Black market). N20, 000 cash relief were transferred by the FG to poor households as covid-19 easing reliefs.

Impact of Covid-19 on the Nigerian Consumer and Industrial Markets

The pandemic has worsened the Nigerian economy making her more vulnerable, because of high dependence on imports especially Chinese imports. The National bureau of statistics reports that in 2019, raw materials constituted 70% of the total imports from China into Nigeria. Asia and Europe contributed 86% of Nigeria's imports in Q4 2014 (KPMG, 2020). The lockdown restrictions, and cross border trade bans have significantly distorted supply chains, this will in turn affect the Nigerian consumer and industrial markets.

Fast Moving Consumer Goods (FMCG)

Companies that supply low-cost products that is in constant demand fall in this sector. Products include food and beverages, home and personal care, pharmaceuticals etc. The shelf life of these products is short and they are non-durables hence the term fast moving. The FMCG sector contributes about 5% of Nigeria's Gross Domestic Product (GDP) according to NBS foreign trade in goods statistics (Q4 2019). Also FCMGs constitutes 17% of the total value of equity on the NSE according to NSE market capitalization report for December, 2019 (KPMG, 2020).

The FMCGs sector has experienced a mixed impact due to the lockdown and FOREX devaluation from falling crude oil prices, though the sector is operational since it falls in the group of essential product and service providers (KPMG, 2020).

The impact on the FMCGs sector and key policy recommendations are as follows as stipulated by Klynveld Peat Marwick Goerdeler (KPMG) business leaders.

SUPPLY SIDE OF CONSUMER GOODS

- i) **Production shutdown:-**This highly impacted on the FMCGs. The lockdowns resulted in the discontinuation of production activities except for essential items.
- ii) **Supply Chain Disruption/Higher Cost of imported Raw-Materials:-**This was highly felt because of restrictions on the flow of people and goods locally and internationally, While the devaluation of the naira will affect imported raw materials, alternative measures have to be taken, using local suppliers even though they may be expensive and checking the cost implications of the business are some response measures to be taken.
- iii) **Route-To-Market (RTM) Challenges:-**The lockdowns affected movements; even companies moving essential products through wholesalers faced difficulties because of transportation constraints and limited visibility of open retail outlets. This highly impacted this sector. Policy recommendations here are to maximize e-commerce, integrate delivery services and fintech in operations.

DEMAND SIDE FOR CONSUMER GOODS

- i) **Fluctuations in Demand:** FMCGs were highly impacted by the COVID-19 Pandemic which affected purchasing power of consumers. Panic buying of essential items brought about increased demand; consumers became conservative in spending because of the raging uncertainties.
- ii) **Price Revisions:** The market was highly affected by price hikes in essential items and other products. On the other hand companies producing non-essential items may have to provide incentives such as price discounts to spur discretionary spending.
- iii) **Security Challenges:** The security situation in Nigeria was made worse as a result of the hunger crisis, because of the lockdowns. Job losses will heighten the unemployment situation in the country further disrupting the RTM strategies of FMCGs.
- iv) **Cash Flow:** A very high impact was felt which makes cash management strategies very crucial for businesses to maintain continuity. The fall in expected cash-flows has affected the FMCGs ability to fund operating costs. A slash in costs, administrative, overhead, and deferment are imperative.
- v) **Finance Cost:** The impact on finance is high as FMCGs will be less able to fulfill their debt obligations and liquidity positions deteriorate due to reduced cash flows. Business failure is envisaged for some companies. The FGN's intervention on loan moratoriums to assist financial position of companies to cushion the effect of the COVID-19 Pandemic will hopefully help in the survival of companies in Nigeria.

Recommendations for FMCGs Industry Players

- i) **Customer Care:** Businesses should take the pulse of their customers. in the short-term implement health and safety measures for employees, set up necessary technologies and guidelines to assist with remote working, reassure customers of continuity of services, effective digital delivery services is essential, contribute cash and products and join in the fight against COVID-19 to maintain customers confidence and investors as well.
In the medium to long run leverage on logistics partners, build sales force tough virtual trainings and other infrastructure; strengthen sustainability strategies for the business
- ii) **Tax, trade and Regulatory Policies:** In the short term, Deferral of Income Tax payments for small and medium companies by the Federal Inland Revenue services (FIRs).
In the medium to long run – Temporary relief or suspension of payments of outstanding tax obligations, Temporary reduction in tax rates or exemptions of business from some specific taxes eg. VAT, CIT etc, Development of tax recovery measures.
- iii) **Finance and Liquidity:** In the short term FMCG industry players can improve liquidity and working capital by assessing short to medium term intervention credit facilities at low interest rates. In the long run, banks to grant moratorium on existing long term loans restructure FMCGs loans in line with current realities. Businesses should take adequate insurance coverage against extreme business disruptions
- iv) **Support for final consumers:** In the short run consumers should have price controls for food and medical supplies, commission waivers on local currency electronic fund transfers, moratorium on debt payments on commercial bank and government loans. In the medium to long run, pension payments to final consumers whose jobs have been impacted by COVID-19 should be accelerated. PIT reduction/exemptions, effective implementation of unemployment insurance benefits.

INDUSTRIAL MARKETS

Companies in building and construction (B&C) and packaging and containers (P&C) make up this sector. They are largely driven by government policies and infrastructure spends. Recently foreign building and construction firms have come in to partner with government to bridge the infrastructure gap in this sector. 2019 Q3 GDP shows 11% growth in the cement sub-sector, YOY growth is 6.87%. The B&C is predicted to grow to N9.5 trillion by 2021. There is strong competition in the domestic market because of border closures on exports (KPMG, 2020)

The sector was impacted by the pandemic in the following ways as highlighted by KPMG Business leaders:

1. **Production:** High impact on production. The lockdown affected some industries which were shut down. P & C production for essential goods may continue in the short term but there's likely to be shortage of raw materials in the medium to long term. Containment of the Pandemic will determine resumption of ongoing projects.
2. **Demand Slowdown:** Ongoing infrastructure projects were affected by the lockdown due to dwindling government revenue. The demand/supply disruptions in the FMCGs sector has slowed down the demand for P & C. Exports have been negatively impacted even before the pandemic by the border initiative of the FGN
3. **Cash Flow Constrains:** Contractions in cash flow was experienced across players. Debtor's payback period is expected to elongate, inventory buildup is anticipated. Cost

management strategies will be the best strategy for industry players to implement to ensure survival.

4. **Supply Chain Disruptions:-** The impact here was medium because of delays in ongoing and planned expansionary and maintenance projects/investments. The sector experienced delays in clearing goods (other inputs, machinery, etc) at the port and banking instruments. There may be shortages for packaging businesses in the middle term. Raw materials were largely locally sourced via backward integration for cement.
5. **Work/Labor Force** experienced high constraints due to movement restrictions. Some expatriates required for key operations left the country. The sector is likely to experience salary freeze and cuts during and after the crises.
6. **Product Price:** The sector will experience high product costs; price reduction is expected as producers seek to spur demand in the short and medium term.
7. **Finance Cost:** The effect here is medium. Deteriorating liquidity positions due to reduced cash flows will restrict industry players from fulfilling their debt obligations. Funding is primary, players here are better able to access funding and renegotiate existing loan terms. Companies should seek financial advice on restructuring measures that will support negotiations with lenders in line with current market realities.

Recommendations for Industrial Markets

- i) **Tax and Regulatory:** Take advantage of tax filling extensions by FIRs, payroll tax relief for staff retention among others in the short run. Apply for tax holiday, advocate for more relief and harmonization on multiple layers of tax and levies in the medium to long term.
- ii) **Liquidity and Working Capital:** Renegotiate bank facilities based on CBN regulations. Monitor cash flow and expenses to ensure sustainability in the short term, in the long term manage communications and interactions with relevant stakeholders, landlords and tax authorities. Explore alternative financing options with investors/financiers; rebuild trust with stakeholders to support sustainable financial restructuring.
- iii) **Supply Chain:** In the short term improve stock management, replenishment and distribution model. Use direct to customer strategies to ensure constant supply of products and enhance profitability. In the medium to long term realignments of supply chains by partnering with logistic service providers or other stakeholders to ease supply challenges. Directly and indirectly explore multiple supply options.
- iv) **Support for end customer:** Price reduction to spur demand, engage customers through on-line channels in the short-term while in the long term business operations needs digitization and automation of marketing efforts.

Insights for Industry Players

- i) **Reposition the organization:** Continuous assessment and response to competitive intelligence ensure data driven decisions, inventory management, extend payables duration obtains cuts on existing contracts in the short term. In the long term explore leading edge automation of manufacturing processes, functional digital transformation across the value chain. Data driven approaches to audits or monitoring high spend or high risk areas, monitor ongoing cyber fraud etc.

- ii) **Workforce/People:** Provide adequate support for remote working, including reimbursements for data and power cost, provide frame work to guide remote working, set up a COVID-19 response team, ensure regular and transparent communication with staff and union on developments in the short run, also provide protective gear such as masks, gloves for employees going to work. Provide extra compensation for front line employees or those who have to physically report at work amongst others. In the long term, Align performance management and target setting to the new normal, use on-line training and development tools to drive cost effective learning, review compensation models in line with reality.

AGRIC BUSINESS SECTOR

This sector had a market size of N31.9 trillion in 2019. real GDP contribution was 25.2% in 2019 vs. 25.1% in 2018. The sector employed 35.1% of total employment in Nigeria in 2019. Capital importation in agriculture sector (percent of total FD1) in 2019 was US \$489.9 million and 2% total capital importation. Agric business value chain has been classified into: Input producers (IPs), Agriculture Production (APD) and Agro-Processors (APRs). Agriculture output segments contribution to GDP is Crop (88%), livestock (7%), Aqua-culture (4%) and Forestry (1%), (KPMG, 2020).

Impact and Recommendations for Agric Business

- i) **Cash Flow Constraints:** The IPs experienced high constraints, APD (low) and APRs medium. Most of the Agric business entities are SMEs with minimal cash flow buffer to meet sudden increase in working capital requirements required for credit extensions to farmers and customers which will be necessary to buffer falling revenues arising from the crisis.
- ii) **Production Shut-Down:** Effect on IPs (High), APD (low), APRs (medium). APDs were affected by the lockdowns; APRs and IPs were exempted as essentials service providers. Food scarcity and shortage were experienced because of the effect and shortage in essential inputs for agriculture production.
- iii) **Supply Chain Disruptions:** IPs (High) APD (medium) and APRs (High). Challenges were experienced around supply chain and logistics of transportation even for essential businesses, negatively impacting on the demand and supply value chain for Agricultural products.
- iv) **Labor Force:** IPs (high impact) APD (low) APRs (High). Staff redundancies are expected amongst IPs and APRs, most of which were shut down. Contract labor arrangements are expected to increase post-COVID-19, which will affect permanent labor.
- v) **Movement Restrictions (Lockdown):** The IPs were highly affected, APDs (medium) APRs (high impact). Food shortages were cushioned by FGs response to release grains from national strategic reserves and social interventions from various State Governments and private organizations. However, there was an upsurge in food prices.
- vi) **Insecurity and Unrest:** Impact on IPs (medium), APDs (high) APRs (High). Increased insecurity and unrest across the nation because of the resulting hunger crisis

and shrinking income posed significant threats on players in the Agric business value chain.

Recommendation for Agric-Industry Players

Companies should take advantage of the various stimulus packages from the FGN, to support cash flow and working capital, optimize costs, and Review existing contracts to ensure optimal value for money, consider various supply chain logistics and RTM initiatives to combat the effect of COVID-19.

RETAIL AND E-COMMERCE IMPACT

The formal retail businesses and online trading of goods and services are the players here.

Recent challenges faced by the sector include: digital trust, distribution channels, high shipping cost, macro-economic issues, infrastructure challenges etc. the lockdown restrictions globally is a big threat on this industry (KPMG, 2020).

- i) **Supply Chain Disruption:** Highly impacted especially in transportation and distribution of goods domestically and internationally. Retailers of essential products witnessed supply chain disruptions. Security of essential service providers and their employees became a concern as they commuted during the period. The sector experienced a drop in sales, spending went up.
- ii) **Pressure on Alternate Distribution Channels:** There was a massive shift to online channels by consumers to procure essentials like groceries and other house hold items. The E-commerce sector was also plagued with short comings in the areas of delayed deliveries, poor customer services, questionable return policies, cyber fraud concerns affecting the confidence of customers. The E-commerce companies will need to equip their employees to manage operations remotely with little or no disruptions.
- iii) **A Fall in the Demand for Non-Essential Goods:-** Sales reduction were witnessed in the sector and the market is likely to crash since consumers will prefer to conserve cash due to the uncertainty of the duration of the crisis, if the pandemic lingers retailers and e-commerce businesses are faced with the risk of a drop in revenue.
- iv) **A Drop in Disposable Income:** The collapse of global oil price and the reduced demand because of the pandemic created a twin shock on the Nigerian economy which will result in increased liquidity issues, and foreign exchange pressure for government and consequently for businesses. This revenue pressure will lead to a decline in disposable income for low/middle income earners thus affecting purchasing power.

Recommendation for this sector is same for players in the industrial sector.

IMPACT OF COVID-19 ON THE NIGERIAN TELECOMMUNICATION, MEDIA AND TECHNOLOGY (TMT) SECTOR

Telecoms service globally have seen a significant increase in demand since the advent of COVID-19, as consumers had to depend on these services to work from home, maintain social ties, access entertainment and training among others (KPMG, 2020). Businesses have also had to rely on telecom services to work from home and carry out operations.

The Nigerian telecoms industry is experiencing a boom like other developed countries because of the lockdown. On the media front there has been rising demand for existing content and stagnation of new content creation as a result of the pandemic. Demand for TV programs like

DSTV streaming, Neltlix, Youtube and on-line gaming continues to rise. On the other hand, movie productions and premieres, live broadcast of major sporting events like NBA, football and even the Tokyo 2020 Olympics have been postponed. Commercial advertising has also witnessed a down turn since most brands are engaging in pandemic related public enlightenment campaigns across the media alongside government and engaging in COVID-19 relief distribution as a strategy to project the brands positively. The impact on the technology (tech) sector can be viewed from three angles – Hardware soft ware and information technology (IT). The hardware segment experienced reduced activity due to supply chain disruptions causing limited availability of hardware and delayed launch of new products. This segment is predicted to witness a decline in revenue. The software, sub sector on the other hand is receiving a boost; the social restrictions have revolutionized business interactions, learning, work and play. Teleconferencing tools like zoom, Microsoft teams and Skype have reported a sky rocket in the daily and monthly average usage as users have had to look to technology to stay in touch for business, educational and social needs. The implication is an increase in revenues, share values and investor confidence. In Nigeria, the financial technology (Fintech) sector particularly the mobile payment solution providers have seen an increase in usage, while some mobile learning providers like ulesson have seen a boost, tech based service providers like uber and bolt have been negatively impacted by the lockdown as their businesses were shut down. Hopefully the gradual easing of the lockdowns will improve the situation for these service providers.

OIL & GAS INDUSTRY AND NIGERIAN FAMILY BUSINESSES

This section looks at the twin shocks of COVID-19 and their impact on Nigerian Businesses. The Nation is currently experiencing the twin shocks of COVID-19. businesses are currently experiencing the following challenges as a result of the COVID-19 pandemic.

- **Supply Chain Disruptions:** this was because of movement restrictions locally and internationally.
- **Greater reliance on digital channels:** causing pressure on technology infrastructure and resources
- **Worries about the continuity of business**
- **Administrative changes**
- **Revenue falls:** caused by reduced demand
- **Liquidity challenges:** due to cash flow disruptions
- **Increased fraud and cyber threats**
- **Reduced Profit levels**
- **Losses:** losses due to devaluation of foreign exchange etc

The period of the lockdown affected households and SMEs the most. Businesses experienced a slowdown in their activities, there was disruption in the work force as most companies were shut down, employees productivity declined, processes were disrupted because of bans and restrictions, most companies had to look at alternative supply channels for raw materials and spare parts needed. On the other hand e- commerce had a boost. Digitization became a necessity for businesses to maintain their processes.

The oil and gas sector however experienced positive impact on price variations of key raw materials cash flow and supply chains were negatively impacted by the pandemic, the labor force and consumer sentiments were moderately affected (KPMG, 2020).

The decline in crude oil prices and the impact of the COVID-19 pandemic resulted to a twin shock on the Nigerian economy causing a further deterioration in the value of the naira. The uncertainties resulting from the shocks are further devaluing the naira. The OIL/Gas industry is highly regulated by government policies. The recommendations for operations in this sector are:

- Hedging against price fluctuations of output
- Introduce measures to cushion the effect of oil price reduction on cash flow
- Engage with trade unions to manage employees expectations
- Operate within social distancing norms

On the demand side

- Extend credit facilities to support customers with cash challenges
- Sensitize customers on possible price fluctuations and disruptions in services
- Implement policies for social distancing e.g use of face masks and gloves.

Nigeria Economic Sustainability Plan (NESP) Response to COVID-19

The Nigerian Economic sustainability plan (NESP) approved by the Federal Executive Council (FEC) on June 24th, 2020 was developed by the Economic Sustainability Committee (ESC), established by President Muhammadu Buhari on March 30th 2020. The committee chaired by the Vice President Yemi Osinbajo, comprises several cabinet Ministers as well as the Group Managing Director of the NNPC and governor of the Central Bank of Nigeria (CBN). The committee is charged with the following responsibilities (PWC, 2020).

- Development of a plan that responds robustly and appropriately to the challenges posed by the COVID-19 pandemic
- Identification of fiscal measures to enhance oil and non-oil government revenues and reduce non-essential spending
- Creation of a financial stimulus package for the Nigerian economy
- Articulation of specific measures to support the 36 States and the FCT, and very importantly,
- Support for MSMEs and the creation of jobs.

The NESP is driven by the following principles

1. **Local Content And Self Reliance:** The plan promotes local production, local services, local innovation, and use of local materials in line with the mandate of presidential executive order 5 of 2017, in the promotion of Nigerian content in contracts and science, engineering and technology, and also based on president Buhari's mantra to "produce what we eat and consume what we produce".
2. **Economic Stimulation:** ensuring liquidity, preventing business collapse, and starving off the worst impact of a potential recession.

3. **Job Preservation and Creation:** the NESP recommends carrying out labor intensive programs in key areas like housing, roads, agriculture, facility maintenance and direct labor interventions- all heavily utilizing local materials.
4. **Pro-Poor/ Vulnerable Focus:** the NESP will extend protection to vulnerable groups including women and persons living with disabilities. It will also cater for sectors of the economy that have been worst hit by the pandemic.

Key Interventions of the Plan

- **Mass Agricultural Program (MAP):** Providing farmlands in every State to create millions of direct and indirect job opportunities.
- **Infrastructure:** covers extensive public works and road construction program, as well as repair of major and rural roads using locally available materials like limestone, cement and granite which will also provide a platform for young Nigerians to be recruited and provide job opportunities. Also, the Mass Housing Program (MHP) is also in perspective, to deliver up to 300,000 homes every year. Young professionals and artisans are expected to organize themselves into small and medium scale co-operative businesses within the construction industry to develop these houses. This program will also prioritize the use of local labor and materials. Another component in infrastructural development is the installation of Solar Home Systems (SHS). Targeting 5 million households, serving about 25 million Nigerians not currently connected to the National grid. Solar equipment manufacturers will be required to set up production facilities in Nigeria to provide the needed materials. And finally in the area of investment in healthcare infrastructure, this will be done through a special intervention fund, as well as tapping into an existing World Bank facility (REDISSE Program) to support Covid-19 interventions in the States.
- **Informal sector support:** this will take the form of low interest loans, and the easing of procedures for registration, licensing, obtaining permits, etc. Mechanics, tailors artisans, petty traders and all other informal business people will be supported to grow their business.
- **Business support for MSMEs:** Payroll support will be given to designated sectors so that they can keep their employees and help maintain jobs; loan restructuring and moratorium for existing debt; low interest loans to local manufacturing industries for production in critical sectors like pharmaceutical industry, aviation, hotels and hospitality industry, private schools, road and transportation, technology firms, creatives etc. a guaranteed off take scheme for MSMEs will BE operational by making government a key purchaser of specific priority products made by MSMEs like Personal protection Equipment (PPEs), face masks, face shields. Processed foods, pharmaceuticals, etc
- **Technology:** The NESP will be a focus on digital identification of every Nigerian. Broad band connectivity will receive a boost thus helping to create jobs and opportunities for young Nigerians, a program in digital out sourcing will also be created to stimulate job creation.
- **National Social Investment Programs:** the plan will also see an increase in the number of cash transfer beneficiaries, N-power volunteers and sundry traders will benefit from small and micro loans through the market moni and trader moni schemes. the pre-existing

conditional cash transfers for extremely poor and vulnerable Nigerians will also be extended.

Other areas include cut down on non-essential spending, reduction in average production costs of crude oil, non-critical and administrative capital spending will be eliminated. Only purchase of vehicles like ambulances, fire fighting vehicles and other essentials will be allowed. State governments are expected to collaborate with Federal government on the projects outlined on the plan; the plan provides for negotiation of suspension of ISPO payments by States, moratoriums in respect of bailout loans and urges States to adhere to the outlined conditions by SIFTAS and other World Bank Programs, in order to access external support (PWC, 2020).

Positive Potentials of the COVID-19 Pandemic

1) **A Cleaner World:** to prevent the spread of COVID-19 globally, lockdown measures were enforced which led to businesses being shut, factories closed, social movement restricted and transportation brought to a halt. This led to a drop in global green house gas emissions. As the burning of fossil fuels reduces, carbon footprints have lessened and air quality has improved significantly (Ajifowole, M.G, 2020). Canals and oceans across major cities of the world are cleaner, escaping the usual pollution from daily human activity.

2) **Improved Hygiene:** the necessity for people to take safety measures like washing hands regularly and sanitizing surfaces to keep corona virus at bay has led to physical well being and improved hygiene.

3) **Private Sector rise to social cause:** Nigeria's private sector has made significant financial contributions through the special fund set up by the Central Bank. The Private sector has stepped up to collaborate with government in the fight against COVID-19. Business organizations have contributed to the production of needed materials such as ventilators, sanitizers, PPEs etc. to support government in the battle against COVID-19.

4) **Digital Transformation:** digitization is the new normal. In Nigeria according to SMEDAN Director Dr. Umaru Radda "The fortunate side of COVID-19 is the emergence of many enterprises in the area of information technology" (Onehi, V, 2020). The SMEDAN boss said a lot of MSMEs came up with a lot of innovations of face masks and hand sanitizers and a lot of other businesses. The pandemic has pushed everyone towards digital transformation across many sectors globally from the use of autonomous vehicles in delivery of goods in China to the adoption of on-line classrooms and educational platforms by schools and universities in Africa (Printec Team, 2020). Digital transformation has become number one priority for businesses and governments around the world. Work from home, social distancing and lockdown have forced organizations to invest and implement projects which accelerate digital transformation. Healthcare facilities are also expanding access to telemedicine or conference organizations holding remote events have become the new norm. Doing things digitally and bringing things up to speed has become the new normal. E-commerce and m-banking, self service kiosks, video conferencing, messaging and collaboration tools and other practical and exciting things technology has to offer to get things done (Printec Team, 2020). Adoption of on-line shopping would likely increase Post-COVID-19 boosting the e-commerce and Fintech segments of the economy.

- 5) **Employment/Job Creation:** New jobs are expected to be created in many sectors of the economy; the Agribusiness sector has huge potentials for employment. The FGN should increase intervention to this sector to boost employment in the nation (KMPG,2020).
- 6) **Partnerships and alliances:** the market demand patterns have been disturbed with extreme plunges in some cases and upward surge in others. SMEs need to form complementary alliances leveraging on each other's resources and capabilities, and transform into a stronger entity that can cater for current market demands to ensure their survival as well as help serve their communities and create positive PR. (Farouk, H. 2020).
- 7) **Government Aid:** government grants have become available at a global scale, prioritizing SMEs, start-ups and entrepreneurs. This is the best non-equity class of funding for these businesses to take advantage of and inject internally (Farouk, H. 2020).

Empirical Review

Bako,Y. A & Olapade, O.J (2020) in a study on The Effect of Global Pandemic virus (COVID-19) on Small Businesses in Ogun State: Experience from Abeokuta South L.G.A adopted a survey design, data were analyzed using regression technique and findings revealed that the lockdown policy by the government has drastically reduced the sales volume of the MSMEs as a result of weak purchasing power of their customers, lowered buying behavior has also affected the supply chain of Businesses. The study recommends that government should review the lockdown policy and return the economy to normal following health safety policies.

In a study by Ari Wijaya,O.Y (2020) on the Impact of COVID-19 on Micro, small and Medium Enterprises in East Java Province, Indonesia and Strategies for overcoming: Ad Interim, applying a qualitative approach, found the impact of the pandemic very large on the economy due to a sharp fall in revenue, and found a significant reduction in sales revenues from MSMEs up to 80%, and recommends Strategies to minimizing the impact of the pandemic as very crucial for businesses. Yanusa,T., Esomchi,O.S, Oyewole. E et al (2020), examined the Socio-Economic Impact of COVID-19 on the Economic Activities of Selected States in Nigeria, using a multistage sampling method, data were analyzed using regression analysis of variance (ANOVA). Findings revealed that the lockdown and restrictions were affecting the level of economic activities within the period of the study from March 2020 to May 2020. Change in customer patronage (CPL), price of spare part skyrocket to lockdown (PSL), rental shops and mall (RSM), had a significant but negative impact on the model, while banking service skeletal (BSK) and Income of transporters reduced (ITR), had a negative non-significant impact on the models due to the restrictions on movement. The rest of the variables Services limited to essential goods (SLE), Viewing centers /betting shops (VCB), Business indebtedness to perishable goods (BIL), lockdown policy affect supply and sales (LPS), Lockdown policy affect prices of goods and services (LPP), movement restricted to households (MRH), Inter State relationships on goods and services (SRG), Travelling fare skyrocket (TFS) had positive significant effect on the level of economic activities. The study predicts a negative impact on business activities should the pandemic linger on and if the lockdown policy is not lifted, in agreement with Ozili and Arun 2020, who argued that the COVID-19 pandemic has affected economic activities globally and will eventually lead to a global economic crisis, the study recommends that Federal government in collaboration with State governments should look at the fortunate side of the pandemic and create lasting programs that will transform and push all

sectors of the economy towards the long needed advancement and development. Emelife, G (2020).

3.0 METHODOLOGY

This paper examined the impact of the COVID-19 Pandemic on Businesses in Nigeria

The method used is Ordinary Least Squares analysis.

3.1 Variables

Dependent Variable: The NSE All- Share Index (ASI) which is the overall market price

Independent Variables: The Sector Indexes were captured using the following variables

1. NSE Banking Index
2. NSE Consumer Goods Index
3. NSE Industrial Goods Index
4. NSE Oil/Gas Index

3.2 Data collection: Data were sourced from the Nigerian Stock Exchange Weekly data of market price viz a viz the all share index. The all share index was used against the sector index. The period of the study ranges from the period before the COVID-19 pandemic (Pre-COVID) FROM 17TH January 2020 to 20th March 2020 and the period during the lockdown from 3rd April 2020 to 5th June 2020.

3.3 Model Specification

This section formulates the model that assists in achieving the stated hypotheses

The NSE All Share Index which is the overall market price of all quoted shares on the NSE for the Pre- COVID period and during the COVID-19 pandemic against the variable which represents the sector indexes of Nigerian businesses represented as follows:

$$ALLSH=f(BKIND,CGIND,ININD,OGIND).....1$$

The OLS linear regression equation based on the above functional relation is:

$$ALLSH=\beta_1BKIND_t+\beta_2CGIND_t+\beta_3ININD_t+\beta_4OGIND_t+u_t.....2$$

Where:

ALLSH= The NSE All Share Index

BKIND=NSE Banking Index

CGIND=NSE Consumer Goods Index

ININD=NSE Industrial Goods Index

OGIND=NSE Oil/Gas Index

β_1 - β_4 = Parameters

u_t = Error term

4.0 RESULTS AND DISCUSSIONS

TABLE 1. PRE- COVID-19 FROM 17TH JANUARY TO 20TH MARCH 2020

Dependent Variable: ALLSH
 Method: Least Squares
 Date: 08/15/20 Time: 03:53
 Sample: 1 10
 Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1958.804	2544.504	0.769818	0.4762
BNIND	25.89662	3.753359	6.899583	0.0010
CGIND	5.324414	2.300233	2.314728	0.0685
ININD	6.336645	1.780745	3.558423	0.0162
OGIND	25.51177	19.61887	1.300369	0.2502
R-squared	0.998525	Mean dependent var		26873.03
Adjusted R-squared	0.997345	S.D. dependent var		2608.920
S.E. of regression	134.4231	Akaike info criterion		12.94671
Sum squared resid	90347.81	Schwarz criterion		13.09801
Log likelihood	-59.73357	Hannan-Quinn criter.		12.78075
F-statistic	846.2825	Durbin-Watson stat		1.312914
Prob(F-statistic)	0.000000			

Source: Weekly reports from NSE, 2020; Reject H_0 : if p value < 0.05, Accept H_0 : if p value \geq 0.05

TABLE 2. DURING THE COVID 19 FROM APRIL 3RD 2020 TO 5TH JUNE 2020

Dependent Variable: ALLSH
 Method: Least Squares
 Date: 08/15/20 Time: 03:42
 Sample: 1 10
 Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	551.2688	2476.042	0.222641	0.8326
BNIND	17.47502	12.50342	1.397619	0.2211
CGIND	22.42147	6.610098	3.392003	0.0194
ININD	0.056523	0.347371	0.162715	0.8771
OGIND	43.10590	14.15784	3.044666	0.0286
R-squared	0.981982	Mean dependent var		23442.62
Adjusted R-squared	0.967567	S.D. dependent var		1504.484
S.E. of regression	270.9461	Akaike info criterion		14.34857
Sum squared resid	367058.9	Schwarz criterion		14.49986
Log likelihood	-66.74285	Hannan-Quinn criter.		14.18260
F-statistic	68.12319	Durbin-Watson stat		1.852182
Prob(F-statistic)	0.000151			

Source: Weekly reports from NSE, 2020; Reject H_0 : if p value < 0.05, Accept H_0 : if p value \geq 0.05

H₀₁: Banking Sector Index has not significantly impacted on the All Share index of the NSE.

The OLS results from table 1 shows that the P value for the banking sector Pre-COVID is significant in the model as P value of 0.001 is less than 0.05 significance level indicating that banking sector significantly impacted the stock exchange all share index pre- COVID while the P value of 0.2211 from table 2 indicates that the banking sector index is not statistically significant during the COVID period as the P value is more than the 5% level of significance. This could mean that the banking sector was impacted by the pandemic, which affected their liquidity position, as most of the banks contributed huge sums as COVID relief donations to the FG, they were then short of funds, the banks experienced net work problems from pressure on the digital channels, challenges with staff welfare and safety, some banks laid off staff, the lockdown slowed down investments, projects were postponed, discretionary withdrawals by customers only for essential goods amongst other challenges.

H₀₂: Consumer Goods Index did not significantly impact on the All Share Index of the NSE.

The P value for consumer goods Pre-COVID from Table 1 is non- significant in the model as P value of 0.06 is more than 0.05 significance level; indicating that consumer goods did not significantly impact on the stock market all share index pre-COVID period. However from table 2, the P value for consumer goods index is significant in the model as the P value of 0.0194 is less than 5%. This shows that the consumer goods significantly impacted the stock market all share index during the COVID-19 lock down period. So we reject the null and accept the alternate. Consumer Goods – essentials were highly demanded during the period, there was panic buying exhausting the stock of goods in the market and almost causing a scarcity, non-essential goods however experienced reduced demand because of discretionary spending by consumers because of uncertainties about the duration of the lockdown.

H₀₃: Industrial sector Index has not significantly impacted on the all share Index of the NSE.

From Table 1 results show that the P value for industrial sector pre-COVID is significant in the model as the P value of 0.0162 is less than 0.05 level of significance; This indicates that industrial goods significantly impacted on the stock market all share index before the COVID - 19 lockdown period while results from table 2 show that during the COVID-19 lockdown period the sector had a P value of 0.8771 which is more than 5% indicating that industrial sector did not significantly impact on the stock market all share index during the COVID period. This was due to the lockdown restrictions, most companies were shut down, bringing a complete halt to manufacturing and production in some industries and there was also the difficulty of getting raw materials because of the disruptions in the supply chain, transport logistics, travel bans, import-export restrictions locally and internationally between countries globally during the lockdown.

H₀₄: Oil and Gas sector index has not significantly impacted on the all share index of the NSE

The P value for Oil and Gas Pre-COVID-19 is non-significant in the model as revealed by results from table 1 , as the P value of 0.2502 is more than 0.05. this indicates that oil and gas had not significantly impacted on the stock market all share index before the lockdown, this may be because of the fall in oil prices globally while during the lockdown period the oil and gas sector had a P value of 0.2502 which is more than 5% indicating that oil and gas had not significantly impact on the stock market all share index during the COVID-19 lock down period , this is as a result of the twin shock experienced by the sector from a fall in crude oil prices as well as the impact from the Covid-19 pandemic, further disrupting the market.

CONCLUSION AND RECOMMENDATIONS FOR GOVERNMENT ACROSS ALL SECTORS

The Pandemic has affected all sectors of the Nigerian economy and businesses will have to adjust to the new normal by restructuring and readjusting their processes to new realities. Investment in technology and infrastructure are vital as all operations are now digitalized. Government has to spend more on infrastructure and boost indigenous manufacturing to spur the economy towards growth and development by carrying out the following recommendations

1. **FMCGs:** Additional social relief packages should be distributed to vulnerable groups, gradual opening of markets and malls, develop local raw materials, increase spending in infrastructural development for rural and urban road and railway transportation. Reduce duties on imported raw materials critical to FMCGs; accelerate the growth of local manufacturing through special incentives for FMCGs.
2. **Industrial Markets:** Extend timeline for tax remittance, promote electronic channels for tax remittance, defer submission of supporting documents for tax filling, and exempt worst hit players from social security contributions such as ITF and NISTF.
3. **Agric Sector:** Reduction in interest rates, extend moratoriums and repayment holidays for credit facilities, classify transport logistics companies as essential services, develop a post COVID-19 response plan to use Agriculture to stimulate the economy. Grant PIT incentives to increase disposable income and spur demand.
4. **Retail and E-commerce:** government should suspend donations (monetary, goods and services) create incentives for retail product manufacturing. Direct Banks to give moratorium on existing long-term loans, refinance loans, gradually open up markets and malls within social distancing norms.

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POTENTIALS OF COVID-19 FOR ECONOMIC GREATNESS IN AGRICULTURE: THE NIGERIAN CASE

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ABSTRACT

The important benefits of the agricultural sector to the Nigerian economy are enormous; but with COVID-19 pandemic, the challenges hampering the attainment of food security in Nigeria could deepen. This is what necessitated this study; to among other things, investigate the impact of COVID-19 pandemic on the Nigerian agricultural sector. The study explored the e-survey multi-stage sampling technique of data collection. A well-structured questionnaire was electronically distributed to 245 respondents drawn from the five Southeast states ADPs comprising of Abia, Imo, Anambra, Ebonyi and Enugu states of Nigeria. The reliability of the instrument was determined using the Cronbach's Alpha coefficient. The study applied the mean, standard deviation, and the paired sample statistics to determine the effect of COVID-19 pandemic on the Nigerian agricultural sector. The findings of the study in answering the formulated research questions indicated that COVID-19, on average, influenced the Nigerian agricultural sector to a great extent. On the test for individual hypothesis, the result revealed that the pandemic exerted significant positive effect on Nigerian farmer's earnings, influenced economic greatness potentials of the Nigerian agricultural sector; exert a negative significant effect on agricultural productivity in Nigeria, and a positive insignificant effect on Nigeria's foreign exchange earnings through agricultural produce exportation. Also, the findings of the study revealed that the policies of the Nigerian government in response to the pandemic have significant effect on agricultural sector's contribution to Nigeria economic recovery and growth. The study concluded that COVID-19 pandemic, though has its negative impacts on the economy, but also became a window to the realization and opening of untapped potentials for economic greatness of the Nigerian agricultural sector. The study recommended among others, the sustainability of policies and intervention programmes of the government, with effective feedback mechanism to ensure that these programmes are not subverted.

Keyword: Agricultural Productivity, COVID-19 Pandemic, Nigerian economy.

1. INTRODUCTION

Evidently, from the history of human existence, humanity have been ravaged by disease outbreaks of varying degrees and magnitudes; which have in most cases altered the course of history; and as well redirect the set order and operational sequence that makes for effective and

mutual coexistence of humanity and the interaction between human and material resources in a global world.

There are many examples of global outbreaks in history; the most recent is the COVID-19 pandemic. COVID-19 began as an epidemic in China before making its way around the world in a matter of months and becoming a pandemic.

On January 23, 2020, the World Health Organization's International Health Regulations (IHR) Emergency Committee advised that "all countries should be prepared for containment, including active surveillance, early detection, isolation and case management, contact tracing and prevention of onward spread of 2019-nCoV infection, and to share full data with WHO." On January 30, 2020, the WHO declared COVID-19 to be a public health emergency of international concern (Dexit et al., 2020).

On February 27, 2020, the Federal Republic of Nigeria recorded its first case of the COVID 19, through an infected European business traveller who arrived Lagos, Nigeria for a series of business meetings. Over the course of the following weeks, the number of cases increased drastically and has shown no signs of slowing down. Discriminating against no one; the upper, middle and lower class, black, white, Hispanic, etc., with its effects on human lives and day to day activities nothing less than devastating (Bloomfield, 2020).

On March 11, 2020, the World Health Organization (WHO) characterized COVID-19 as a pandemic, pointing to over 3million cases and 207,973 deaths in 213 countries and territories (WHO, 2020). The outbreak no doubt, has not only constituted public health crisis in varying quarters, but has bedevilled the economic performance of nations.

Alterations orchestrated by disease outbreaks impede economic activities and international relatedness among nations. Notably, as stressed by Anton Pak *et al* (2020), significant economic impact has already occurred across the globe due to reduced productivity, loss of life, business closures, trade disruption, and decimation of the tourism industry. A global pandemic will have a serious supply-side impact – especially on foreign travel, manufacturing and investment. The uncertainty and decline in travel will also lead to people staying off work, losing income and causing a fall in demand (Tejvan, 2020).

As scholarly contended, COVID-19 may be that 'wake up' call for global leaders to intensify cooperation on epidemic preparedness and provide the necessary financing for international collective actions, both in curtailing the present pandemic, and in forestalling future outbreaks. Regrettably, there has been ample information on the expected economic and health costs of infectious disease outbreaks as posited by WHO (2019) and Yamey, G *et al.*, (2017); but the world has failed to adequately invest in preventive and preparedness measures to mitigate the risks of large epidemic outbreaks.

In the case of COVID-19, such international and governmental collaboration is vital, especially, as it relates to the clinical researches, in the development and production of a vaccine for the virus, and the success of medical and other scientific advances to contain it.

The Coalition for Epidemic Preparedness Innovations (CEPI), a global partnership launched in 2017, has traded global efforts in COVID-19 vaccine development activity and is advocating for

strong international cooperation to ensure that vaccine, when developed, will be manufactured in sufficient quantities and that equitable access will be provided to all nations regardless of ability to pay (Le TT, et al., 2020). While governments in both emerged and emerging economies are on the look-out for the development and production of a vaccine for COVID-19, stringent measures and policies have been formulated with the sole aim of curtailing its spread and to reduce person-to-person transmission.

The combination of policies such as social/physical distancing, lockdowns, and quarantines, imply a slowdown ties for an uncertain period of time, crashing markets and potentially leading to the closure of businesses, sending millions of workers home. Labour, a key factor of production, had been quarantined in most sectors in the economy, borders have been closed and global value chains have been disrupted. Most estimates show a contraction of the level of output globally (Constantino and Andy, 2020).

Nigeria, like most other developing countries, finds herself in perilous times faced with a twin-threat; the health crisis emanating from the COVID-19, and an economic crisis with an already rapidly contracting fiscal space amidst a global recession. Commendable efforts to contain the virus at home have been established, and intensions behind policy decisions are well reasoned and used elsewhere. However, literal implementation of measures pioneered elsewhere may instead clash with the fundamentals that drive the country's unique economic and social structures and could disproportionately impact its most vulnerable populations (UNDP, 2020).

The pandemic and efforts to contain it have triggered an unprecedented collapse in oil demand and a crash in oil prices, which is the major source of revenue for the Nigerian economy. While agricultural produce are well supplied nationally and globally, trade restrictions and supply chain disruptions could yet raise food security issues in some places. Low oil prices are likely to provide, at best, temporary initial support to growth once restrictions to economic activity are lifted. Low oil prices offer an opportunity to oil producers to diversify their economy.

The Nigerian agricultural sector holds the key to the country's drive for economic diversification. The sector has grown consistently at an average of 2.6% over the past three years. As at Q1 2020, agriculture accounted for about 22% of the Nigerian gross domestic product (GDP) compared to oil and gas (9.5%), manufacturing (9.7%), financial services (3.8%) and trade (16.1%). In addition, the agricultural sector remains the largest employer of labour in the country, providing jobs for more than one-third (86.4%) of the Nigerian labour force (PwC Nigeria, 2020). Nigeria is a major producer of some agricultural crops in the world. This is as a result of the diverse cash crop supporting soil and climate with which Nigeria is blessed with. From the North to South, East to the West of Nigeria, there are abundant varieties of agricultural products and resources that are found to grow and suitable for cultivation in the soils in the regions and states. Major crops include beans, rice, sesame, cashew nuts, cassava, cocoa beans, groundnuts, gum Arabic, kolanut, maize (corn), melon, millet, palm kernels, palm oil, plantain, rubber, sorghum, soya beans, bananas, yam, sugar cane, etc. (Abdulwal, 2020).

The important benefits of the agricultural sector to Nigeria's economy include: the provision of food, contribution to the gross domestic product (GDP), provision of employment, provision of raw materials for agro-allied industries, and generation of foreign earnings (Omobowale *et al.*, 2009).

With COVID-19, the challenges hampering the attainment of food security in Nigeria could deepen. The impact is already being felt in the form of rising food prices. By April 2020, food inflation had risen to 15% compared to 14.7% in December 2019. The intra and interstate movement restrictions could hinder farmers from accessing their farms in other state locations or procuring inputs such as seedlings and farm implements. Furthermore, the restrictions may hamper food distribution, which could result in post-harvest losses, reduced market supply and further increases in food prices. It is on this premise that this study is necessitated to investigate the potentials of COVID-19 for economic greatness in Agriculture; the Nigerian case. We will examine the impact of the COVID-19 pandemic on the Nigerian Agricultural sector, and as well, the effectiveness of some government policies on reducing the impact on Agriculture, and the extent the policies have fared. The specific objectives of this study will include the following:

1. To ascertain the extent to which COVID-19 has affected agricultural productivity in Nigeria.
2. To determine the extent to which COVID-19 has affected Nigeria's foreign exchange earnings through agricultural produce exportation.
3. To ascertain the extent to which Nigerian farmers' earnings have been affected by COVID-19 pandemic.
4. To determine the extent of economic greatness potentials that COVID-19 has on the Nigeria's Agricultural sector.
5. To ascertain the effectiveness of government's policies, in response to COVID-19, in enhancing Agricultural sector's contribution to economic recovery and growth.

Research Questions

The following research questions, which will serve as a guide for the study are formulated thus;

1. To what extent has Agricultural productivity in Nigeria been affected by COVID-19 pandemic?
2. How has Nigeria's foreign exchange earnings through Agricultural Produce exportation been affected by COVID-19 pandemic?
3. To what extent has the earnings of Nigerian farmers been affected by COVID-19 Pandemic?
4. How has the economic greatness potentials of the Nigerian Agricultural sector been influenced by COVID-19 Pandemic?
5. To what extent have government policies in response to COVID-19 affected Agricultural sector's contribution to economic recovery and growth?

Research Hypotheses

The following are the hypotheses of the study, and they are stated in the null;

1. Agricultural productivity in Nigeria is not significantly affected by COVID-19 pandemic.
2. Nigeria's foreign exchange earnings through Agricultural Produce exportation is not significantly affected by COVID-19 pandemic.

3. The earnings of Nigerian farmers is not significantly affected by COVID-19 Pandemic.
4. Economic greatness potentials of the Nigerian Agricultural sector has not been significantly influenced by COVID-19 Pandemic.
5. Nigerian government policies in response to COVID-19 have no significant effect on agricultural sector's contribution to economic recovery and growth.

Notably, a pandemic, as a form of a disaster is a complex and unpredictable situation that, may leave limited opportunities to conduct well planned, organized and controlled researches and experimental trials (Benight and McFarlane, 2007).

Available literatures on the subject matter reviewed in the course of this study were scanty with little or no adequate data for analysis. Some were unable to conduct comprehensive surveys to empirically substantiate their findings with generated data as it relates Nigerian farmers and COVID-19 pandemic. We viewed the lockdown and restricted movement imposed by various government before now, to curtail the spread of the virus, and the precarious situations the pandemic subjected people to, as a reason to this. It is this gap that this study has come to fill *inter alia*.

2. LITERATURE REVIEW

2.1 Conceptual Review

By definition, a pandemic is a global disease outbreak. An influenza pandemic occurs when a new influenza virus emerges for which there is little or no immunity in the human population and begins to spread efficiently from person to person, causing serious illness, sometimes resulting in death. Because of its potential to cause significant illness and death worldwide, experts believe that a global influenza pandemic will have a major negative impact on the global economy, including travel, trade, tourism, food, retail consumption and eventually, investment and financial markets (FRN, 2013).

Other notable pandemics in history

One of the most famous pandemics in human history was the Black Death, a global outbreak of bubonic plague between the years of 1346 and 1353. The disease is caused by the bacterium *Yersinia pestis*, and resulted in the death of somewhere between 30% and 60% of the population of Europe during the mid-14th century, although experts believe the disease originated in Central Asia decades earlier (Hickok, 2020).

The first cholera pandemic occurred in 1817 and originated in Russia, where 1 million people died, according to History.com. The bacterium was transmitted to British soldiers, who carried it into India and eventually the rest of the world.

The Russian flu of 1889 is considered the first major flu pandemic. It likely started in Siberia and Kazakhstan before making its way west to Europe and across the Atlantic Ocean to North America and later Africa. By the end of 1890, an estimated 360,000 people had died from the Russian flu, according to History.com.

HIV, which is the virus that causes AIDS, likely developed from a chimpanzee virus that was transferred to humans in West Africa in the 1920s. The virus made its way around the world and HIV/AIDS was a pandemic by the late 20th century. An estimated 35 million people have died

from the disease since its discovery, but medication developed in the 1990s now allows people with the disease to experience a normal life span with regular treatment. Even more encouraging, two people have been cured of HIV as of early 2020 (Owen, 2020; Hickok, 2020). Now thanks to advances in modern medicine, HIV is considered endemic, which means the rate of the disease is stable and predictable among certain populations, according to the American Medical Association, in Hickok (2020).

Characteristics and challenges of a pandemic

As posited by Pandemicflu.com in FRN (2013), the characteristics and challenges of a pandemic include the following:

- Rapid Worldwide Spread
- Health Care Systems Overloaded
- Medical Supplies Inadequate
- Economic and Social Disruption

WHAT HAS THE NIGERIAN GOVERNMENT DONE?

The Nigerian government has taken numerous health, social, and economic measures to cushion the impact of COVID-19. However, some of the policy responses have weaknesses and, taken together, are not commensurate with the magnitude of the problem.

The major strategic responses by the federal government as posited by *Dexit et al.*, (2020) include:

- **The Economic Stimulus Bill 2020.** The House of Representatives passed the Emergency Economic Stimulus Bill 2020 on March 24 to provide support to businesses and individual citizens of Nigeria. The proposed law aims to provide 50 percent tax rebates to businesses that are registered under the Companies and Allied Matters Act so they can use this saving to continue employing their current workers.
- **Cash transfers.** On April 1, 2020, the government announced that it will make transfers of 20,000 Naira (\$52) to poor and vulnerable households registered in the National Social Register (NSR).
- **Central Bank of Nigeria stimulus package.** The CBN's stimulus package offers a credit of 3 million Naira to poor families impacted by COVID-19.
- **Food assistance.** After President Buhari imposed the lockdown in Lagos, FCT, and Ogun states on April 1, 2020, the Federal Ministry of Humanitarian Affairs Disaster Management and Social Development announced that it will provide food rations to vulnerable households in these states.

The Concept of Agricultural Productivity

Agricultural Productivity, according to Wiebe (2003), is a measure of the amount of agricultural output produced for a given amount of inputs, such as an index of multiple outputs divided by an index of multiple inputs (e.g., the value of all farm outputs divided by the value of all farm inputs).

The index-number approach to studying productivity estimates total factor productivity (TFP), which measures levels and changes in agricultural output relative to changes in an aggregated index of multiple inputs.

The inputs, as opined by Wiebe (2003), have been classified as follows:

- Conventional inputs: Land, Labor, Livestock, Tractors, Fertilizer
- Labor quality: Life expectancy, Adult illiteracy
- Institutional quality: Armed conflict
- Infrastructure: Road density
- Land quality: Annual rainfall, Percent arable or permanently cropped, Percent not irrigated, Good soils and climate

Factors that Affect Agricultural Productivity

As contended by Tanja (2020), a number of different factors can cause agricultural productivity to increase or decrease. It is important to note that productivity is not an absolute measure, but rather a reflection of the ratio between inputs and outputs. A field that produces twice as much of some crop as it did in a previous year is not necessarily twice as productive; if the farmer spent twice as much on that field, the net change in productivity would be zero.

Factors that affect farm productivity and often can't be in the control of the farmer, according to Tanja (2020) are:

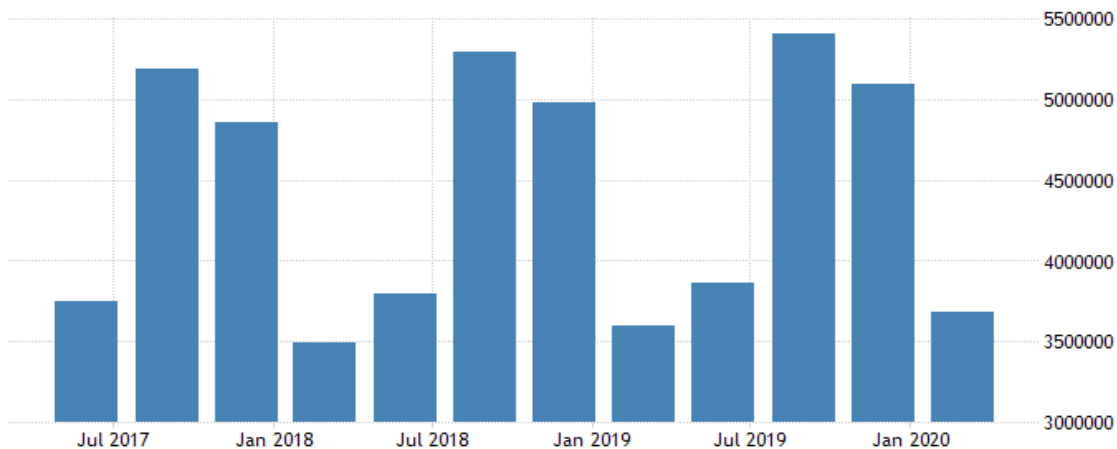
- **Weather** - unusual weather patterns, such as drought, a prolonged rainy season, early or late frosts and other factors can ruin crops and bring productivity down
- **The Capacity of a Given Farm** - soil can't be forced to produce beyond capacity, although there are methods that can be used to improve production capacity, such as proper fertilizing to add nutrients to the soil so that it can support more crops
- **Pests** occurred or not by certain weather conditions - in addition to spoiling crops, pests can add significantly to the costs of producing a crop. Controlling them may require measures such as fencing, chemical or biological treatments, companion planting or crop rotation, all of which change the ratio of inputs to outputs
- **Available Equipment** - in regions where access to mechanized farm equipment is low, agricultural productivity can also be low as people handle their crops primarily by hand. This involves a big investment of time, energy and money and also limits the total capacity of the land
- **The Supply and Demand in the Market** - farmers will adjust their activities to meet the needs of consumers and this can have an impact on agricultural productivity. In some cases,

governments even pay subsidies to farmers to compensate them for not growing crops, which can skew productivity measures.

For agricultural productivity, innovation is a key factor. If farmers want to increase their productivity, they need to farm smarter, by using farm management system. It helps them manage whole farm production, from tracking of activities on all fields, consumption of fertilizers, pesticides, work hours of workers and mechanization, to tracking of finances and complete farm analysis and reports. Investment in developing new farming techniques and in researching new approaches to farming need to be on a daily basis, Tanja (2020) concludes.

Agricultural Sector contribution to Nigeria GDP 2010 – 2020 Data

GDP from Agriculture in Nigeria decreased to 3677153.49 NGN Million in the first quarter of 2020 from 5093983.13 NGN Million in the fourth quarter of 2019



SOURCE: TRADINGECONOMICS.COM | NATIONAL BUREAU OF STATISTICS, NIGERIA

SOURCE: TRADINGECONOMICS.COM | NATIONAL BUREAU OF STATISTICS, NIGERIA.

The contribution of Nigeria's agricultural sector to the Gross Domestic Product (GDP) in the first quarter of 2020 was the sector's highest first-quarter contribution in the last two years, data released by the National Bureau of Statistics (NBS, 2020) showed.

Figures released on Tuesday 28th July, 2020 showed that the sector in the first quarter of 2020 contributed 21.96 per cent to the nation's GDP, which is the monetary value of all finished goods and services made in the country. The contribution is higher than 21.89 per cent and 21.66 per cent recorded in the first quarters of 2019 and 2018 respectively. If inflation is included, that is in nominal terms, agriculture contributed 20.88 per cent to nominal GDP in the first quarter of 2020. In real terms, Nigeria's GDP for the first quarter of 2020 stood at N16.7 trillion, meaning agriculture generated about N3.7 trillion.

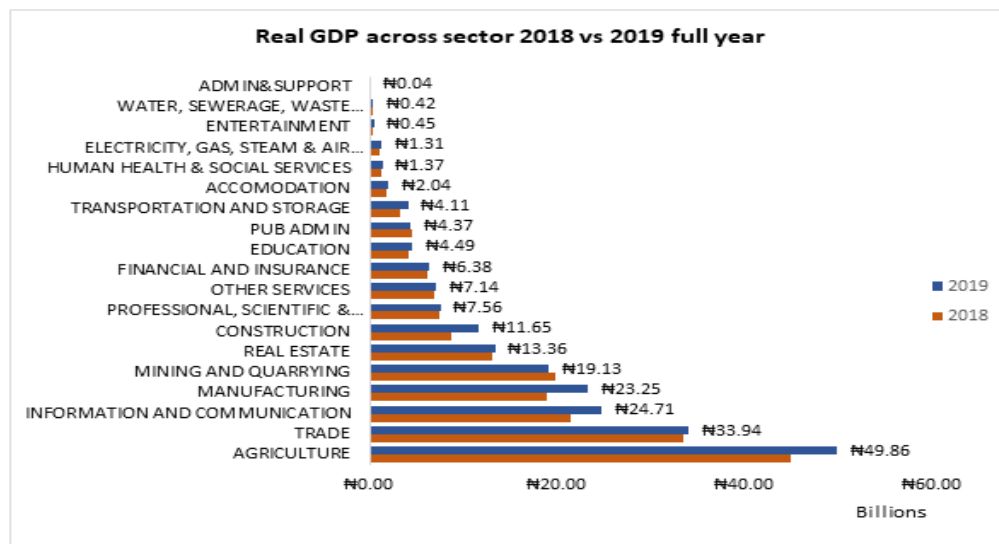
The NBS said in all, the non-oil sector contributed the largest chunk of 90.6 per cent to the economy. Other sectors that make up the non-oil sector as computed by the statistics bureau are industries and services, with services contributing the more than half.

In terms of growth rate, agriculture grew by 2.20 per cent in the first quarter of 2020 over the corresponding period in 2019, a decline since the first quarter of 2019 grew by 3.17 per cent over the previous year. The bureau said the sector declined by -27.81 per cent over the fourth quarter of 2019, partly due to seasonal impact on farming and the effect of the coronavirus pandemic.

As posited by NBS (2020), four sub-activities make up the agricultural sector, namely, crop production, livestock, forestry and fishing. According to the data, crop production remained the major driver of the sector, as it accounted for 90.54 per cent of overall nominal growth of the sector in the first quarter of 2020. Quarter on quarter, growth stood at -19.58 per cent in the first quarter of 2020. While crop production grew by 2.38 per cent in Q1 2020 from 3.26 per cent in Q1 2019, livestock grew by 0.63 per cent from 0.88 per cent in Q1 2019. Similarly, forestry grew by 1.71 per cent from 2.19 per cent in Q1 2019, while fishing grew by 1.49 or cent from 2.33 per cent in 7.09 per cent in Q1 2019.

In furtherance on year on year basis, reports as published by the National Bureau of Statistics (NBS, 2020), as contained in Ademola (2020), indicated that Nigeria Gross Domestic Product (GDP) at basic constant price (real GDP) grew by 2.27 per cent year-on-year (YoY) from N69.80 trillion in 2018 to N71.39 trillion in 2019 compared to 1.91 per cent in 2018. The growth was largely due to the contributions of the agricultural sector (N10.50 trillion), trade sector (N5.94 trillion) and the information and communication sector (N4.66 trillion) with 25.2 per cent, 16 per cent and 13 per cent shares of the total GDP respectively in 2019.

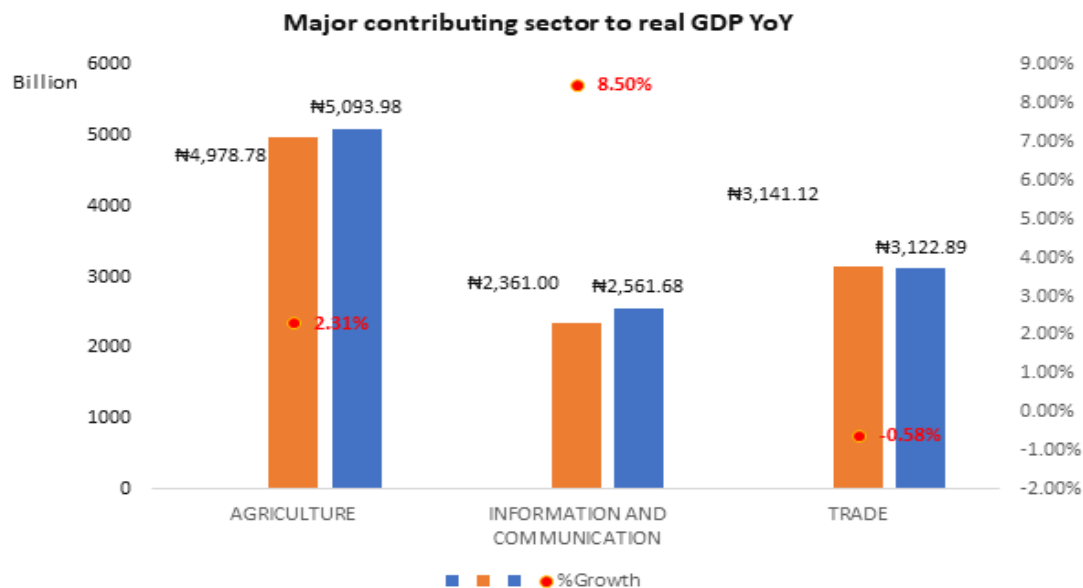
Similarly, the GDP grew by 2.55 per cent (YoY) in real terms in the fourth quarter (Q4) of 2019 to N707.57 billion compared to the N696.78 billion in Q4 2018 when it recorded a growth rate of 2.38 percent. This growth between the two periods which represents an increase of 0.17 per cent points and is largely because of the contribution of the three aforementioned sectors.



Source: NBS, BRIU

From the previous quarter (Q3 2019), a 5.59 percentage increase was also recorded in Q4 2019, whereas, only the agricultural sector from the three major sectors recorded a decline of 5.82 per cent with the remaining two having a significant 10.9 per cent (trade) and 22.2 percent (information & communication). The significant Q4 2019 growth rate also stood as the highest quarterly growth performance since the 2016 recession.

In nominal terms, the aggregate 2019 GDP grew by 12.90 per cent to N144.21 trillion from N127.74 trillion in the corresponding year; a major contribution from the agricultural sector (N31.90 trillion), trade sector (N22.51 trillion), manufacturing sector (N16.78 trillion), the information and communication sector (N15.40 trillion), as well as the mining and quarrying sector (N12.77 trillion).



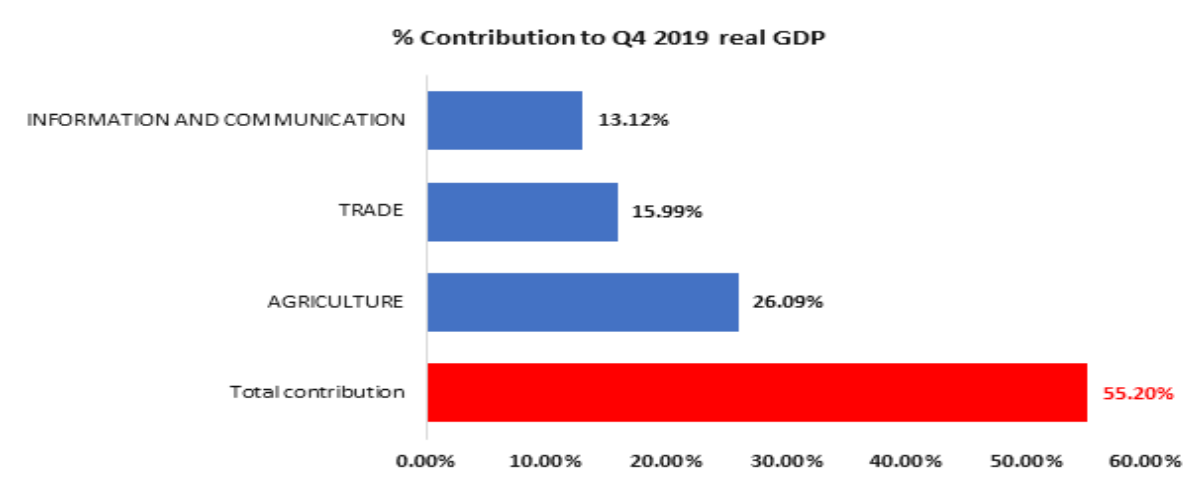
Source: NBS, BRIU

Of the five sectors, agriculture contributed about 22.12 per cent to the total nominal GDP in 2019. It was followed by trade, 15.61 per cent; manufacturing, 11.64 per cent; information and communication, 10.68 per cent, and 8.85 per cent mining and quarrying contribution to GDP.

In Q4 2019, aggregate GDP stood at N39.58 trillion in nominal terms. This was higher than the Q4 2018 which recorded an aggregate of N35.23 trillion, representing a YoY nominal growth rate of 12.34 per cent. This rate was down by 0.31 percentage points relative to the rate recorded in the Q4 2018 and -0.96 percentage points lower than the rate recorded in the preceding quarter.

On a quarter-on-quarter basis (QoQ), the nominal GDP increased by 4.68 per cent from N37.81 trillion in Q3 2019. However, only two out of the five sectors with major contribution recorded increase within Q3 and Q4 2019. Agricultural sector, manufacturing sector and mining and quarrying sector all recorded a decline of 5.40 per cent, 3.61 per cent and 27.25 per cent respectively between Q3 and Q4 2019.

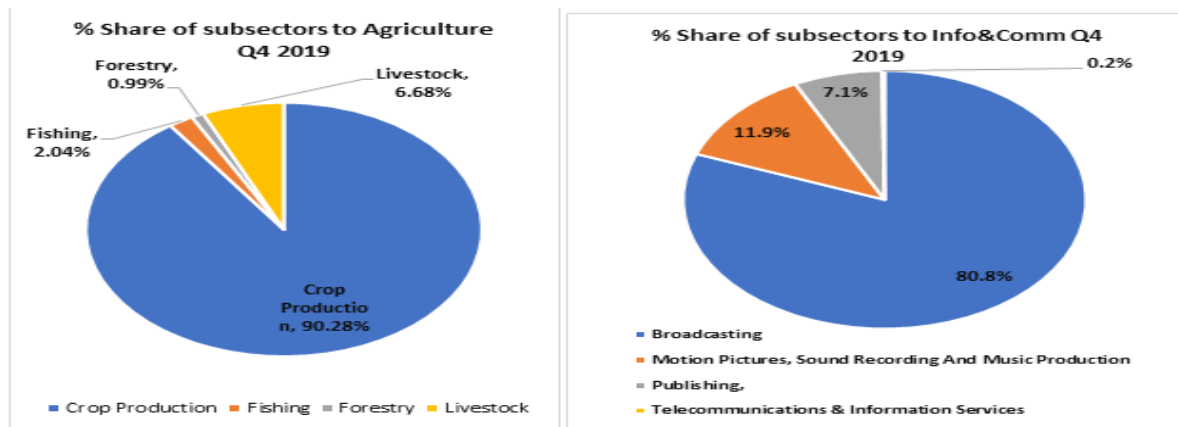
The agricultural sector alone contributed 26.09 per cent to the real GDP in Q4 2019 owing to the large contribution of “Crop Production”. This is followed by the trade sector with 15.99 per cent contribution while a 13.12 per cent contribution of the information and communication sector to total GDP was recorded in the same period owing to the growth in the “Broadcasting Subsector”. The real GDP of the three sectors jointly contributed 55.20 per cent to the total GDP in Q4 2019.



Source: NBS, BRIU

Of the three sectors, only the trade sector recorded a negative growth rate of -0.58 per cent in Q4 2019 real GDP compared to the corresponding year. Whereas, agriculture and information and communication were up by 2.31 per cent and 8.50 per cent in Q4 2019 YoY.

“Crop production” at 90.28 per cent was dominant in the agricultural sector while “Broadcasting” was dominant in the information and communication sector in the same quarter.



Source: NBS, BRIU

Since the Nigerian economy can be categorized into four main sectors: First, the real sector which comprises all the producing and consuming units of an economy. Second, the external sector which accounts for the transactions of the economy (consume or provide) with the rest of the world. Third is the government sector, that is, the public sector (central governments, the local governments, public corporations) which takes from the rest of the economy. Fourth, the monetary sector, that is, the deposit-taking institutions (banks), there is need to make or improve on policies to increase productivity as these sectors do not work in isolation of one another, rather they influence one another.

2.2 Theoretical Review

Basic Reproduction Number (R_0)

The basic reproduction number (R_0) is used to measure the transmission potential of a disease/virus. It is the average number of secondary infections produced by a typical case of an infection in a population where everyone is susceptible (Rothman *et al.*, 2013).

For example, if the R_0 for a disease/virus, say coronavirus, in a population is 15, then we would expect each new case of coronavirus to produce 15 new secondary cases (assuming everyone around the case was susceptible). R_0 excludes new cases produced by the secondary cases.

The basic reproductive number is affected by several factors:

- The rate of contacts in the host population.
- The probability of infection being transmitted during contact.
- The duration of infections mess.

In general, for an epidemic to occur in a susceptible population R_0 must be > 1 , so the number of cases is increasing (Rothman *et al.*, 2013). In many circumstances, not all contacts will be susceptible to infection. This is measured by the effective production rate (R).

Effective Reproduction Number (R)

A population will rarely be totally susceptible to an infection in the real world. Some contacts will be immune, for example, due to prior infection which has conferred life-long immunity or as a result of previous immunization. Therefore, not all contacts will become infected and the average number of secondary cases per infections case will be lower than the basic reproduction number. The effective reproduction number (R) is the average number of secondary cases per infections case in a population made up of both susceptible and unsusceptible hosts. If $R > 1$, the number of cases will increase, such as at the start of an epidemic. Where $R = 1$, the disease is endemic, and where $R < 1$ there will be a decline in the number of cases. The effective reproduction number can be estimated by the production of the basic reproductive number and the fraction of the host population that is susceptible (X). So,

$$R = R_0X$$

For example, if R_0 for influenza is 12 in a population where half of the population is immune, the effective reproductive number for influenza is $12 \times 0.5 = 6$. Under these circumstances, a single case of influenza would produce an average of 6 new secondary cases (Rothman *et al.*, 2013). To successfully eliminate a disease/virus from a population, R needs to be less than 1.

Clinical Attack Rates for Nigeria

The table below illustrates the estimated number of symptomatic cases expected during a pandemic, based on either a 15% or 35% attack rate.

Estimated Number of Symptomatic Cases by Outcome for Federal Republic of Nigeria

Estimated Number of Symptomatic Cases by Outcome Nigeria – Population 162,470,7372 (World Bank, World Development Indicators)

Outcome	15% Attack Rate	35% Attack Rate
Sick	24,370,611	56,864,758
Deaths (2.5%)	609,265	1,421,619
Hospitalizations (10%)	2,437,061	5,686,476
ICU (15% of Hospitalized)	365,559	852,971
Mechanical Ventilation (7.5% of Hospitalized)	182,780	426,486

Source: FRN (2013).

Nigeria 2020 population is estimated at 206,139,589 people at mid-year 2020 according to UN Data

Using this population (206, 139, 589), an estimation of the clinical attack rate of the virus for Nigeria, incorporating the World Bank rates, in addition to a 5% and 10% rates will give thus:

Estimated Number of Symptomatic Cases by Outcome Nigeria – Population 206, 139, 589 (World Bank, World Development Indicators)				
Outcome	5% Attack Rate	10% Attack Rate	15% Attack Rate	35% Attack Rate
Sick	10,306,979	20,613,958	30,920,938	72,148,856
Deaths (2.5%)	257,674	515,348	773,023	1,803,721
Hospitalizations (10%)	1,030,697	2,061,395	3,092,093	7,214,885
ICU (15% of Hospitalized)	154,604	309,209	473,813	1,082,232
Mechanical Ventilation (7.5% of Hospitalized)	77,302	154,604	231,906	541,116

Source: Researchers' Estimation 2020 using World Development Indicators of the World Bank.

COVID-19 SITUATION REPORT 154

DATA AS REPORTED AND ACCURATE BY NIGERIA CENTRE FOR DISEASE CONTROL (NCDC) AS AT MIDNIGHT 31ST JULY, 2020

Sample Tested = 283,916 (4,241) Confirmed Cases = 43,151 (462)

Discharge Cases = 19,565 (295) Confirmed Fatalities = 879 (1) – 2.0% CFR

Affected States Including FCT = 37

DEMOGRAPHICS: Male = 27,932 (65%), Female = 15,219 (35%).

Most Affected Age Group: 31 – 40 (25%)

Persons of Interest = 11,197 (TOTAL) 11,084 (99% - Exceeded follow up).

PROVENANCE: Travel History = 804 (2%) Contacts = 10,621 (25%)

Unknown Exposure = 31,726 (73%)

Global Updates: Total Number of Cases = 17,106,007 (668,910 Deaths)

Countries & Territories Affected = 214 Excluding the 2 international conveyance

2.3 Empirical Reviews

Studies of the macroeconomic effects of the SARS epidemic in 2003 found significant effects on economies through large reductions in consumption of various goods and services, an increase in business operating costs, and re-evaluation of country risks reflected in increased risk premiums. Shocks to other economies were transmitted according to the degree of the countries' exposure, or susceptibility, to the disease. Despite a relatively small number of cases and deaths, the global

costs were significant and not limited to the directly affected countries (Lee and McKibbin, 2003). Other studies of SARS include (Chou *et al.*, 2004) for Taiwan, (Hai *et al.*, 2004) for China and (Sui and Wong, 2004) for Hong Kong.

There are only a few studies of economic costs of large-scale outbreaks of infectious diseases to date: Schoenbaum (1987) is an example of an early analysis of the economic impact of influenza. Meltzer *et al.* (1999) examine the likely economic effects of the influenza pandemic in the US and evaluate several vaccine-based interventions. At a gross attack rate (i.e. the number of people contracting the virus out of the total population) of 15-35%, the number of influenza deaths is 89 – 207 thousand, and an estimated mean total economic impact for the US economy is \$73.1- \$166.5 billion.

Bloom *et al.*, (2005) use the Oxford economic forecasting model to estimate the potential economic impact of a pandemic resulting from the mutation of avian influenza strain. They assume a mild pandemic with a 20% attack rate and a 0.5 percent case-fatality rate, and a consumption shock of 3%. Scenarios include two-quarters of demand contraction only in Asia (combined effect 2.6% Asian GDP or US\$113.2 billion); a longer-term shock with a longer outbreak and larger shock to consumption and export yields a loss of 6.5% of GDP (US\$282.7 billion). Global GDP is reduced by 0.6%, global trade of goods and services contracts by \$2.5 trillion (14%). Open economies are more vulnerable to international shocks.

Another study by the US Congressional Budget Office (2005) examined two scenarios of pandemic influenza for the United States. A mild scenario with an attack rate of 20% and a case fatality rate (i.e. the number who die relative to the number infected) of 0.1% and a more severe scenario with an attack rate of 30% and a case fatality rate of 2.5%. The CBO (2005) study finds a GDP contraction for the United States of 1.5% for the mild scenario and 5% of GDP for the severe scenario.

McKibbin and Sidorenko (2006) used an earlier vintage of the model used in the current paper to explore four different pandemic influenza scenarios. They considered a “mild” scenario in which the pandemic is similar to the 1968-69 Hong Kong Flu; a “moderate” scenario which is similar to the Asian flu of 1957; a “severe” scenario based on the Spanish flu of 1918-1919 ((lower estimate of the case fatality rate), and an “ultra” scenario similar to Spanish flu 1918-19 but with upper-middle estimates of the case fatality rate. They found costs to the global economy of between \$US300 million and \$US4.4trillion dollars for the scenarios considered.

3. MATERIALS AND METHODS

3.1 Area of study

The study was carried out in the Southeast of Nigeria. The zone is located on latitudes 5006’N to 6034’N of the Equator and longitudes 6038’E and 8008’E of the Greenwich (Prime) Meridian (Microsoft Corporation, 2009). The southeast covers Anambra, Imo, Ebonyi, Abia and Enugu States. The zone is bounded in the east by Rivers and Cross-River states, in the north by Benue state, west by Edo and Delta states and in the south by Akwa Ibom state. The zone has tropical climate (hot and warm), all the year round. It has high temperature with annual daily minimum temperature of 24oC, its relative humidity is lowest during harmattan (Dec, Jan and Feb). Rainy

season starts from March to late October and dry season sets in from November to February (Nwogu, 2003; Akoroda, 2005 in Umeh *et al.*, 2015).

The target population of the study is farmers in the study area as well as the extension agents assigned to the selected areas.

3.2 Sampling Procedure and Data Collection

For this study, we explored the e-survey multi-stage sampling techniques of data collection, which is otherwise, referred to as electronic data collection method (Mohini and Stephen, 2006; Wilson and Staton, 2005). We define an electronic survey as one in which a computer plays a major role in both the *delivery* of a survey to potential respondents and the *collection* of survey data from actual respondents (Jansen *et al.*, 2007). Perhaps the three most common reasons for choosing an e-survey over traditional paper-and-pencil approaches are (1) decreased costs, (2) faster response times, and (3) increased response rates (Lazar & Preece, 1999; Oppermann, 1995; Saris, 1991); the researchers added the pandemic situation currently ravaging nations of the world with various containing and curtailing measures – physical distancing, lockdown, restricted movement, among others, as another obvious reason why e-survey techniques can be deemed appropriate in this study.

The researchers explored the targeted states ADPs' communication/social media platforms to register their study and its essence through the states' CEOs. The Zonal extension officers and Blocks extension supervisors; together with the representatives of farmers associations operational in the considered zones/states constituting the study area, and the agricultural extension agents, were held to an interactive session using available social media platforms, to share information related to their areas, zones and states; and the COVID-19 situation in each of their states. Researchers held group discussion via online messaging and conferencing platforms (Email, WhatsApp, Telegram, and Zoom). The instrument for data collection was provided for these representatives and extension agents for purposeful sampling using their various associations/groups platforms (Email, WhatsApp, Telegram), which serves as the point-of-contact, to get farmers' (respondents') responses to the questions as contained in the questionnaires. The representatives and extension agents were educated by the researchers on how the questionnaires can be filled by respondents. The questionnaire used five points scale of Strongly Agreed (SA), Agreed (A), Neutral (N), Strongly Disagreed (SD), Disagreed (D).

SA = 5, A = 4, N = 3, SD = 2 and D = 1.

3.3 Sampling Size Determination

Data for this study were collected from both primary and secondary sources. Primary data was collected with the aid of two sets of well-structured pre-tested questionnaires. A set was administered on ADP extension staff and representatives of farmers associations; while the other was administered on the farmers. Information gathered was used to corroborate or crosscheck the data from secondary sources.

Secondary data was collected from the Programme Monitoring and Evaluation Unit of the Agricultural Development Programme (ADP) of the states' ADPs under study.

Following Umeh *et al.*, 2015, with some modifications by the researchers, an e-survey multi-stage sampling technique was adopted for the selection of respondents for the study. First, five

state ADPs namely Abia, Imo, Anambra, Enugu and Ebonyi states were purposefully selected to represent the study area. The second stage involved purposive selection of the Chief Extension Officers (CEOs) or Directors of Extension Services and Zonal Extension Officers (ZEOs) of the selected state ADPs. The third stage involved random selection of 30 Block Extension Supervisors (BESs) comprising of two from each zone. The fourth stage involved random selection of 45 Extension Agents (3 from each zone) from each of the state ADP, under study. The fifth stage also involved random selection of 30 farmers (10 from each of the 3 zones of each state) from the state ADPs under study.

The sample size for the study therefore was made up of 1 CEO, 3 ZEOs, 6 BESs, 15 EAs, and 30 farmers for each of the five (5) Southeast States - Abia, Imo, Anambra, Enugu and Ebonyi states.

Total Respondents Computation:

$$\text{CEO} - 1 \times 5 = 5$$

$$\text{ZEOs} - 3 \times 5 = 15$$

$$\text{BESs} - 6 \times 5 = 30$$

$$\text{EAs} - 15 \times 5 = 45$$

$$\text{Farmers} \quad 30 \times 5 = 150$$

$$\text{Total Respondents} = \underline{245 \text{ Respondents}}$$

3.4 Method of Data Analysis

The data collected for the study was presented in a tabular form. The data was analyzed using the mean, standard deviation and the paired sample statistics as statistical tools. While the mean and standard deviation was used to answer the research questions, the paired sample test was used to test the hypothesis to find out if the variables of the study have significant effects at 0.05 significant levels. The conditions of each of the explanatory variables before the outbreak of the COVID-19 Pandemic was used as a control against the results due to the pandemic, in the paired sample statistics.

The research questions were answered using the following boundary limits for interpreting value of items in order to answer the research questions.

$$\text{Strongly Agreed (SA)} = 5 \leq 4.5 \leq 5.00 \quad \Rightarrow \quad \text{Very High Extent}$$

$$\text{Agreed (A)} = 4 \leq 3.5 \leq 4.49 \quad \Rightarrow \quad \text{High Extent}$$

$$\text{Neutral (N)} = 3 \leq 2.5 \leq 3.49 \quad \Rightarrow \quad \text{Moderate Extent}$$

$$\text{Disagreed (D)} = 2 \leq 1.5 \leq 2.49 \quad \Rightarrow \quad \text{Low Extent}$$

$$\text{Strongly Disagreed (SD)} = 1 \leq 0.5 \leq 1.49 \quad \Rightarrow \quad \text{Very Low Extent}$$

$$\text{Mean} = X = \frac{\sum fx}{N} \quad (\text{For Research Questions})$$

$$\text{Five point response scale} = \frac{5 + 4 + 3 + 2 + 1}{5} = \frac{15}{3} = 3:0$$

Considering the five items structured questionnaire used for this study, the boundary limits for interpreting value of items in order to answer the research questions becomes:

$$\text{Strongly Agreed (SA)} = 25 \leq 22.5 \leq 25.00 \quad \Rightarrow \quad \text{Very High Extent}$$

$$\text{Agreed (A)} = 20 \leq 17.5 \leq 22.45 \quad \Rightarrow \quad \text{High Extent}$$

$$\text{Neutral (N)} = 15 \leq 12.5 \leq 17.45 \quad \Rightarrow \quad \text{Moderate Extent}$$

$$\text{Disagreed (D)} = 10 \leq 7.5 \leq 12.45 \quad \Rightarrow \quad \text{Low Extent}$$

$$\text{Strongly Disagreed (SD)} = 5 \leq 2.5 \leq 7.45 \quad \Rightarrow \quad \text{Very Low Extent}$$

Decision Rule: Base on five points Likert Scale which was used to analyze the data, any item that has a mean of 15.0 and above is accepted while any item less than 15.0 is rejected.

3.5 Variables Description:

AGPRO = Agricultural Productivity in Nigeria.

NGRFX = Nigeria's foreign exchange earnings through Agricultural produce exportation.

FRNEN = Nigerian farmers' earnings

ECGRW = Economic greatness potentials of the Nigerian Agricultural sector.

COVID-19 = The effects of COVID-19 pandemic.

4. RESULTS

4.1 Questionnaire Reliability

Reliability of the data was assessed using the Cronbach's Alpha Coefficient (α) which is one of the most frequently used measures of internal consistency of instruments. The majority of authors consider that Cronbach's Alpha should not drop below 0.7 and that an alpha value of 0.7 or more signifies reliable measures (Bryman and Bell, 2011).

Reliability Statistics		
Cronbach's Alpha ^a	Cronbach's Alpha Based on Standardized Items ^a	N of Items
.875	.838	6

Source: SPSS Output 2020.

The value of Cronbach's Alpha derived from the analysis is 0.875. Therefore, the instrument developed for evaluating the economic potentials of COVID-19 on the Nigerian Agricultural Sector; as well as the impact of COVID-19 pandemic on the Nigerian Agricultural sector, was considered to be reliable.

4.2 Research Questions

Research Question One: To what extent has Agricultural productivity in Nigeria been affected by COVID-19 pandemic?

Respondents' mean rating on the extent Agricultural productivity in Nigeria has been affected by COVID-19 pandemic. N = 245.

Case Processing Summary						
	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
AGPRO * GENDER	245	100.0%	0	0.0%	245	100.0%

Report

AGPRO

GENDER	Mean	N	Std. Deviation	Minimum	Maximum
MALE	23.13	127	1.654	20	25
FEMALE	22.82	118	1.861	20	25
Total	22.98	245	1.760	20	25

Source: SPSS Output 2020.

Decision: The result, as presented in the case processing summary table above, revealed that all the respondents were included in the study (N = 245). From the mean test report table, the minimum mean = 20, whereas the maximum mean = 25. The overall mean is 22.98, with a standard deviation of 1.760. The mean value falls within the boundary limit of SA, which implies very high extent. The study therefore indicated that Agricultural productivity in Nigeria has been affected by COVID-19 pandemic to a very high extent.

Research Question Two: How has Nigeria's foreign exchange earnings through Agricultural Produce exportation been affected by COVID-19 pandemic?

Respondents' mean rating on the extent Nigeria's foreign exchange earnings through Agricultural Produce exportation has been affected by COVID-19 pandemic. N = 245.

Case Processing Summary						
	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
NGRFX * GENDER	245	100.0%	0	0.0%	245	100.0%

Report

NGRFX

GENDER	Mean	N	Std. Deviation	Minimum	Maximum
MALE	22.43	127	1.828	20	25
FEMALE	22.48	118	1.889	19	25
Total	22.46	245	1.854	19	25

Source: SPSS Output 2020.

Decision: The result as presented in the case processing summary table above, revealed that all the respondents were included in the study (N = 245). From the mean test report table, the minimum mean = 19, whereas the maximum mean = 25. The overall mean of all the items was 22.46 with SA = 1.854. The mean value fall within the boundary limit of A, which implies High extent. The study therefore indicated that Nigeria's foreign exchange earnings through Agricultural Produce exportation has been affected by COVID-19 Pandemic to a high extent.

Research Question Three: To what extent has the earnings of Nigerian farmers been affected by COVID-19 Pandemic?

Respondents' mean rating on the extent the earnings of Nigerian farmers have been affected by COVID-19 Pandemic. N = 245.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
FRMEN * GENDER	245	100.0%	0	0.0%	245	100.0%

Report

FRMEN

GENDER	Mean	N	Std. Deviation	Minimum	Maximum
MALE	22.28	127	1.772	18	25
FEMALE	22.07	118	1.584	18	25
Total	22.18	245	1.684	18	25

Source: SPSS Output 2020.

Decision: The result, as presented in the case processing summary showed that all the respondents were included in the study (N =245). From the mean test report table, the minimum mean = 18, whereas the maximum mean = 25. The overall mean (total) of all the items was 22.18, with SD = 1.684. The mean value falls within the boundary limit of A, which implies High Extent. The study therefore indicated that the earning of the Nigerian farmer have been affected by COVID-19 Pandemic to a high extent.

Research Question Four: How has the economic greatness potentials of the Nigerian Agricultural sector been influenced by COVID-19 Pandemic?

Respondents' mean rating on the extent economic greatness potentials of the Nigerian Agricultural sector has been influenced by COVID-19 Pandemic. N = 245.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
ECGRW * GENDER	245	100.0%	0	0.0%	245	100.0%

Report

ECGRW

GENDER	Mean	N	Std. Deviation	Minimum	Maximum
MALE	22.27	127	1.659	19	25
FEMALE	22.17	118	1.731	19	25
Total	22.22	245	1.691	19	25

Source: SPSS Output 2020.

Decision: From the case processing summary table above, the result showed that all the respondents were included in the study (N = 245). The mean test report table gave the minimum mean value to be 19, whereas the maximum mean = 25. The total/overall mean value is 22.22 with the SD = 1.691. The mean value falls within the boundary limit of A, which implies High Extent. The study therefore indicated that the Economic potential of the Nigerian Agricultural sector has been influenced by COVID-19 Pandemic to a high extent.

Research Question Five: To what extent have government policies in response to COVID-19 affected Agricultural sector's contribution to economic recovery and growth?

Respondents' mean rating on the extent government policies in response to COVID-19 have affected Agricultural sector's contribution to economic recovery and growth. N = 245.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
GOPOL * GENDER	245	100.0%	0	0.0%	245	100.0%

Report

GOPOL

GENDER	Mean	N	Std. Deviation	Minimum	Maximum
MALE	21.50	127	2.377	17	25
FEMALE	21.95	118	2.324	17	25
Total	21.72	245	2.357	17	25

Source: SPSS Output 2020.

Decision: From the case processing summary table above, the result showed that all the respondents were included in the study (N = 245). The mean test report table gave the minimum mean to be 17, whereas the maximum mean = 25. The total mean value is 21.72, with the SD = 2.257. The mean value falls within the boundary limit of A, which implies high extent. The study therefore indicated that government policies in response to COVID-19 Pandemic have affected Agricultural sector contribution to Nigeria's economic recovery and growth to a high extent.

4.3 Hypotheses Testing Using Paired Sample Test

Hypothesis One: Agricultural productivity in Nigeria (AGPRO) is not significantly affected by COVID-19 pandemic.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	COVID19	22.55	245	1.773	.113
	AGPRO	22.98	245	1.760	.112

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	COVID19 - AGPRO	-.433	2.646	.169	-.766	-.100	-2.560	244	.011

Source: SPSS Output 2020.

Interpretation of Result: Since the P -value (0.011) is less than the significance level (0.05), we cannot accept the null hypothesis.

At 5% level of significance, from the sample data, there is sufficient evidence to conclude that Agricultural Productivity in Nigeria, on average, is lower as a result of COVID-19 pandemic. COVID-19 pandemic appears to be effective in reducing productivity.

Also, the t -value of -2.560 indicates a negative significant effect of COVID-19 on Agricultural productivity in Nigeria.

Hypothesis Two: Nigeria's foreign exchange earnings through Agricultural Produce exportation (NGRFX) are not significantly affected by COVID-19 pandemic

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	COVID19	22.55	245	1.773	.113
	NGRFX	22.46	245	1.854	.118

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	COVID19 - NGRFX	.094	2.614	.167	-.235	.423	.562	244	.574

Source: SPSS Output 2020.

Interpretation of Result: Since the P -value (0.574) is greater than the significance level (0.05), we cannot reject the null hypothesis.

At a 5% level of significance, from the sample data, there is sufficient evidence to conclude that Nigeria's foreign exchange earnings through Agricultural produce exportation, on average, are not affected as a result of COVID-19 pandemic.

COVID-19 pandemic, on the average, appears not to be effective in reducing Nigeria's foreign exchange earnings through the exportation of Agricultural produce.

Also, the t-value of 0.562 indicated the existence of a positive insignificant effect.

Hypothesis Three: The earnings of Nigerian farmers (FRMEN) is not significantly affected by COVID-19 Pandemic.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	COVID19	22.55	245	1.773	.113
	FRMEN	22.18	245	1.684	.108

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	COVID19 - FRMEN	.371	2.391	.153	.071	.672	2.431	244	.016

Source: SPSS Output 2020.

Interpretation of Result: Since the *P*-value (0.016) is less than the significance level (0.05), we cannot accept the null hypothesis.

At a 5% level of significance, from the sample data, there is sufficient evidence to conclude that the earnings of Nigerian farmers, on average, are affected as a result of COVID-19 pandemic. COVID-19 pandemic, on average, appears to be effective in affecting the Nigerian farmers' earnings.

Also, the t-value of 2.431 indicates the existence of a positive significant effect.

Hypothesis Four: Economic greatness potentials of the Nigerian Agricultural sector (ECGRW) has not been significantly influenced by COVID-19 Pandemic.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	COVID19	22.55	245	1.773	.113
	ECGRW	22.22	245	1.691	.108

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	COVID19 - ECGRW	.331	2.525	.161	.013	.648	2.049	244	.042

Source: SPSS Output 2020.

Interpretation of Result: Since the P -value (0.042) is less than the significance level (0.05), we cannot accept the null hypothesis.

At a 5% level of significance, from the sample data, there is sufficient evidence to conclude that the Economic greatness potentials of the Nigerian Agricultural sector, on average, is affected/influenced as a result of COVID-19 pandemic. COVID-19 pandemic, on average, appears to be effective in influencing the Economic greatness potentials of the Nigerian Agricultural sector.

Also, the t -value of 2.049 indicates the existence of a positive significant influence.

The pandemic led to intensive agricultural research, encourage farmers to diversify and produce a wider range of food. It strengthen collaboration among the public-health, food and agricultural sectors. Agricultural research is believed to play a vital role in transforming the Nigerian food systems and making them more sustainable and resilient. Also, there has been a witnessed increase in the number of Nigerians that returned to farming since the pandemic both on subsistence and commercial farming, which is believed to result in increased sector's yield.

Hypothesis Five: Nigerian government policies (GOPOL) in response to COVID-19 has no significant effect on agricultural sector's contribution to economic recovery and growth.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	COVID19	22.55	245	1.773	.113
	GOPOL	21.72	245	2.357	.151

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	COVID19 - GOPOL	.833	3.070	.196	.446	1.219	4.245	244	.000

Source: SPSS Output 2020.

Interpretation of Result: Since the P -value (0.000) is less than the significance level (0.05), we cannot accept the null hypothesis.

At a 5% level of significance, from the sample data, there is sufficient evidence to conclude that the Nigerian Government Policies in response to COVID-19 pandemic, on average, has significant effect on agricultural sector's contribution to Nigeria's economic recovery and growth. The policies of the Nigerian government, on average, appears to be effective in enhancing agricultural sector's contribution to economic recovery and growth.

Also, the t -value 4.245 indicates the existence of a positive significant effect of the policies.

At the flag-off of the intervention policies of the Nigerian government on COVID-19 effect on agricultural sectors' yield in 29th May 2020, farmers in 13 states of Nigeria received improved seeds of sorghum, pearl millet, cowpea and rice as part of an initiative to cushion the pandemic's impact on food system. A host of agricultural research institutes and programmes, led by ICRISAT, and the Nigerian government recently launched the seed support initiatives.

Observably, the Nigerian government came up with plans ahead, with research institutions to produce breeder and foundation seeds for production of high yielding seeds for 2020 wet and dry season, as well as 2021 rainy season. Agricultural grants to Nigerian farmers, among others, was also part of the policies of the Nigerian government to enhance sector's contribution.

5.1 Conclusion: From the findings of the study, we conclude that the economic greatness potentials of the Nigerian Agricultural sector have been positively influenced by COVID-19 pandemic, as evidenced in the nation's investment and obtained results in research and development; and the witnessed increase in Nigerian farmers during the pandemic, both at the subsistence and commercial levels, with promised year yield. Also, the pandemic is found to exert negative significant effect on Nigeria's Agricultural productivity; a positive significant effect on the earnings of Nigerian farmers; and no significant effect on Nigeria's foreign exchange earnings through agricultural produce exportation. The findings also revealed the effectiveness of Nigerian government policies in response to COVID-19, on Agricultural sector's contribution to economic recovery and growth.

5.2 Recommendation: On the basis of the findings of the study, we made the following recommendations:

1. Government policies and intervention programmes to enhance agricultural productivity in Nigeria should be pursued by the Nigerian government and sustained; with adequate feedback mechanism being set-up to ensure that these programmes are not jeopardized or subverted; as evidenced in past programmes of the government, where such programmes are marred by corruption and opaque accountability.
2. Effective supply chain, as it relates to agricultural produce exportation should be invigorated, as well as the establishment of adequate supply and distributive channels at the local levels for the marketability of farm produce.
3. The Nigerian government, its agencies and institutions; together with the Nigerian farmers, should sustain the economic greatness potentials which the pandemic brought to limelight in the sector; and in furtherance, explore research and development as a panacea to mitigating agricultural productivity challenges in Nigeria.

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EFFECT OF CORONA VIRUS DISEASE (COVID 19) PANDEMIC ON OFFSHORE BANKING AND TAX HAVENS

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ABSTRACT

This study took a look at the effect of the devastating effect of the current Covid-19 on the operations of offshore banking and tax havens. The methodology for the study is discussive. It covered the various aspects of offshore banking and tax havens. The second part of the study looked at how the rampaging Covid-19 pandemic has affected and will continue affect offshore banking and tax havens. The study noted some perceived advantages and disadvantages of offshore banking and tax havens. The Covid-19 as at present has emphasized the disadvantages especially tax havens. It is recommended that developing countries take up stringent policies against both since they have not benefitted them. Offshore banks and tax havens in the main have aggravated endemic corruption and looting of public funds in developing countries.

Keywords: *Offshore banking, offshore financial centres, tax havens, tax jurisdictions, tax evasion/avoidance, Covid-19 pandemic.*

INTRODUCTION

Economics has it that financial intermediation developed to deal with unintermediated finanee, which is akin to barter system. Here exchange of goods and services were done by barter or direct exchange of goods and services for goods and services. With development of money, financial services and institutions developed. Financial institution in form of banking first developed in the Italian cities of Venice and Genoa. As Shaxson (2011) observed, financial intermediation developed from local setting to international scene. The development to foreign sector gave rise to emergence, in parts, of offshore banking and tax havens.

OFFSHORE BANKING AND TAX HAVENS

We note that banking in its early stages started from activities of goldsmiths in the ancient Italian cities of Venice and Genoa. With passage of time banking, became worldwide activities. Offshore banking develops when a bank operating in one nation or jurisdiction goes to serve residents in another nation, often for the benefit of non-residents in another country. That means that when a person or corporate entity opens and operates a foreign account in another country often we say he has offshore banking account. Such accounts are often noted to operate in tax haven countries. Henry (2011) and Narajan (2010) observed that offshore banking has generally been associated with underground economy, opaque situation, organized crime and also associated with proceeds of organized crimes, tax evasion and avoidance and money laundering.

We are going to tackle the topic by looking at the nature and scope of offshore banking, benefits of and failures of offshore banking, regulation of offshore banks, offshore centres (OFCs), some

known locations of OFCs, Tax Havens, advantages and disadvantages. Therefore, look at corona virus disease otherwise called COVID 19 pandemic and consider how the global plague is affecting the entire world. We conclude with informed guesses about how COVID 19 pandemic is affecting the opaque offshore finance and tax havens.

NATURE AND SCOPE OF OFFSHORE BANKING

It is believed that offshore banking constitute a large portion of the international financial system. The Guardian Newspaper (2012) of UK opine that some 50% of global capital flows go through offshore centres operating in tax havens. The paper further estimates that over £20million is hidden away in offshore banks. Furthermore, Bank introduction.com (2012) states that over US \$3 trillion is held up in offshore accounts in tax havens. It is reported that among offshore banks, Swiss banks hold over 35% of global private and institutional funds with the Cayman Islands holding US \$1.9 trillion in US deposits. As part of offshore business, there are financial centres who operate in association with lawyers, accountants and taxation experts.

Most financial services such as savings, investment – portfolio management, foreign exchange credit and many other financial services are obtained from offshore banks. However most of these services are hidden hence the statement that they operate in opaque circumstances.

Sinha and Sirvastrava (2012) reviewed the nature and scope of offshore banking. They are of the view that such a bank is set up in offshore jurisdiction or financial centre so that a foreign company can operate there and obtain a banking license to operate banking services for non-residents. Usually, the nations where the banking license is procured for offshore operations are known to have very low or nil tax liabilities. The implication is that accounts holders in offshore banks take the opportunity of lowering their tax liabilities. By this they largely avoid paying taxes in their home countries. Secrecy, privacy, assets protection and high returns on investments and many other seeming gains are the main attraction to foreign nationals to bank offshore. Apart from investors, tax reduction or evasion and avoidance, offshore banks are very attractive to African leaders including Nigerian politicians. Stolen money from public treasuries are safely stored in offshore banks. It goes without saying that offshore banks have become well known for tax evasion, tax avoidance and money laundering.

SEEMING BENEFITS OF OFFSHORE BANKING

Offshore banking provides some benefits or advantages to the banks and accounts holders. Some of them are stated below and we note they are not universal.

- i. Offshore banking jurisdictions provide top secrecy about the affairs and details of their customers. Disclosures are not required.
- ii. Offshore banks usually pay interest without deducting withholding tax or other taxes on interest income and dividends. This is contentious because hiding and non-deduction of taxes is associated with tax evasion and tax avoidance. This twin evil (so to speak) raises eyebrows in a nation's tax system.
- iii. Another point is that offshore banking affords depositors easy access to their deposits because of lower level or minimal regulation in the offshore country.
- iv. Some offshore banks make higher returns by way of paying higher interest rates on deposits.

- v. It is also believed that offshore banks, sometimes, provide access to politically and economically stable jurisdictions. This is particularly advantageous for residents in areas where there is risk of political upheaval, who fear their assets may be frozen or confiscated.
- vi. Some offshore banks provide banking services that may not be obtained from domestic banks. This is particularly so since exchange rates restrictions are not there.
- vii. Offshore banking is, sometimes, linked to other structures such as offshore companies, trusts or foundations which may have some tax advantages.
- viii. Proponent of offshore banking claim that the existence of tax and banking competition allows people to choose appropriate balances of tax and services.

SEEMING DISADVANTAGES OF OFFSHORE BANKING

Offshore banking has been perceived to have some disadvantages such as:

- i. Often accounts are opened without all relevant information. This implies that Know Your Customer (KYC) principles are ignored. It is even said that some companies open accounts using only post office numbers (Murphy, 2011).
- ii. Offshore banking has often been associated with underground economy, organized crime and money laundering.
- iii. Offshore bank accounts are, sometimes, not secure. Under banking crises, a lot of deposits may be lost. This, in some jurisdictions, necessitates the establishment of deposits insurance as in case of onshore banking where National Deposits Insurance Corporation (NDIC) is established. (Panama Poppers, 2015).
- iv. Offshore private banking is normally more accessible to high net worth individuals and incomes because cost of running offshore accounts is very high. But the gains in secrecy appear to outweigh the disadvantages.
- v. Offshore bank accounts are often claimed to be a solution to some legal, financial and assets protection strategy.

REGULATION OF OFFSHORE BANKS

Recently, regulation of offshore banking has been stepped up although to a large extent inefficient. From late 1990s especially after 11th Sept. 2001 terrorists attack in the US popularly called September 9/11, there are initiatives to increase the transparency of offshore banking. Prior to the introduction of regulation, offshore banking was done under little or no regulation. One observer once said that you can operate your account from a post office box with your portfolio as your office. But now some regulations have been introduced in some areas such as:

- i. There was tightening of anti-money laundering regulations in global banking including most popular offshore banking locations. Banks are now required to report suspicious deposits and transfers to local policy authority regardless the existence of secrecy. This must have accounted for the closure worldwide of Bank of Credit and Commerce International (BCCI). The bank was accused to be the epicenter of global money laundering.
- ii. The Internal Revenue Service (IRS) in the US introduced Qualifying Intermediary requirements. By this, recipient, of US-source investment income must be reported to the IRS.
- iii. After 9/11 attack (2001) the USA PATRIOT Act was passed giving the US authorities power to seize the assets of a bank that is suspected to hold accounts and assets for criminal

gangs. That means that all accounts and assets of terrorists such as Al-quida became subject to seizure. Again the case of BCCI comes readily to mind.

- iv. The European Union (EU) introduced information sharing between jurisdictions as regards offshore banks and tax haven authorities.
- v. In 2010, the Foreign Account Tax Compliance Act (FATCA) was introduced and targets tax non-compliance by US citizens with offshore accounts.

OFFSHORE FINANCIAL CENTRES (OFCs)

Offshore finance refers to the provision of financial services by banks and other financial institutions to non-residents of a country. This can be by way of borrowing funds from non-residents and lending money to them. It can also be way of taking deposits from corporate organizations or individuals and investing the proceeds in financial markets in other places. It is believed that a lot of funds are involved and are managed at the risk of the fund owners.

Offshore Financial Centres (OFCs) can be said to be places where offshore financial activities take place (IMF, 2000). According to its position paper, in such centres there may be no distinction between onshore and offshore business. Sinha and Srivastava (2012) opined that OFCs are used for a country or jurisdiction with financial centres comprising of financial institutions which deal primarily with non-residents and/or in foreign currency, on a scale out of proportion to the size of the host economy. Non-residents owned and controlled the institutions which play a significant role within the OFC.

IMF (2000) paper under reference states that OFCs can be characterized by:

- i. Jurisdictions that have relatively large numbers of financial institutions engaged primarily in business with non-residents;
- ii. Financial systems with external assets and liabilities out of proportion to domestic financial intermediation designed to finance domestic economies;
- iii. Centres that are popular for providing some or all these services: low or zero taxation, moderate or light financial regulation, banking system known for secrecy and anonymity. Opaqueness is the hallmark.

Sinha and Srivastava (2012) trace the origin of OFCs back to the 1960s and 1970s when many developed nations and sovereign governments tried to regulate capital flows through the imposition of restrictive domestic regulations. One of the major aims of the restrictive regulation was to get control over monetary policy. The restrictions goaded banks and other financial institutions to shift deposits and other financial activities to less regulated offshore areas. They opined that the development of offshore centres can be attributed to some of these factors:

- i. The establishment of capital controls aimed at reducing unsustainable balance of payments deficits recorded by the US in the late 1950s and by many OECD countries in the 1960s;
- ii. There was imposition of high taxes together with a tightening of monetary policies aimed at curbing balance of payments deficits resulting from fiscal imbalances especially in some OECD nations;
- iii. The removal of foreign exchange restrictions on the conversion by non-residents of current earnings in Western Europe.

- iv. The issue of US banks that have interest in doing business in foreign currencies and to spread their influence in new territories as a result of the Glass-Steagall Act of 1933 which barred commercial banks from entering the investment banking business.

THE ROLE OF OFFSHORE FINANCIAL CENTRES (OFCs)

Customer of offshore centres open accounts for various uses some of which are legal although on doubtful ethical grounds. In this regards OFCs perform some roles in international finance. We consider some of such roles:

- i. Businesses may want to avoid falling under Islamic inheritance jurisdiction on death of the owner. Some people may wish to hold their wealth in foreign currency e.g. in US dollars. According to Panama Paper (2015), OFCs may perform some ambiguous roles such as when Chinese companies incorporate offshore to raise foreign capital which is against Chinese Law;

There are other roles of OFCs stated below as noted by Sinha and Srivastava (2012)

- ii. OFCs enable businesses to reduce cost by operating within a multinational corporation;
- iii. They allow effective movement of capital and resources by providing opportunity for global investment;
- iv. They enable customers to manage their finance confidentially by providing legal protection from paying agents;
- v. OFCs enable customers to use intermediary holding companies to get over strict foreign exchange controls;
- vi. With OFCs operating in low tax jurisdictions, save significant taxes and reduce the effect of transfer pricing rules in home countries.

COUNTRIES, TERRITORIES AND JURISDICTIONS WITH OFCs

Offshore financial centres, which often coincide with tax havens are located in small island economies dispersed across the globe. Apart from these small Island nations, some very important cities of the developed world are also classified as OFCs. For example the city of London, Paris, Tokyo, New York, Frankfurt and Zurich. In the Table below, we list some of the well-known offshore financial centres and tax havens which is not the total membership.

Table: List of Offshore Financial Centres and Tax Havens.

African	Europe
Liberia	Alderney
Mauritius	Andorra
Melilla	Belgium
The Seychelles	Campanione
Sao Tome & Principe	City of London
Somalia	Cyprus

Djibouti

Indian and Pacific Islands

The Cook Islands

The Maldives

The Marianas

Samoa

Tonga

Vanuatu

The Caribbean & Americas

Anguilla

Antigua & Barbuda

Aruba

The Bahamas

Barbados

Belize

Bermuda

British Virgin Island

Cayman Island

Caribbean/America

Costa Rica

Dominica

Grenada

Montserrat

Netherlands Antilles

New York

Panama

Frankfort

Gibraltar

Gue (Turkey)

Hunga

Iceland

Ireland

Ingushetia

Isle of Man

Jersey

Liechtenstein

Luxembourg

Middle East & Asia

Bahrain

Dubai

Hong Kong

Labuan

Lebanon

Macau

Singapore

Tel Aviv

Taipei

Saint Lucia

St. Kitts & Nevis

St. Vincent & the Grenadines

Turks Caicos Islands

Uruguay

US Virgin Islands

Note: Many other tax haven territories and OFCs are not mentioned.

Source: Christensen (2009) quoting Tax Justice Network (2005).

CATEGORIES OF OFFSHORE FINANCIAL CENTRES (OFCs)

Listing of territories under geographical spread is only a part of categorizing OFCs. IMF Background Paper (2000) tried to categorize OFCs into three other parts.

- i. International Financial Centres (IFCs) made up of such cities as City of London, New York, Tokyo and large international full service financial centres, having advanced statement and payments systems, supporting large domestic economies. They have deep and liquid markets where both the sources and uses of funds are diverse, and where legal and regulatory frameworks are adequate to safeguard the integrity of principal – agent relationship as well as supervisory functions. In this category, London is the largest followed by New York. Some commentators say London is like a state within a state.
- ii. Another category is Regional Financial Centres (RFCs). They differ from first category in that they have developed from financial infrastructure and intermediate funds but they have relatively small domestic economies. Some RFCs include Hong Kong, Singapore and Luxembourg.
- iii. A third category is made of mainly much smaller units and provide more limited specialist and skilled services, attractive to major financial institutions and more lightly regulated centres that provide services that are almost tax-driven and have limited resources to support financial intermediation. Many financial institutions in this category have little or no physical presence. It is said that some financial institutions of OFCs and tax havens operate with Post Office Boxes. Their operating addresses remain unknown.

TAX HAVENS

There is no perfect agreement on what a tax haven means. Generally, tax havens refer to countries or jurisdictions which have low tax or no-tax regimes or that offer generous tax incentives. Although tax havens deal with tax related matters, the activities commonly associated with them go far beyond taxes. They have been known to cover such areas as tax evasion, tax avoidance, money laundering, offshore banking, offshore finance, shadow banking and a host of others. Tax havens represent many ways of making international tax avoidance, tax evasion and various shady financial deals known for such features as reduced tax liabilities, protection of information, offshore banking, minimal or no regulation (Botis, 2014).

How do we define tax havens? Dharmapala, and Hines (2006) define a tax haven as a jurisdiction or regime where taxes such as inheritance tax, income tax or corporation tax are imposed at a low rate or not at all. Tax Justice Network (2015) see tax havens as states, countries, territories or jurisdictions that maintain a system of financial secrecy, which enables foreigners-people and corporations – to hide assets or income to avoid, evade or reduce taxes from the home jurisdictions. Sinha and Srivastava (2012) observe that tax havens do not have comprehensive definitions. They quoted the OECD Tax Haven Report (1997) which states that any country might be a tax haven to a certain extent, as there may be instances where high tax countries provide opportunities or devise policies to attract economic activities of certain types or in certain locations. Furthermore, OECD has set out some criteria to be applied to determine whether a jurisdiction or territory is a tax haven:

- i. Whether the jurisdictions impose no or nominal tax;
- ii. If there is openness or lack of transparency in tax matters of financial dealings;
- iii. Whether there are laws or administrative practices which prevent effective exchange of information for tax purposes with other governments on taxpayers benefitting from no or nominal taxation.

While considering these criteria, it is noted that OECD laid emphasis on transparency to ensure that there are openness and consistency in the application of tax laws among tax payers. It is also necessary that information about taxpayers are readily available to tax authorities in their assessment of taxpayers tax liability.

Exchange of relevant information in tax matters is also considered very important as OECD encourages countries to willingly exchange information with others as the need arises upon request. In this regards is the implementation of appropriate safeguard to protect taxpayers and tax authorities is very important. In the US, for example, over 65% of total international monetary flows pass through tax havens (Botis, 2014). He further states that since the 1980s large US multinational corporations have moved their operations to tax havens under various guises of Foreign Direct Investment (FDI). Other Western European corporations have also followed suit.

ADVANTAGES AND DISADVANTAGES OF TAX HAVENS

The issue of tax havens evokes mixed feelings. For some, they are regarded as places of criminal tax evasions, tax avoidances and other dubious and immoral financial deals. In spite of these feelings, tax havens are associated with some advantages and disadvantages, depending on which side of the divide debate you are.

Advantages

- i. Tax havens enable wealth holders to have safe and means of reducing their tax liabilities. They can provide the world economy with stability and security (Joss, 2016).
- ii. Botis (2014) collaborates and said that one of the advantages of tax havens is the absence of trade verification for both nonresidents and transactions in foreign currencies.
- iii. Mitchell (no date) of Cato Institute has enumerated some advantages for the existence of tax havens.
 - a. Tax havens promote good tax policies around the globe. This is done by pressurizing politicians in high tax countries to lower their tax rates as there is tax competition. Even

OECD policy makers now understand that tax competition can be pro-growth in the global economy. Furthermore tax havens have helped to convince high tax nations that high tax rates force taxpayers to exploit the alternative of taking the wealth and income elsewhere.

- b. According to World Bank data, tax havens made up 9 out of 13 richest jurisdictions. Some researchers have also opined that tax havens grow fast and create more prosperity for their people.
- c. Tax havens promote improved governance. There is the quest to become tax havens by nations to adopt the law and sound financial institutions.
- d. Tax havens also assist high-tax nations enjoy more prosperity. The high tax countries are pushed to improve their tax policies in order to compete for global investment.
- iv. Proponents of tax havens have also argued that tax havens oil the wheels of financial capitalism (Christensen, 2009).

Disadvantages of Tax Havens

Tax havens are associated with many disadvantages notwithstanding the above mentioned advantages.

- i. Tax havens are associated with tax evasion and tax avoidance. Tax evasion is criminal while tax avoidance is not criminal but involve some moral burden.
- ii. Huge financial transactions in tax havens through the offshore financial dealings have been known to trigger off global financial crises such as the 2007/2008 Economic global meltdown.
- iii. Christensen (2009) observed that tax havens have largely aided capital flight and tax evasion which losses in developing countries far outweigh any aids and grants. Other forms of losses arise from transfer mispricing and falsification of invoice. Shaxson (2011) says that they offer escape routes from financial criminal laws.
- v. One of the devastating problems of tax haven and offshore opaque financial systems is the effect on developing countries. Huge sums of resources and funds in developing nations are siphoned out of the countries into tax havens. Most of the funds are products of corruption. Christensen (2009) was moved to query the emphasis on demand side of corruption – third world leaders who pay out bribes and transfer funds out of their countries. This debate has been done to the utter neglect of the supply side of corrupt practices – including financial intermediaries who create and administer elaborate legal structures through which illicit cross-border financial flows to tax havens are routed through offshore financial centres. Since political independence, leaders of developing countries have used OFCs and tax havens to pauperize their nations – by exporting public funds that could have been used for economic development..

Further on these and underdeveloped countries, Action on Aid (2013) points out that one of disadvantages of tax havens is that they help to keep over 1.3 billion people in poverty and hunger while denying developing countries the ability to benefit from their own wealth, and raise public funds needed to fight poverty.

COVID-19 PANDEMIC AND OFFSHORE BANKING AND TAX HAVENS

We have briefly discussed offshore banking and tax havens. We now look at how COVID-19 pandemic has affected them. We caution that the pandemic is still current with devastating effect on almost all facets of life globally.

Cannimo (2020) states that COVID-19 pandemic is an illness caused by a novel Corona virus now perceived as severe acute respiratory syndrome. Corona virus 2 (SARS-2) was formerly called 2019-n Cov. It first started in Wuhan city of China. Initially, it was reported to the World Health Organization (WHO) on 31/12/2019. On 30/1/2020, the WHO declared the illness as a global health emergency. About two months later (11/3/2020), the WHO declared COVID-19 as a global pandemic.

In brief, we say that the illness is caused by SARS-COV-2. (Please note SARS is not connected with the arm of the Nigerian police dealing with armed robbery. It is called SARS – Special Armed Robbery Squad). WHO called it COVID-19 which is an acronym for “Corona Virus Disease, 2019”. The generalized name was selected to avoid stigmatizing the origin of the disease in terms of geography and population even if it has its origin in China. Perhaps, for this reason, Donald Trump (the US President) has insisted it is China virus. On 11/2/2020, a study group of International Committee on Taxonomy of Viruses gave COVID-19 official designation as acute respiratory syndrome, corona virus 2 (SARS COV-2) this was on 11/2/2020.

From China COVID-19 started to spread like wildfire to all parts of the world. The mode of transmission was through people travelling. In Nigeria the first case, called Index case, was on 27/2/2020. After international travelers were halted by ban of foreign travels, the spread started on what NCDC (Nigerian Centre for Disease Control) called community transmission. The novel disease has no known medical cure for now and since then all efforts are on to control its spread.

In history, since the plagues of Egypt in Bible, the world and humanity has suffered series of epidemics and pandemics. However, discussion on these and many other aspects of COVID-19 are outside the scope of this work. This study limits itself to financial effects and more specifically how it has affected offshore banking and tax havens.

But before we go into this, it will not be out of place to state briefly some devastating effects on some aspects of the world.

Indranil Chekraborty (2020) for the WHO noted some of these effects:

1. **Socio-Economic Effect:** The UN’s framework warns that COVID-19 pandemic devastating effect apart from health. All aspects of the society including societies norms, life patterns and the economies have been affected. The effects vary from one country to another. But the bottom line is that COVID-19 has increased poverty and inequalities. The effects will continue for the unforeseeable future. No doubt, the achievements of Sustainable Development Goals (SDGs) will be adversely affected with increased global sufferings. The developing countries are the worst hit, given their low level of development.
2. **Migration:** Migration is severely affected since it is almost halted for sometime especially on the international level. Even at local level, the lockdown (total and later partial) is a testimony of the effect on migration. It is perceived that control of human movement will help to control the spread. The suspension of movement also affected religions worships. But partial lifting of the lockdown has come to the rescue.

COVID-19 PANDEMIC EFFECT ON THE BANKING SECTOR

According to Price Waterhouse (PWC) Consulting (2020), the general economic slowdown as a result of COVID-19 has risks on the banking sector. They summarized the effects as:

- (i) Economic contraction which results from near stoppage of the entire economic sectors;
- (ii) There is reduction of receivables in the bank revenue such as interest earned, cost of turnover (COT) or Accounts maintenance fee as recently renamed by the Central Bank of Nigeria (CBN);
- (iii) There is higher risks of default of loans and advances repayment. The borrowing accounts shutdown operations and cannot service their borrowing. The result has produced more bad loans and non-performing accounts;
- (iv) There is increased burden on the banks to keep staff whose life are at great risks. The staff emoluments are paid from the drastically scaled down operations.

Blake and Weisman (2020) for the World Economic Forum, state that world governments and policymakers must help to maintain financial stability among other objectives. Advanced economies must support developing countries to remain capable of maintaining their financial services preferably through digital channels. They add that nations' financial systems must be made resilient with fiscal support, regulatory flexibility and liquidity provision to ensure the financial system supports economic recovery. Failure of the financial system will precipitate more financial crisis.

Another study by Aldasoro, Fender Hardy and Tarashev (2020) note that banks have been harder hit than most sectors from the spread of COVID-19 pandemic. However, banks with higher profitability and healthier balance sheets have shown more resilience than those with less profitability and less healthy balance sheets.

COVID-19 PANDEMIC AND OFFSHORE BANKING

Let us now briefly consider how COVID-19 pandemic has affected offshore banking.

Farmer (2020) assessed offshore banking business post COVID-19 pandemic. He made some observations – some of which are:

- (a) Opening of more offshore bank accounts – more people will attempt to open offshore bank accounts – More offshore banks will likely lower their minimum deposits requirements. They will make more use of technology and offer online banking options to enable customers setup and operate offshore accounts without being physically present. In other words, more people of substantial means can more safely stowaway their assets while diversifying their investment during this COVID-19 pandemic. The sordid revelations of stealing by public officers will find more safe areas to take shelter.
- (b) Setup offshore companies as a part of the offshore banking people – can move out to setup companies in foreign jurisdictions. Setting up an offshore company will provide reduction in taxes and less disclosures. With online operations, you can setup offshore corporation within a short time.
- (c) Acquiring foreign citizenship – Farmer (2020) opines that money bags can acquire foreign citizenship in what he called “citizenship by investment” which involves investment of money in exchange for passport. Countries such as Portugal, Belgium, Panama, Argentina, Spain, Cyprus and Chile have exploited this method of citizenship.

He reports that Cyprus, for example, has increased its citizenship by this system upto 250% pre-COVID-19. This system, therefore has offered wealthy investors the option of getting second citizenship and passport.

- (d) Farmer (2020) encouraged wealthy investors to take the option of offshore banking and investment to secure their finances. There are many uncertainties about the way the economies (especially the developing ones) will go in the next few years. People need to find out in which offshore jurisdictions to invest.

De Vicentes (2020), in his study, observes that COVID-19 has dramatically changed the face of finance, markets and investments around the world. Things may never be the same again as people now talk of “new normal” ways of doing business even in the offshore banking. In the post-pandemic planning, offshore is now where to go.

COVID-19 AND TAX HAVENS

In the first part of this paper, it is seen that offshore banking is in tandem with tax havens. They are like two inseparable Siamese twins. COVID-19 pandemic has revived the international interests on the existence of tax havens. This may not be strange as many leaders consider taxes as very important in the economic recoveries and government supports. Some have opined that firms using tax havens should not be allowed access to the large scale stimulus packages being arranged for post-COVID-19 recoveries.

Christensen (2020) states that world leaders’ reactions against tax havens is similar to the reactions in the wake of global financial crisis of 2007-2009. Tax havens were considered as sources of financial crisis and fiscal instability that worsened the crisis. Many nations consider COVID-19 as good opportunity to cooperate and use progressive taxation to fight against tax havens. At local and international levels, the feeling is that all available taxes should be collected. But this feeling is antithetical to aspirations of tax havens. According to Christensen (2020) COVID-19 has brought the issues of tax havens back to the agenda of world leaders. The “blacklist” or list of non-cooperative jurisdictions for tax purposes is back to the agenda of global tax politics. Governments of developed countries, therefore, using state power to force to avoid tax havens if they are to qualify to receive stimulus recovering packages.

Developing countries are persuaded to use this window of opportunity to deal with capital flights and depletion of their wealth to tax havens. But, one can guess that the persuasion will not work (especially in Nigeria) because, over the decades, looting public funds and transferring them to offshore banks and tax havens have been done without qualms. OECD has hinted that developing countries could use this post-COVID-19 period to reexamine how international tax rules and practices meet their needs. The OECD opines that the post COVID-19 tax agenda should be used to correct various abusive tax practices bedeviling developing nations. But, like I said earlier, it is doubtful if leaders of developing nations will be enthusiastic about reorganizing their tax rules and practices.

Another study by Lemaitre (2020), states that COVID-19 pandemic has exposed how the health systems of various have been relegated to brink of budget restrictions. The result is revenues are lost through tax evasion, tax avoidance practices aggravated by tax havens. It is hoped that post COVID-19 will raise the requisite attention to the apparent disgust of tax havens. Panama papers show how creative and wealthy individuals are at weaving nests of tax avoidance. According to Lemaitre (2020) over US \$500 billion annually are lost to tax havens. In UK some 25%

corporate tax revenues are estimated to be lost to tax havens or what Tax Justice Network identified as “axis of tax avoidance”. Post COVID-19 actions are focusing on tackle these monumental losses. If these lost taxes could be recovered, they could be used to fund healthcare needs.

Conclusively, the effects of COVID-19 pandemic on offshore banking and tax havens are yet to be definitive because the pandemic is still ravaging the world. It will take sometime before the effects become obvious.

It is recommended that this is a golden opportunity to review the entire system of offshore banking and it’s Siamese twin of tax havens.

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INFORMATION SOURCING PATTERNS OF RURAL FARMERS FOR AGRICULTURAL PRODUCTION IN NIGERIA'S COVID-19 ERA

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ABSTRACT

The outbreak of COVID-19 has posed a serious challenge to the global community with every country and sector having a fair share of the impact on its economic activities. Agriculture, which is the mainstream of the economy of many countries, including Nigeria, is one of the sectors that are affected by this pandemic. This study therefore, investigated how the outbreak of COVID-19 has impacted on the information sourcing patterns of rural farmers in Nigeria. Survey research design was adopted with the questionnaire used as the research instrument for data collection. Data collected were analysed through descriptive method with multivariate frequency distribution tables and SPSS used as the statistical tools for data analysis. Findings revealed that the outbreak of COVID-19 pandemic did not stop farmers from seeking agricultural information even though their preference for information in areas such as fertilizer application and weed control was higher compared to areas like agriculture loans, pest control and seed selection among others. Rural farmers in Nigeria were more exposed to the informal sources of agricultural information such as family members and fellow farmers compared to the formal and professional sources such as extension workers and the mass media. Among the sources of agricultural information available, the most credible one to rural farmers, however, was not related to the sources most available to them as radio was regarded as the source more credible and trustworthy to them as against family members and fellow farmers which happened to be the sources more available to the rural farmers in this period. Finding also revealed that the demand for information among rural farmers was not significantly related to the level at which such demands were met as sources of the agricultural information available to rural farmers were able to satisfy their information needs but to a little extent. Finding finally revealed that rural farmers faced the major challenge of poor radio/television signals, while lack of ownership of the radio/television set, COVID-19 lockdown protocol, lack of ICT infrastructure and illiteracy were the additional challenges that rural farmers faced in seeking for agricultural information in the era. The conclusion of this study was that the outbreak of COVID-19 does not make agricultural information less important to rural farmers in Nigeria but certain factors limit the sources available from satisfying their agricultural information needs. The study recommended that rural farmers' agricultural information seeking behaviour in areas like agriculture loans, pest control and seed selection among others should be enhanced as it is by doing so that they can acquire adequate knowledge enough to fully develop the sector. Rural farmers should be trained in different areas of agricultural activities to make them more trustworthy by their folks since they are the closest sources to farmers in the rural areas.

Keywords: Information Sourcing Patterns, Rural Farmers, Agricultural Production, COVID-19 Era

INTRODUCTION

Information is an important commodity used in the realization of any objective set by an individual or group. Information equips one with the knowledge needed to overcome challenges and take the appropriate step at the right time. A community cannot develop without knowledge, and a community can only become knowledgeable if they recognize and use information as their tool for development (Olaniyi and Ogunkunle, 2018; Bankapur and Bhavanishankar, 2018; Idiake-Ochei, Onemolease & Erie, 2016; Demet, Nilay, Marco & Tunç, 2016; Awili, White & Kimotho, 2016; Kamba 2009; Moore 2007; Sharma and Fatima, 2004). Information is sourced and used for different reasons as some use it for health, occupation and income generation, self-governance, agriculture, education, religion, recreation, current affairs, advancement in knowledge, while others for politics. To all these people, information seeking is a fundamental human process closely related to learning and problem solving. It can be noted that “The decisions concerning which communication channels and information systems will be used, as well as in which way and how they constitute the information seeking behaviour of a user” (Siatri, 1999, p. 135). Individual tasks for knowledge advancement, creativity and future documentation are factors that constitute the search for information (Awili, White and Kimotho, 2016; Islam and Ahmed, 2012).

Agriculture which is the leading sector of the economy in most developing countries is one of the areas that information is constantly sought and used. In Nigeria, the importance of Agriculture to the economy cannot be over emphasized despite the growth of industries, oil and commerce, it had continued to be the principal economic activity carried out by most Nigerians (Lughlugh, 2020; Stienen, Bruinsma & Neuman, 2017; Mwangi and Kariuki, 2015; Lwoga, 2010) and it is crucial to meet the information needs of farmers for the development of the sector (Demet, Nilay, Marco and Tunç, 2016). The strategic importance of increasing access to knowledge and information is emphasized in the Human Development Report (UNDP, 2001), World Summit for Sustainable Development Plan of Action (UN, 2001) and the Revised World Bank Rural Development Strategy (Odoemelam and Olojede, 2016). To interact with the other factors of production, agricultural information is an essential factor. The farmers decision-making is facilitated towards improved agricultural production, processing, trading and marketing through an effective and efficient release system of essential information and technology services (Anju and Satbir, 2017; Ukachi, 2015; Chen, Liu and Yang, 2011; Rodman, 2006). Success in enhancing agricultural production, providing income and job opportunities and ensuring that the agricultural sub-sector performs its manifest function in furtherance of rural and overall national development, depends largely on the communication system adopted to implement various agricultural programmes (Saleh, Burabe, Mustapha & Nuhu, 2018; Idiake-Ochei, Onemolease & Erie, 2016; Opara, 2008; Adomi, Ogbomo & Inoni, 2003). In fact, there is a positive relationship between the increased flow of knowledge and information and agricultural development (Fawole, 2008 in Anju and Satbir, 2017).

Information needs of rural farmers may range from field acquisition, agricultural inputs (seeds, pesticides, agricultural equipment, weather conditions, harvest technology etc), agricultural technology, agricultural credit (eg. terms of loans), to agricultural marketing, and food technology (Meitei and Devi, 2009 in Demet, Nilay, Marco and Tunç, 2016). Farmers get their information through a number of sources. For instance, in a research conducted in different rural

areas of Philippines, it was found that the most common information source of farmers about new seed varieties was other farmers (Demet, Nilay, Marco and Tunç, 2016; Bello and Obinne, 2012). The most common sources where farmers get related and necessary information that they require are publications (magazines, books etc.), other farmers, family members and friends, community libraries with adequate agricultural sources, visits to organic farms, possible attendance at seminars and regional meetings, and audio-visual sources for farmers with lower literacy level (Padel, 2001 in Demet, Nilay, Marco and Tunç, 2016). Others include: radio, television, trade associations, age groups, extension workers, friends, relatives, posters, handbills, pamphlets and mobile phones (Olajide, 2011; Adio, Abu, Yusufu & Nansoh, 2016; Bello and Obinne, 2012, Ukachi (2007).

Farmers need to be connected to the communication channels through which appropriate information is flowing (Ukachi and Ayiah, 2017). However, some studies that investigated agricultural information used by farmers still found that the majority of these information sources are grossly underutilized by the farmers (Bello and Obinne, 2012; Ugwoke, 2013). Mashroofa and Senevirathne (2014) in Ukachi and Ayiah (2017) stated that farmers need information to identify the cost, storage, usage, varieties of newly introduced seeds, pesticides, and weather in order to get maximum yields and best production. To be able to satisfy these needs, information must be provided to farmers in a format most appealing and comprehensive to them (Mashroofa and Senevirathne, 2014 in Ukachi and Ayiah, 2017).

The outbreak of a novel disease called CoronaVirus Disease 2019 popularly known as COVID-19 which was discovered in the year 2019 in Wuhan, China has posed a serious challenge to all nations of the world. Every economic activity is affected by the outbreak of this pandemic and the agriculture sector is not an exception. There is already existing evidence on the impact of the COVID-19 on agriculture and food security across the globe, including Nigeria (World Farmers' Organisation, 2020; Sasakawa Africa Association, 2020; Padam et al., 2020; World Food Programme, 2020; Schmidhuber, Pound and Qiao, 2020; Obayori, Nchom and Yusuf, 2020; CGIAR, 2020; Omekwe, Omiekuma and Obayori, 2020). For instance, Padam et al (2020) have examined the COVID-19 and its global impact on food and agriculture and found that the pandemic protocols and provisions interferes with the supply chain of the market with impaired production and distribution, accompanied with lack of labor and supply of inputs. This, according to them, vastly affects the livestock, poultry, fishery as well as dairy production. The planting of spring crops like maize, sunflower, spring wheat, barley, canola and open field vegetable can't be operated amidst pandemic. Omekwe, Omiekuma and Obayori (2020), in their study on the effect of Coronavirus on agriculture and education in Nigeria found that Covid-19 has adverse effects on the agriculture and education sectors of the Nigerian economy. Amongst such effects include insufficient food supply, poor agricultural production and poor labour supply. The Economic Community of West African States (ECOWAS) estimated that COVID-19 pandemic risks food insecurity and nutrition of 50 million people between June and August 2020. The pandemic adds to other threats including climate change and recurrent drought, fall armyworm (FAW) and locust infestations in West Africa (CGIAR (2020). Investigating how the information sourcing patterns of rural farmers is affected due to the COVID-19 pandemic remains crucial, hence, the need for this empirical inquiry.

Statement of the Problem

A lot of studies in different places have shown the relevance information on the production and development of agriculture (Olaniyi and Ogunkunle, 2018; Bankapur and Bhavanishankar, 2018; Idiake-Ochei, Onemolease & Erie, 2016; Demet, Nilay, Marco & Tunç, 2016; Awili, White & Kimotho, 2016; Kamba 2009; Moore 2007; Sharma and Fatima, 2004). Access to the right information among farmers significantly leads to sustainable agricultural development (Lughlugh, 2020). There are different sources that farmers therefore, derive their agricultural information from in fulfillment of their different agricultural needs. The outbreak of COVID-19 has posed a serious challenge to different sectors of the economy globally. Agriculture is one sector affected by the outbreak of this pandemic and there are speculations of more dangers ahead if pragmatic steps are not taken towards mitigating the impact. Although, some studies are already available on the impacts of COVID-19 on the agriculture sector (World Farmers' Organisation, 2020; Sasakawa Africa Association, 2020; Padam et al., 2020; World Food Programme, 2020; Schmidhuber, Pound and Qiao, 2020; Obayori, Nchom and Yusuf, 2020; CGIAR, 2020; Omekwe, Omiekuma and Obayori, 2020), there seems to be lack of specific empirical studies on how COVID-19 impacts the information sourcing patterns of rural farmers in Nigeria. It is as a result of this gap that this study seeks to investigate how the information sourcing patterns of rural farmers is affected due to the COVID-19 pandemic in Nigeria.

Objectives of the Study

The overall objective of this study is to examine the patterns of information sourcing among farmers in the era of COVID-19 in Nigeria. Specifically, the objectives of this study include:

- i. To find out the agricultural information needs of rural farmers in the era of COVID-19 in Nigeria.
- ii. To examine the sources of agricultural information available to rural farmers in the COVID-19 era in Nigeria.
- iii. To determine the agricultural information sources most credible for rural farmers in the era of COVID-19 in Nigeria.
- iv. To investigate the extent to which the sources of agricultural information available meet the farmers' information needs in the era of COVID-19 in Nigeria.
- v. To ascertain the challenges (if any) farmers face in sourcing for agricultural information in the COVID-19 era in Nigeria.

Research Questions

- i. What are the specific agricultural information farmers seek in the era of COVID-19 in Nigeria?
- ii. What sources of agricultural information are available to rural farmers in the COVID-19 era in Nigeria?
- iii. Which of the agricultural information sources is most credible for rural farmers in the era of COVID-19 in Nigeria?

- iv. To what extent do the sources of agricultural information available meet the farmers' information needs in the era of COVID-19 in Nigeria?
- v. What challenges (if any) do farmers face in sourcing for agricultural information in the COVID-19 era in Nigeria?

LITERATURE REVIEW

Information is conceived as an important resource that contributes immensely to the development initiative of every nation of the world. Every person needs information for decision making. Ideally, information brings about knowledge, and a knowledgeable community is also an informed community. This signifies that a community can not develop without knowledge, and a community can only become knowledgeable if they recognize and use information as their tool for development (Omotayo, 2018; Kamba, 2009; Mchombu, 2006, Singh & Satija, 2006). In fact, Stanley (1990) in Mulauzi and Zulu (2012) posited that information is one of the basic needs after air, water, food, and shelter and for any activity to have a realistic chance of successful execution; it depends largely on the availability and access to accurate and reliable information. It is important therefore, that farmers require the right information as “appropriateness of information is a critical factor needed to stimulate the right knowledge and attitude of farmers towards sustainable transformation of agriculture” (Odoemelam and Alocha, 2015, p 98). Access to the right information by rural farmers can help them to acquire the skills, knowledge and confidence to participate fully in agricultural affairs (Moore, 2007; Oдини, 2005). Limited access to agricultural information is one of the key factors that have narrowed agricultural development in the developing countries. Failure of agricultural service providers to meet the information needs of farmers in relation to agricultural inputs, agricultural technology, extension education, agricultural credit and agricultural marketing in the recent past has been established (Abdu`Rahman, 2018).

A number of studies conducted by different scholars (Lughlugh, 2020; Ifejika, 2016; Olaniyi and Ogunkunle, 2018; Ezech, 2013; Odoemelam and Olojede, 2016; Baba, 2018; Oyeniyi and Olofinsawe, 2015; Idiake-Ochei, Onemolease and Erie, 2016; Abdu`Rahman, 2018) across the globe have shown that agricultural information needs of farmers are in different ways. For instance, in the study by Lughlugh (2020), the findings were that fertilizer and agrochemicals, pest and diseases control, agricultural finance, improved seedlings, post-harvest technology, control of weeds, modern technology application among others were some of the information needs of farmers for sustainable agricultural development in the study area. The Kinds of information sought with mobile phones according to the study conducted by Ifejika (2016) cut across economic, social and health issues in fish market, social gathering, fish catch/gear, health, weather and security related matters. Finding in the study conducted by Olaniyi and Ogunkunle (2018) revealed that farmers' agricultural and nutritional information needs included climate and weather forecast, location and availability of inputs, food safety and hygiene, markets where farm produce are exchanged for other farm produce and disease control. Ezech's (2013) study revealed that information on physical farm measurement, how to estimate farm output, new varieties of seeds and seedlings, best planting techniques and use of fertilizer were the major areas extension agents applied ICTs in facilitating agricultural activities.

Similarly, in their study, Odoemelam and Olojede (2016) found that the youth needed information on density/plant, nursery management, site selection and fertilizer application; while FADAMA III information needs of farmers according to the study by Baba (2018) included that adoption of environmental friendly practices, operation and maintenance of infrastructure such as agricultural production assets, fishery equipment, agro-processing equipment and community social assets, operation and maintenance of irrigation facilities, preparation of local development plans following participatory and socially inclusive processes, techniques for participatory planning and conflict management, awareness raising strategy and capacity building for environmental screening, review and reinforcement respectively. The study by Oyeniyi and Olofinsawe (2015) showed the information needs of farmers in order of magnitude included pest control, preservation of farm produce, and animal treatment. Idiake-Ochei, Onemolease & Erie's (2016) study showed that the information type largely sought by farmers included animal production technology, while the least sought was agricultural credit and value chain. The information needs of the farmers according to the study conducted by Abdu`Rahman (2018) can be categorised into know-how which included what to plant and inputs such as seed varieties to use; market information such as the demand indicators, prices and logistical information; and the contextual information such as best agricultural practices and weather forecast. Diemer, Atuhaire, Fuhrmann & Inauen (2020), in their study revealed that farmers are most likely receptive to organic pest management information at times when they develop an information need (e.g. when encountering a new pest). While Meyers, Gracey, Irlbeck & Akers (2015) revealed in their study that the strongest motivations for accessing agricultural blogs were to find out what other people think about important issues or events and to find alternatives not covered by traditional news sources.

Some of the studies conducted (Ogunniyi and Ojebuyi, 2020; Lughlugh, 2020; Asa and Uwem, 2017; Odoi, 2017; Adegebo, 2016; Ifejika, 2016; Banya, 2014); Folitse, Osei, Dzandu & Obeng-Koranteng, 2016) have shown the influence of agricultural information on farmers. For instance, a study conducted by Adegebo (2016) revealed that dissemination of agricultural information, adoption of positive attitude and the effective use of knowledge positively influenced small scale farmers' productivity in the Southwestern region of Nigeria. In their study Asa and Uwem (2017), revealed that Getting information from fellow farmers, marketing of produce, accessing inputs for farming, getting agricultural information from radio and the internet, and accessing extension services were the major agricultural uses of mobile phones by farmers in the study area. Ifejika (2016), in the study conducted revealed that mobile phones improved information seeking behaviour of fisherfolk with associates in the fishing communities than with outsiders in government establishments. Banya (2014) found that the farmers have a positive perception of the messages they received mostly through communication channels such as personal contacts with agric extension agents (AEAs) and mobile phones. Folitse, Osei, Dzandu & Obeng-Koranteng (2016), in their study found that farmers had gained knowledge in various improved practices as a result of the Royal FM agricultural programme and increase in knowledge has resulted in increased agricultural output and productivity leading to higher sustainable incomes. Majority of the farmers indicated that they were satisfied with the programme as it had improved the use of agricultural technologies in the area. It was also found that the programme had impacted positively on the livelihoods of the farmers in the study areas (Folitse, Osei, Dzandu & Obeng-Koranteng, 2016). Mobile phone use as found in the study by Ogunniyi and Ojebuyi

(2020) contribute to increase in farmers' income, reduction in transaction and transportation costs, and increase in farm productivity. Odoi (2017) revealed in the study that farmers used the acquired information despite challenges encountered and that led to improvement in banana yields.

Similarly, other studies (Statrasts, 2004; Riesenbergs and Gor, 1999; Adhiguru, BIRTHAL and Kumar, 2009; Ogboma, 2010; Babu, Glendenning, Asenso-Okyere & Govindarajan, 2011; Meitei and Devi, 2009; Mtega and Benard, 2013; Daudu, Chado & Igbashal, 2009; Ogboma, 2010; Similarly, Bozi and Ozcatalbas, 2010; Asa and Uwem, 2017; Ezech, 2013; Ijiekhuamhen and Omosekejimi, 2016; Oluwatoyin, 2016; Suleiman, Ogakason & Faruk, 2018; Umunakwe, Nnadi, Chikaire and Nnadi, 2014; Olaniyi and Ogunkunle, 2018; Yohanna, Ndaghu & Barnabas, 2014; Ogunsola, Ogunsola, Alarape, Oloba and Osalusi, 2019; Pamphily, Harrison and Emily, 2017; Odoemelam and Alocha, 2015; Ha, Okigbo and Igboaka, 2008; Ekoja, 2003; Kleih, Okoboi and Janowski, 2004; Mwakaje, 2010; Kari, 2007; Weiss, Van Crowder and Bernard, 2000; AgREN, 2000; Kalusopa, 2005; Alimi, Olugbenga and Ayoola, 2017; Ifejika, 2016; Uzuegbu and Naga, 2016; Saleh, Burabe, Mustapha and Nuhu, 2018; Odoemelam and Alocha, 2015; Wulystan, 2018) indicate a number of sources of agricultural information accessed by farmers and the strengths and weaknesses of some of the sources. Information source refers to the institution or an individual that creates or brings about a message (Statrasts, 2004). The characteristics of a good information source are timeliness, accuracy, relevance, cost-effectiveness, trustworthiness, usability, exhaustiveness and aggregation level (Statrasts, 2004). The selection of an information source depends on a number of factors; including level of income, farm size, age, geographical location, level of education (Riesenbergs and Gor, 1999). Using the Indian NSSO 2003 survey, Adhiguru, BIRTHAL and Kumar (2009) found that small and marginal farmers accessed less information and from fewer sources than medium and large Scale farmers. Ogboma (2010), Babu, Glendenning, Asenso-Okyere & Govindarajan (2011), Meitei and Devi (2009), and Mtega and Benard (2013), mention some information sources used by farmers in accessing their agricultural information including: newspapers, journals, bulletins, community leaders, and farmer groups. Another study by Daudu, Chado & Igbashal (2009) reported that farmers used agricultural extensions, posters, televisions, and radios as their source of information. Ogboma (2010) noted the sources of information used by rice farmers were personal experience, workshops and Seminars, training, friends and neighbours, Ministry of agriculture, magazines of agriculture, extension officers, local Government officers, non-Governmental organisations, libraries of agriculture and posters. Balkrishna and Deshmukh (2017) in their study found that social media was a very useful tool in agricultural marketing.

Similarly, Bozi and Ozcatalbas (2010) and Yohanna, Ndaghu & Barnabas (2014) in their separate studies revealed that family members, neighbour farmers, extension services, input providers and mass media were key sources of information for Turkish farmers. According to the study conducted by Asa and Uwem (2017), majority of the respondents (98.7%) had access to mobile phones in the study area and majority of them (90.5%) actually owned mobile phones. Ezech (2013) found that although many ICT facilities exist; radio, television and phones sourced personally from open market were the most readily available ICT facilities owned, accessed, and utilized by most farmers, consequently, the level of access and utilization of these facilities were found to be generally low among the respondents. Ijiekhuamhen and Omosekejimi's (2016) study clearly indicated that the major source of information for the respondents was friends and

family members with 95% of the respondents attesting to that, another 75% of the respondents indicated age groups as their source of agricultural information respectively. Oluwatoyin (2016) found that the mass media and the extension agents were the major sources of Agricultural Information for the farmers. According to Suleiman, Ogakason & Faruk (2018) farmers have access to social media platforms and use them to source agricultural information. Umunakwe, Nnadi, Chikaire and Nnadi (2014) revealed that radio (61.6%), extension agents (35.8%) and newspaper (27.5%) were the major sources of agricultural information on climate change identified by farmers. Ogunsola, Ogunsola, Alarape, Oloba & Osalusi (2019); Olaniyi and Ogunkunle (2018); Ha, Okigbo and Igboaka (2008) and Ekoja (2003) revealed the sources of agricultural and nutritional information explored by farmers as: extension agents, mobile phone, friends and neighbors as well as radio. Pamphily, Harrison and Emily (2017) also found that the majority of the farmers accessed agricultural information through radio (68.3%) followed by traditional sources (47.7%) and mobile phones (34.9%). On information networks, farmer to farmer markets, Churches were the highest source of their information network available to farmers (Odoemelam and Alocha, 2015). Kuria (2014) found that agricultural information is highly required among a majority of farmers in the study area and they sourced for agricultural information from a variety of sources, including the internet, social media and extension services.

Interviewing 175 farmers and 56 traders in Lira Uganda, Kleih, Okoboi and Janowski (2004) study revealed that radio (75%) was the main source of information among commodity traders. Mwakaje, (2010), in Tanzania studying 200 farmers indicated that market information sources are dominated by fellow farmers (88.8%), relatives (56%) and traders (37.5%). The study done by Kari (2007) revealed that rural Nigerians have access to agricultural agents and rural health workers (24%), radio (8%), television (6%), GSM services (2.66%) and newspapers (2%). According to the study, radio and Television are often seen as entertainment media rather than sources of information (Kari, 2007). In southern Africa, remote sensing data and geographical information systems are used to provide information to farmers on agricultural production conditions and food security (Weiss, Van Crowder and Bernard, 2000). According to AgREN (2000), the major sources of information and knowledge for smallholder farmers in Kenya are local means such as family, markets, neighbours and community based organisations. The study done in Zambia by Kalusopa (2005) showed that farmers use non-governmental organisations such as farmers union (63.9%); government extension agents (36.7%); personal experience (46.8%), and local groups (Indigenous Knowledge) (36.7%) as the main sources of information for agricultural development. Ogunniyi and Ojebuyi (2020) found that among all the mobile phone features, the most used feature by farmers is radio at the rate of 75.9%, while the mostly deployed phone service is voice call (83.4%).

Print media and audio-visuals (radio and television) were the major information sources of rural women farmers (Alimi, Olugbenga and Ayoola (2017). Ifejika (2016) revealed regular use of close associates than extension workers as a pattern of information seeking behaviour of farmers. Uzuegbu and Naga (2016) in their study revealed friends and relatives, mobile phones, newspapers, agricultural workshops/seminars/conferences, agricultural extension workers, radio, churches, Internet, farm demonstrations, television (TV), village leadership, education and research institutions, and posters/handbills/billboards were the sources of agricultural

information available to farmers. Saleh, Burabe, Mustapha and Nuhu (2018), however, revealed in their study that the use of print in information dissemination in agriculture could not be suitable for teaching farmers with limited education. Odoemelam and Alocha (2015) on perceived weakness and strength of the information network, the information quality, frequency of use, timeliness of information flow, and link up of information were adequate while reliability of information was not adequate. The results show that intra-community information flow was suitable and accessible to rich farmers while inaccessible and often irrelevant to poor farmers. Based on the study conducted by Wulystan's (2018), the accessibility of radio and television sets, gender based division of labour, language, number of agricultural programmes broadcasted and awareness of the broadcasting time of agricultural programmes were among the factors influencing their usage as sources of agricultural knowledge.

Furthermore, a number of studies (Tologbonse, Fashola & Obadiah, 2008; Adegebo, 2016; Ogar, Dika and Atanda, 2018; Ifejika, 2016; Toluwase and Apata, 2017; Byamugisha, Ikoja-Odongo, Nasinyama & Lwasa, 2008; Aina, 2004; Owolade and Kayode, 2012; Babu, Glendenning, Asenso-Okyere & Govindarajan, 2011; Mtega and Benard, 2013, Mbagwu, Benson and Onuoha, 2018; Awili, White and Kimotho, 2016; Thuo, 2018; Abdul-Aziz and Baba, 2017; Oladimeji, 2006), however, revealed the challenges in accessing agricultural information by rural farmers for agricultural production. For instance, Tologbonse, Fashola & Obadiah (2008) found that challenges facing farmers in accessing agricultural information were outdated information, language barrier, lack of awareness on existence of different information sources, lack of funds to acquire information and poor format of information carriers. The study by Daudu (2009) pointed out some of the problems encountered by farmers in Nigeria in accessing agricultural information. These included financial problems, inadequacy of facilities/professionals, incomplete or irrelevant information. Adegebo (2016) and Ifejika (2016) in their separate studies revealed that irregular visits by extension agents, inadequate knowledge and skill, poor loan access, poor radio transmission signals and network services, and poor electricity supply were some of the constraints hindering their access to agricultural information. Ogar, Dika and Atanda (2018), in their study have identified widespread of illiteracy, poverty, hunger, and disease, absence of basic infrastructure such as water, roads, schools, electricity and health services as having negative impact on agriculture and rural development.

Similarly, Byamugisha, Ikoja-Odongo, Nasinyama & Lwasa (2008), in their study revealed the challenges encountered by farmers in Uganda when searching for agricultural information as lack of cooperation from fellow farmers in sharing agricultural information and language barriers. Ogunniyi and Ojebuyi (2020), Mbagwu, Benson and Onuoha (2018), Thuo's (2018), Mtega and Benard (2013), Owolade and Kayode (2012) and Aina (2004), identified the epileptic electricity supply, limited number of radios and television sets, poor/unreliable information infrastructure, low literacy level of farmers, inadequate number of personnel trained in agricultural information, lack of credit facilities and inadequate information from extension agents as factors affecting farmers in accessing agricultural information. Babu, Glendenning, Asenso-Okyere & Govindarajan (2011) revealed that the major constraints facing farmers in accessing information were poor availability, poor reliability, lack of awareness of information sources among farmers and untimely provision of information. Awili, White and Kimotho's (2016) results of the study rather showed a negative and significant relationship between

language barrier, farmers' attitude and effective communication of agricultural information. Abdul-Aziz and Baba's (2017) findings revealed that farmers lack awareness for using the Internet as an alternative means of getting Agricultural Information easily even with the shortage of extension agents. The study further identifies the farmer's constraints in using the internet for information to low awareness, low access and lack skills. Oladimeji's (2006) study revealed that the diversity of the languages in Nigeria presupposes that for farmers to have access to agricultural information through the radio and television, the language of presentation has to be based on that of the listeners.

Theoretical Framework

This study is anchored on the Uses and Gratifications Theory. Uses and Gratification Theory" or "need seeking" is one of the theories of communications that focuses on social communications. This theory adapts a functionalist approach to communications and media, and where study on information sourcing patterns of the people such as this is to be carried out, this theory is relevant because it pointed that media's most important role is to fulfill the needs and motivations of the audience. Therefore, the more these needs are met, the more satisfaction is yielded (Windahl, Signitzer and Olson, 2008 in Mehrad and Tajer, 2016). Audience's overall motive of seeking for information is to satisfy their already predisposed needs of seeking for such information. This theory initially therefore focuses on the motifs of the audience (Ruggiero, 2000 in Mehrad and Tajer, 2016) and then analyzes the message and social system (Sarkisian, Nikoo, Saeedian, 1997 in Mehrad and Tajer, 2016). In other words, this theory concentrates on how users like farmers seek media and to what extent they are satisfied with its type, content, and method of use (Amiri, Noori and Basatian, 2012 in Mehrad, and Tajer, 2016).

RESEARCH METHODOLOGY

Survey research design was adopted in this study and the questionnaire was used as the research instrument for data collection. Survey research was used because it enabled us to access a large amount of the quantitative data from the respondents. The population of the study comprised rural farmers across the six geo-political zones of Nigeria. Farmers from one state in each of the six geo-political zones of the country formed the population of the study as thus: (i) Oyo- 867846, (ii) Enugu- 516820, (iii) Edo- 419106, (iv) Kano- 4013611, (v) Bauchi- 1032907, and (vi) 694422 (National Bureau of Statistics, 2012). Therefore, the population of the study comprised 7,544,712 farmers in Nigeria. The sample size of the study was 1111 which was determined using a published sample size determination table which shows that if the population size of the study is greater than 100,000, the sample size of that study under the confidence level of 95% and 3% error margin should be 1111 (Taro Yamane, 1967 in Kusugh, 2017). Stratified sampling technique was used to group the country into six zones based on the already existing stratifications, after which purposive sampling technique was used to select one state from each of the strata. Purposive sampling technique was used because it enabled us to select one state from each geopolitical zone which farmers were most affected by the COVID-19 pandemic as at the time of the study and an agrarian state, except where state most affected in the zone was not an agrarian or metropolitan in nature or a conflict prone state. Based on this, the states sampled in the study were (i) Oyo (South West), (ii) Enugu (South East), (iii) Edo (South South), (iv) Kano (North West), (v) Bauchi (North East), and (vi) Plateau (North Central). Respondents were sampled proportionate to the population size of each state using the formula thus:

$$\frac{S \times n}{N}$$

Where;

S = Size of State

n = Sample Size

N = Total Population

$$\text{Oyo} \quad \frac{867846}{7544712} \times \frac{1111}{1} = 128$$

$$\text{Enugu} \quad \frac{516820}{7544712} \times \frac{1111}{1} = 76$$

$$\text{Edo} \quad \frac{419106}{7544712} \times \frac{1111}{1} = 62$$

$$\text{Kano} \quad \frac{4013611}{7544712} \times \frac{1111}{1} = 591$$

$$\text{Bauchi} \quad \frac{1032907}{7544712} \times \frac{1111}{1} = 152$$

$$\text{Plateau} \quad \frac{694422}{7544712} \times \frac{1111}{1} = 102$$

Based on the proportionate sampling technique used, 128 respondents were sampled in Oyo, 76 in Enugu, 62 in Edo, 592 in Kano, 152 in Bauchi, and 102 respondents in Plateau respectively. The research instrument used in the study was the questionnaire. The questionnaire was administered on the respondents through face-to-face using the research assistants in the area which were taught how to carry out the exercise. Data in this study were collected through primary and secondary sources. Under primary sources, the questionnaire was used for data collection, while journal articles, books, Internet and materials were used as sources of the data under secondary sources of the data collection. The data collected were analysed using a descriptive method. Multivariate Frequency Distribution Tables and SPSS were used as statistical tools for data analysis under descriptive method.

DATA ANALYSIS

A total of 1060 copies of the questionnaire, representing (95%) out of the 1111 copies administered on the respondents returned in good shape for analysis while, 51 copies representing (5%) suffered mortality because some of them were not returned while others were returned but not suitable to be used for analysis because they were wrongly completed by the respondents. The breakdown of the number of the questionnaire returned and not returned according to the States sampled in the study is as follows: In Oyo, 123 (96%) returned while 5 (4%) out of the 128 copies of the questionnaire administered on the respondents suffered mortality; in Enugu, 72 (95%) copies were returned for analysis while 4 (5%) out of the 76 copies suffered mortality; in Edo, 59 (95%) copies were returned while 3 (5%) suffered mortality; in Kano, 564 (95%) copies returned while 27 (5%) suffered mortality; in Bauchi, 145 (95%) copies returned while 7 (5%) suffered mortality; while in Plateau State, 97 (95%) copies

returned while 5 (5%) suffered mortality. Therefore, the 1060 representing 95% returned out of the 1111 copies of the questionnaire administered on the respondents is significant enough and therefore formed the basis for analysis in this study while the mortality rate of 51 representing 5% is highly insignificant to affect the data for this study. The analysis of this study is therefore based on the 95 percent of the questionnaire returned in the study.

Research Question 1: What are the specific agricultural information farmers seek in the era of COVID-19 in Nigeria?

Table One: Farmers' Agricultural Information Needs in the era of COVID-19 in Nigeria

Variable	No. of Respondents												Total	
	Oyo		Enugu		Edo		Kano		Bauchi		Plateau			
Fertilizer application	41	33.3	20	27.8	19	32.2	241	42.7	44	30.3	29	29.9	394	37.2
Agriculture loans	7	5.7	6	8.3	5	8.5	39	6.9	9	6.2	8	8.2	74	7.0
Weed control	19	15.4	11	15.3	8	13.6	129	22.9	21	14.5	18	18.6	206	19.4
Pest control	13	10.6	7	9.7	4	6.8	21	3.7	14	9.7	11	11.3	70	6.6
Seed selection	6	4.9	4	5.6	3	5.1	29	5.1	9	6.2	7	7.2	58	5.5
Agric marketing	9	7.3	5	6.9	3	5.1	21	3.7	11	7.6	6	6.2	55	5.2
Crop rotation practices	3	2.4	1	1.4	1	1.7	13	2.3	5	3.4	2	2.1	25	2.4
Land preparation	2	1.6	3	4.2	2	3.4	9	1.6	3	2.1	2	2.1	21	2.0
Farm labourers	1	0.8	3	4.2	1	1.7	7	1.2	2	1.4	1	1.0	15	1.4
Disease control and treatment	3	2.4	2	2.8	2	3.4	11	2.0	4	2.8	2	2.1	24	2.3
Storage methods	8	6.5	4	5.6	2	3.4	12	2.1	9	6.2	5	5.2	40	3.8
Farm irrigation	2	1.6	1	1.4	3	5.1	17	3.0	3	2.1	1	1.0	27	2.5
Planting methods	5	4.1	2	2.8	3	5.1	8	1.4	6	4.1	3	3.1	27	2.5
Farm mechanization	4	3.3	3	4.2	3	5.1	7	1.2	5	3.4	2	2.1	24	2.3
Total	123	100	72	100	59	100	564	100	145	100	97	100	1060	100

Source: Field Survey, 2020.

Table one is concerned with the farmers' needs in the era of COVID-19 in Nigeria. Data revealed that 37.2% out of the total number of the respondents sampled in the study said information on fertilizer application was sought by them with Kano having the 42.7% response rate of the information seekers on fertilizer application, 7.0% out of the respondents sought information on agriculture loans, 19.4% out of the respondents sought on weed control, 6.6% out of the respondents sampled sought in pest control, 5.5% of them sought information on seed selection, 5.2% of the respondents sought on agric marketing, 2.4% out of the respondents sought on crop rotation practices, 2.0% sought on land preparation, 1.4% sought to get information on farm labourers, 2.3% out of the respondents needed information on disease control and treatment, 3.8% out of the respondents sought to get information on storage methods,

2.5% out of the respondents were on farm irrigation, another 2.5% were on planting methods, and 2.3% of the respondents sought to get information on farm mechanization.

Table one answered the research question one to the effect that despite the outbreak of COVID-19, the desire among rural farmers in Nigeria to get agricultural information still remains high, particularly in the area of fertilizer application and weed control, while the desire for information in other areas like agriculture loans, pest control, seed selection, agric marketing, crop rotation practices, land preparation, farm labourers, disease control and treatment, storage methods, farm irrigation, planting methods, and farm mechanization were lower compared to the information on fertilizer application and weed control.

Research Question 2: What sources of agricultural information are available to rural farmers in the COVID-19 era in Nigeria?

Table Two: Sources of Agricultural Information available to Rural Farmers in the COVID-19 era in Nigeria

Variable	No. of Respondents												Total	
	Oyo		Enugu		Edo	Kano			Bauchi		Plateau			
Radio	17	13.8	10	13.9	9	15.3	98	17.4	19	13.1	17	17.5	170	16.0
Television	7	5.7	3	4.2	3	5.1	15	2.7	9	6.2	4	4.1	41	3.9
Newspaper	5	4.1	2	2.8	1	1.7	8	1.4	4	2.8	2	2.1	22	2.1
Magazine	2	1.6	1	1.4	1	1.7	4	0.7	2	1.4	1	1.0	11	1.0
Mobile phones	15	12.2	8	11.1	7	11.9	59	10.5	17	11.7	11	11.3	117	11.0
Social media platforms	13	10.6	7	9.7	4	6.8	37	6.6	11	7.6	7	7.2	79	7.5
Posters	1	0.8	1	1.4	1	1.7	5	0.9	2	1.4	1	1.0	11	1.0
Agriculture Extension Officers	3	2.4	2	2.8	1	1.7	7	1.2	4	2.8	2	2.1	19	1.8
Family members	32	26.0	21	29.2	17	28.8	194	34.4	41	28.3	27	27.8	332	31.3
Fellow farmers	21	17.1	13	18.1	11	18.6	111	19.7	23	15.9	19	19.6	198	18.7
Village leaders	3	2.4	2	2.8	2	3.4	11	2.0	5	3.4	2	2.1	25	2.4
Farmers' clubs/Associations	2	1.6	1	1.4	1	1.7	5	0.9	2	1.4	1	1.0	12	1.1
Churches/Mosques	2	1.6	1	1.4	1	1.7	10	1.8	6	4.1	3	3.1	23	2.2
Total	123	100	72	100	59	100	564	100	145	100	97	100	1060	100

Source: Field Survey, 2020.

Table two is concerned with the sources of agricultural information available to rural farmers in the COVID-19 era in Nigeria. Data revealed that 16.0% out of the total number of the respondents sampled in the study were of the opinion that they have access to the radio as their source of agricultural information in the COVID-19 era, 3.9% out of the respondents choose television as the source of agriculture information available to them, 2.1% out of the respondents

choose newspaper, 1.0% had access to magazine as source of agricultural information, 11.0% of the respondents said it was mobile phones, 7.5% of the respondents choose social media platforms as the source of agricultural information available to them, 1.0% had access to posters, 1.8% respondents choose agriculture extension officers as the source of agricultural information available to them, 31.3% of the respondents, with Kano having the highest response rate, said family members were their main source of agricultural information in the COVID-19 era, 18.7% of the respondents said it was fellow farmers, 2.4% of the respondents said it was village leaders, 1.1% of the respondents said it was farmers' club/associations, while 2.2% of the respondents mentioned Churches/Mosques as sources of information available to them.

Research question two is therefore answered using table two to the effect that family members were the source of agricultural information most available to rural farmers in Nigeria in the COVID-19 era followed by fellow farmers, with the radio and social media coming third and fourth as sources of agricultural information among rural farmers respectively; while television, newspaper, magazine, social media platforms, posters, agriculture extension officers, village leaders, farmers' clubs/associations and Churches/Mosques are behind as the least sources available to farmers in the era.

Research Question 3: Which of the agricultural information sources is most credible for rural farmers in the era of COVID-19 in Nigeria?

Table Three: Agricultural Information Source most Credible for Rural Farmers in the Era of COVID-19 in Nigeria

Variable	No. of Respondents												Total	
	Oyo		Enugu		Edo		Kano		Bauchi		Plateau			
Radio	31	25.2	21	29.2	19	32.2	135	23.9	39	26.9	29	29.9	274	25.8
Television	15	12.2	7	9.7	9	15.3	45	8.0	15	10.3	14	14.4	105	9.9
Newspaper	3	2.4	2	2.8	1	1.7	17	3.0	4	2.8	3	3.1	30	2.8
Magazine	2	1.6	1	1.4	1	1.7	9	1.6	2	1.4	2	2.1	17	1.6
Mobile phones	9	7.3	5	6.9	3	5.1	25	4.4	11	7.6	6	6.2	59	5.6
Social media platforms	6	4.9	4	5.6	2	3.4	19	3.4	9	6.2	3	3.1	43	4.1
Posters	3	2.4	1	1.4	1	1.7	7	1.2	1	0.7	1	1.0	14	1.3
Agriculture Extension Officers	12	9.8	9	12.5	7	11.9	84	14.9	14	9.7	12	12.4	138	13.0
Family members	9	7.3	6	8.3	5	8.5	59	10.5	11	7.6	7	7.2	97	9.2
Fellow farmers	8	6.5	4	5.6	2	3.4	31	5.5	10	6.9	3	3.1	58	5.5
Village leaders	8	6.5	4	5.6	3	5.1	51	9.0	9	6.2	4	4.1	79	7.5
Farmers' clubs/Associations	7	5.7	3	4.2	2	3.4	21	3.7	5	3.4	3	3.1	41	3.9
Churches/Mosques	10	8.1	5	6.9	4	6.8	61	10.8	15	10.3	10	10.3	105	9.9
Total	123	100	72	100	59	100	564	100	145	100	97	100	1060	100

Source: Field Survey, 2020.

Table three is concerned with the source of agricultural information most credible to the respondents in the era of COVID-19 in Nigeria. Data revealed that radio was more credible than other sources to 25.8% out of the total respondents sampled in the study; television was more credible than other sources to 9.9% of the respondents; newspaper was credible more than other sources to 2.8% of the respondents, magazine was more credible than other sources to 1.6% of the respondents; mobile phones was 5.6% credible to the respondents more than other sources, social media platforms were 4.1% credible to the respondents than other sources; poster was 1.3% credible to the respondents more than other sources; agriculture extension workers was 13.0% credible to the respondents more than other sources; family members were the sources of agricultural information which were 9.2% more credible to the respondents than other sources; fellow farmers were the sources of agricultural information which was 5.5% more credible to the respondents than other sources; village leaders were 7.5% more credible to the respondents than other sources, farmers' club/associations were 3.9% more credible to the respondents than other sources; while Churches/Mosques were sources 9.9% more credible to the respondents than other sources.

Research question three is answered using table three to the effect that among sources of agricultural information available to the rural farmers in the COVID-19 era, radio is regarded as the source more credible and trustworthy to them than other sources.

Research Question 4: To what extent do the sources of agricultural information available meet the farmers' information needs in the era of COVID-19 in Nigeria?

Table 4: Extent the Sources of Agricultural Information available meet the farmers' Information Needs in the era of COVID-19 in Nigeria

Variable	No. of Respondents												Total	
	Oyo		Enugu		Edo		Kano		Bauchi		Plateau			
To a great extent	29	23.6	17	23.6	9	15.3	83	14.7	31	21.4	23	23.7	192	18.1
To a little extent	91	74.0	53	73.6	49	83.1	472	83.7	110	75.9	72	74.2	847	79.9
Difficult to say	3	2.4	2	2.8	1	1.7	9	1.6	4	2.8	2	2.1	21	2.0
Total	123	100	72	100	59	100	564	100	145	100	97	100	1060	100

Source: Field Survey, 2020.

Table four is concerned with the extent to which sources of the agricultural information available to the respondents were able to satisfy the information needs of the respondents in the COVID-19 era. Data available revealed that 18.1% out of the total number of the respondents sampled in the study were satisfied to a large extent with the level to which the sources of the agricultural information meet their information needs; 79.9% out of the respondents were satisfied to a little extent with the level to which the sources of the information available to them satisfied their

agricultural information needs with Kano and Edo having the highest response rate; while 2.0% out the respondents sampled in the study found it difficult to say.

Table four therefore, answered the research question four to the effect that that the sources of the agricultural information available to the respondents in the COVID-19 era are able to satisfy the rural farmers' information needs but not to a great extent.

Research Question 5: What challenges (if any) do farmers face in sourcing for agricultural information in the COVID-19 era in Nigeria?

Table 5: Challenges of Farmers in Sourcing Agricultural Information in the COVID-19 era in Nigeria

Variable	No. of Respondents												Total	
	Oyo		Enugu		Edo		Kano		Bauchi		Plateau			
Poor radio and television signals	63	51.2	41	56.9	36	61.0	345	61.2	76	52.4	50	51.5	611	57.6
COVID-19 Lockdown protocol	15	12.2	7	9.7	6	10.2	67	11.9	17	11.7	13	13.4	125	11.8
Lack of ICT infrastructure	11	8.9	4	5.6	3	5.1	31	5.5	13	9.0	9	9.3	71	6.7
Illiteracy	13	10.6	5	6.9	5	8.5	42	7.4	16	11.0	11	11.3	92	8.7
Lack of ownership to radio/television set	21	17.1	15	20.8	9	15.3	79	14.0	23	15.9	14	14.4	161	15.2
Total	123	100	72	100	59	100	564	100	145	100	97	100	1060	100

Source: Field Survey, 2020.

Table five is concerned with the challenges that the respondents face in sourcing for agricultural information in the COVID-19 era in Nigeria. Data revealed that 57.6% of the respondents faced the challenge of poor radio and television signals in sourcing for agricultural information in the COVID-19 era in Nigeria, with Kano and Edo having the highest response rate of those who responded to that, 11.8% of the respondents faced the COVID-19 lockdown protocol as their challenge in sourcing for agricultural information in the era; 6.7% of the respondents faced the challenge of lack of ICT infrastructure in sourcing for agricultural information in the era; 8.7% out of the respondents sampled in the study faced the challenge of illiteracy; while 15.2% of the respondents faced challenge of lack of ownership of radio/television set in sourcing for agricultural information in the era.

Table five answered the research question five to the effect that the major challenge that rural farmers in Nigeria face in sourcing for agricultural information in the era of COVID-19 is poor

radio and television signals in their area, with lack of ownership of the radio/television set, COVID-19 lockdown protocol, lack of ICT infrastructure and illiteracy being additional challenges that rural farmers face in the era.

Discussion of Findings

Based on the data analysed, the following are the specific findings of the study:

Despite the outbreak of COVID-19, the desire among rural farmers in Nigeria to get agricultural information remains high, particularly in the area of fertilizer application and weed control, while the desire for information in other areas like agriculture loans, pest control, seed selection, agric marketing, crop rotation practices, land preparation, farm labourers, disease control and treatment, storage methods, farm irrigation, planting methods, and farm mechanization were lower compared to the information on fertilizer application and weed control. This implies that the outbreak of the COVID-19 pandemic does not stop farmers in Nigeria from seeking agricultural information even though the preference for information on fertilizer application seems to be higher than other areas of information needs. This finding agrees with the previous scholars which indicated that farmers' information needs are in different forms (Lughlugh, 2020; Ifejika, 2016; Olaniyi and Ogunkunle, 2018; Ezech, 2013; Odoemelam and Olojede, 2016; Baba, 2018; Oyeniyi and Olofinsawe, 2015; Idiake-Ochei, Onemolease and Erie, 2016; Abdu`Rahman, 2018). Lughlugh (2020), for instance, found in the study that fertilizer and agrochemicals, pest and diseases control, agricultural finance, improved seedlings, post-harvest technology, control of weeds, modern technology application among others were some of the information needs of farmers for sustainable agricultural development in Benue State. Abdu`Rahman (2018) categorized the farmers' information needs into know-how which included what to plant and inputs such as seed varieties to use; market information such as the demand indicators, prices and logistical information; and the contextual information such as best agricultural practices and weather forecast.

Finding also revealed that family members were the source of agricultural information most available to rural farmers in Nigeria in the COVID-19 era followed by fellow farmers, with the radio and social media coming third and fourth as sources of agricultural information among rural farmers respectively; while television, newspaper, magazine, social media platforms, posters, agriculture extension offers, village leaders, farmers' clubs/associations and Churches/Mosques are behind as the least sources available to farmers in the era. This implies that with the outbreak of the COVID-19, rural farmers in Nigeria are more exposed to the informal sources of agricultural information than the formal and professional sources. This finding opposed the finding from the study by Pamphily, Harrison and Emily (2017) which indicated that the majority of the farmers accessed agricultural information through radio (68.3%) followed by traditional sources (47.7%). Others studies are those of Ogunsola, Ogunsola, Alarape, Oloba & Osalusi (2019), Olaniyi and Ogunkunle (2018), Oluwatoyin (2016) Umunakwe, Nnadi, Chikaire and Nnadi (2014), which found that the mass media and the extension agents (Nnadi, Chikaire and Nnadi, 2014); extension agents (Olaniyi and Ogunkunle, 2018); the radio (61.6%), extension agents (35.8%) and newspaper (27.5%) (Umunakwe, Nnadi, Chikaire and Nnadi, 2014); television (91.9%), Radio (89.9%) (Ogunsola, Ogunsola, Alarape, Oloba & Osalusi, 2019) were the major sources of agricultural information for the farmers. Although some studies still aligned with this finding that the "major source of information for

farmers was friends and family members with 95% of the respondents attesting to that, another 75% of the respondents indicated age groups as their source of agricultural information respectively” (Ijiekhuamhen and Omosekejimi, 2016). Bozi and Ozcatalbas (2010) revealed that family members, neighbour farmers ... were key sources of information for Turkish farmers, while AgREN (2000) found that the major sources of information and knowledge for smallholder farmers in Kenya were local means such as family, markets, neighbours and community based organisations.

Another finding of the study revealed that among sources of agricultural information available to the rural farmers in the COVID-19 era in Nigeria, radio is regarded as the source more credible and trustworthy to them than other sources. This implies that the source most credible to the respondents is not related to the source most available to farmers for agricultural information in the COVID-19 era. Odoemelam and Alocha (2015), in their study found that on perceived weakness and strength of the information network, the information quality, frequency of use, timeliness of information flow, and link up of information were adequate while reliability of information was not adequate.

Finding revealed that the sources of the agricultural information available to the respondents in the COVID-19 era are able to satisfy the rural farmers’ information needs but not to a great extent. This implies that the demands for information among rural farmers in the era of COVID-19 in Nigeria is not significantly related to the level at which such demands are met. Using the Indian NSSO 2003 survey, Adhiguru, Birthal and Kumar (2009) found that small and marginal farmers accessed less information and from fewer sources than medium and large Scale farmers.

Furthermore, finding revealed that the major challenge that rural farmers in Nigeria face in sourcing for agricultural information in this era of COVID-19 is poor radio and television signals in their area, with lack of ownership of the radio/television set, COVID-19 lockdown protocol, lack of ICT infrastructure and illiteracy being additional challenges that rural farmers face in the era. This implies that farmers face different challenges in sourcing for their agricultural information like poor radio and television signals and others. different studies revealed the challenges farmers face in accessing agricultural information (Tologbonse, Fashola & Obadijah, 2008; Adegebo, 2016; Ogar, Dika and Atanda, 2018; Ifejika, 2016; Toluwase and Apata, 2017; Byamugisha, Ikoja-Odongo, Nasinyama & Lwasa, 2008; Aina, 2004; Owolade and Kayode, 2012; Babu, Glendenning, Asenso-Okyere & Govindarajan, 2011; Mtega and Benard, 2013, Mbagwu, Benson and Onuoha, 2018; Awili, White and Kimotho, 2016; Thuo, 2018; Abdul-Aziz and Baba, 2017; Oladimeji, 2006). Tologbonse, Fashola & Obadijah (2008) found that challenges facing farmers in accessing agricultural information were outdated information, language barrier, lack of awareness on existence of different information sources, lack of funds to acquire information and poor format of information carriers.

CONCLUSION

In Nigeria, the outbreak of COVID-19 pandemic does not stop farmers from seeking agricultural information even though the preference for information in areas like fertilizer application and weed control is higher compared to areas such as agriculture loans, pest control, seed selection, agric marketing, crop rotation practices, land preparation, farm labourers, disease control and treatment, storage methods, farm irrigation, planting methods, and farm mechanization. In

seeking agricultural information in the COVID-19 era, rural farmers in Nigeria are more exposed to the informal sources of agricultural information such as family members and fellow farmers than the formal and professional sources like the extension workers and the mass media. Among the sources of agricultural information available, the most credible one to rural farmers in Nigeria is not related to the source most available to them in the COVID-19 era, as radio is regarded as the source more credible and trustworthy to them as against family members and fellow farmers however, family members and fellow farmers happen to be sources more available to the rural farmers in this period. The demand for information among rural farmers in Nigeria is not commensurate with the level at which such demands are met as sources of the agricultural information available to rural farmers in the era are able to satisfy the information needs of rural farmers but to a little extent. Rural farmers, in their quest for agricultural information face the major challenge of poor radio and television signals, while lack of ownership of the radio/television set, COVID-19 lockdown protocol, lack of ICT infrastructure and illiteracy are the additional challenges that rural farmers face in seeking agricultural information in the era. Finally, the outbreak of COVID-19 does not make agricultural information less important to rural farmers in Nigeria but certain factors limit the sources available from satisfying the farmers' agricultural information needs.

RECOMMENDATIONS

Based on the findings and conclusion, the following are the specific recommendations of the study:

- i. Rural farmers' agricultural information seeking behaviour in areas like agriculture loans, pest control, seed selection, agric marketing, crop rotation practices, land preparation, farm labourers, disease control and treatment, storage methods, farm irrigation, planting methods, and farm mechanization in this era of COVID-19 should be enhanced as it is by so doing that they can acquire adequate knowledge that can help to fully develop the sector.
- ii. Rural farmers should be trained in different areas of agricultural production since they also constitute a vital source of agricultural information so that they are more trusted by their fellow farmers.
- iii. There is an urgent need to boost the signals of the various community, private, state and federal radio signals in Nigeria to enable the rural farmers have more access to agricultural information through the radio, since it is their more trusted source of agricultural information in the country.
- iv. All hands must be on deck to ensure that farmers' information needs are satisfied to a great extent. That is, the government, development agencies, private groups and individuals must work towards addressing the challenges facing farmers in sourcing agricultural information for more effective agricultural development in the rural areas of Nigeria.

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MODELING AND SIMULATION OF SOLAR ABSORPTION COOLING SYSTEM FOR MAIDUGURI BORNO STATE NIGERIA

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ABSTRACT

The use of solar energy for cooling purposes is an attractive prospect; the key factor for this application is the availability of solar energy for Maiduguri climate and suitable cooling technology. The study aimed to model and simulate solar absorption cooling system for Maiduguri, in order to develop a model for vapor absorption cooling system, evaluate the coefficient of performance (COP) of the vapor absorption cooling system, and optimize the coefficient of performance (COP) and validation studies of the COP. Aspen plus was used to simulate the solar-powered lithium bromide absorption system. The generator and absorber were modeled by using a multipurpose flash column. ASPEN PLUS uses the flash column to visualize generator and absorber operations. Simultaneously, a modular mode was used to solve the algebraic equations of the flow sheet. The Non-random two-liquid (NRTL) model and latent-heat enthalpy model were used in the simulation to obtain the thermodynamic properties and phase equilibrium of the Lithium bromide solution. The NRTL model software keeps all flashes as three-phase flashes (LLV) or two-phase flashes (LV). Liquid phase activity coefficients are calculated by the NRTL equation by the known values of the liquid phase mass fraction. The NRTL equation is a good method to solve the binary mixture where equilibrium prevails between liquid and vapor. It was discovered that the input values obtained from the optimization (the final values) were different from those of the steady-state simulation carried out prior to the optimization (initial values), also noticed that the final values were within the ranges specified for the input variables during the optimization. The study also noticed that the cooling capacity was increased from 32.3 kW to 430.7 kW while COP increased from 0.684 to 0.793 after optimization.

Keywords: *Cooling, Modeling, Simulation, Solar and Absorption*

BACKGROUND OF THE STUDY

The energy needed to process and circulate air in residential buildings and offices to control humidity, temperature, and cleanliness has increased significantly during the last decade especially in developing countries. High consumption of electricity presents economic and social problems in hot places, caused by the massive use of cooling machines. However, prolonged use of chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) refrigerants cause destruction of the ozone layer, and possible global warming due to excessive burning of fossil fuel. Absorption cooling

system is a more preferable option for energy generation. In absorption cooling system, physiochemical process replaces the mechanical process of the vapor compression system by using energy in the form of heat rather than mechanical work. The absorption refrigerants lithium bromide- water cycle has some attractive features when compared to the conventional cycle. In 2013, Agrouaza *et al* (2017) studied the global modeling of an absorption system working with LiBr/H₂O assisted by solar energy. It satisfies the air-conditioning necessities of a classroom in an educational center in Puerto Lumbreras, Murcia, Spain. The absorption system uses a set of solar collectors to satisfy the thermal necessities of the vapor generator. A dynamic simulation model, for a solar powered absorption cooling system was developed, and validated using measured data. Yeung *et al* (1992) designed and installed a solar driven absorption chiller at the University of Hong Kong; this system included 4.7 kW absorption chillers, flat plate solar collectors with a total area of 38.2 m², water storage tank and the rest of the equipment. They reported that the collector efficiency was estimated at 37.5%, the annual system efficiency at 7.8% and an average solar fraction of 55%, respectively.

The first and most crucial step in the modeling process was finding a suitable property method for the water/lithium bromide mixture. At this point it should be pointed out that except for very common fluids, ASPEN does not use look-up tables for property data. Instead, the user must select a property method based on operating conditions, fluid characteristics, etc. As a result, there is an error inherent to any model created in ASPEN. This should not be taken as a deterrent, as even look-up tables will have some errors due to interpolation. Rather, it is a warning to the potential user to select the property method wisely when modeling in ASPEN. The ASPEN developers suggested that the ELECNRTL property method to be chosen for the water/lithium bromide solution based on the operating conditions and fluids being modeled. As the name suggests, it is a method designed for electrolytes. To use it properly, the user must select the relevant components (in this case, water and lithium bromide) and use the electrolyte wizard, which will generate a series of reactions. In this case, the only relevant reaction was the dissociation of lithium bromide. For the states that are pure water, the steams were used (Herold *et al*, 1996). Since look-up tables are available for pure steam, the property data induced error will be much smaller.

METHODOLOGY

Materials

Aspen Plus V8.4 Software was used for the modeling and simulation of the Solar absorption cooling system. The inputs to the Model were mainly data collected from Borno state meteorological Agency for the year 2016.

METHODS

The theory of absorption refrigeration system working with Lithium Bromide (LiBr) and water, illustrated by Figure 1, consist of a condenser, an expansion valve, an evaporator and a thermal compressor. In this cycle, water condenses (rejecting heat) and evaporates (extracting heat from the thermal load) similar to a refrigeration cycle by mechanical compression. However, the thermal compressor located between the evaporator and condenser, performs vapor compressor by using energy in the form of heat (solar energy in this case).

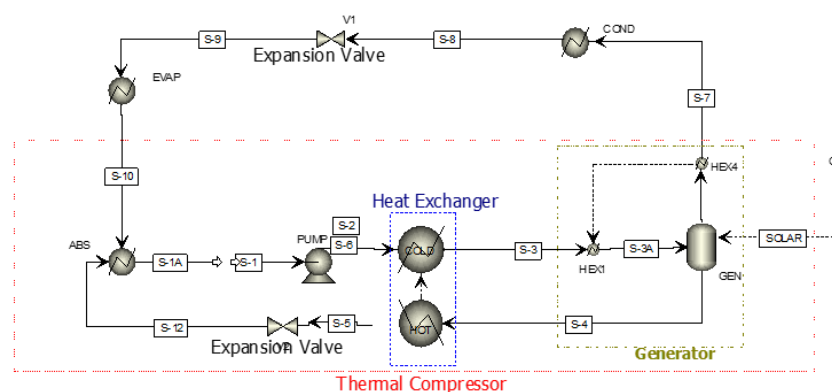


Figure 1: Process Diagram of the Water-LiBr absorption refrigerator

PROCESS DESCRIPTION

The thermal compressor consists of two major unit operations: Absorption and distillation. In the absorption water vapor is absorbed by LiBr due to its affinity with water forming a weak LiBr/water solution in the absorber and in distillation (generator) the water vapor is separated from the strong LiBr/Water solution consuming heat. For a better cycle efficiency, separation must be almost complete, and water quality must be close to 1 (~0.999) in the generator output (Herold, et al., 1996). For improvement of the efficiency of the system, a regenerative heat exchanger is used between the absorber and generator. Generally, the heat is removed from the system by cooling tower. The cooling water passes through the absorber first then the condenser. The temperature of the absorber has a higher influence on the system efficiency than the condensing temperature of the cooling tower where the heat is dissipated to the environment. In the case that the sun is not shining, an auxiliary heat source is used by electricity or conventional boiler to heat the water to the required generator temperature. It is highly recommended to use a partitioned hot-water storage tank to serve as two separate tanks. In the morning, the collector system is connected to the upper part of the tank, whereas in the afternoon, the whole tank would be used to provide heat energy to the system.

Electrical energy consumption in an absorption cycle is minimal when compared to a compression cycle, since only the pump uses this energy to raise the pressure of the liquid solution formed in the absorber. In a vapor compression cycle, the compressor consumes much more electrical energy to raise the pressure of the refrigerant vapor that comes out of the evaporator. Table 1 describes the block used in ASPEN PLUS to represent each unit operation in the process.

Table 1: ASPEN PLUS Model Representation adopted from Balghouthi et al, 2008.

Units	Block	Descriptions
Cond	Heater (Exchanger)	Condenser
V1 and V2	Valve	Expansion Valve 1 and 2
Evap	Heater (Exchanger)	Evaporator
ABS	Heater (Exchanger)	Absorber
PUMP	Pump	Pump
Heat Exchanger	Heater (Exchanger)	Regenerative Heat Exchanger
GEN	Flash2	Distillation
Hex1	Heater (Exchanger)	vapor heat control
Hex4	Heater (Exchanger)	vapor heat control

Table 2. below shows average solar radiation collected from Borno state meteorological Agency for the year 2017.

Month	T.max	T. min	T.mean	R.H	Evaporation	Sunshine
No	0C	0C	0C	%	Mm	0C
January	31.6	0.9	26.1	19	10.8	9.0
February	33.0	14.5	28.7	16	13.7	9.1
March	38.5	18.8	29.3	12	16.8	9.6
April	41.1	25.3	33.3	26	15.9	9.0
May	40.2	26.7	31.0	39	13.4	9.1
June	36.0	24.7	29.1	57	3.8	6.5
July	33.0	23.6	27.4	67	5.5	7.2
August	30.9	22.6	27.2	75	2.9	6.6
September	33.3	22.5	27.2	69	3.7	7.9
October	35.3	19.9	28.5	43	7.6	7.2
November	35.2	14.8	27.6	26	9.7	7.9
December	35.7	12.9	26.2	25	9.5	7.8

T. max	=	Temperature maximum
T. min	=	Temperature minimum
T. Mean	=	Average
R H	=	Relative Humidity

SYSTEM DESCRIPTION

The solar-powered absorption cycle consists of four major parts, i.e., a generator, a condenser, an evaporator and an absorber. These major components are divided into three parts by one heat exchanger, two expansion valves and a pump. Schematic diagrams of the solar-powered cooling system are shown in Figures 2 and 3. Initially, the collector receives energy from sunlight and heat is accumulated in the storage tank. Subsequently, the energy is transferred through the high temperature energy storage tank to the refrigeration system. The solar collector heat is used to separate the water vapor, stream number 2, from the lithium bromide solution, stream number 3,

in the generator at high temperature and pressure resulting in higher lithium bromide solution concentration. Then, the water vapor passes to the condenser where heat is removed and the vapor cools down to form a liquid, stream number 4. The liquid water at high pressure, stream number 4, is passed through the expansion valve, stream number 9, to the evaporator, where it gets evaporated at low pressure, thereby providing cooling to the space to be cooled. The weak solution, stream number 8, is then pumped into the generator and the process is repeated.

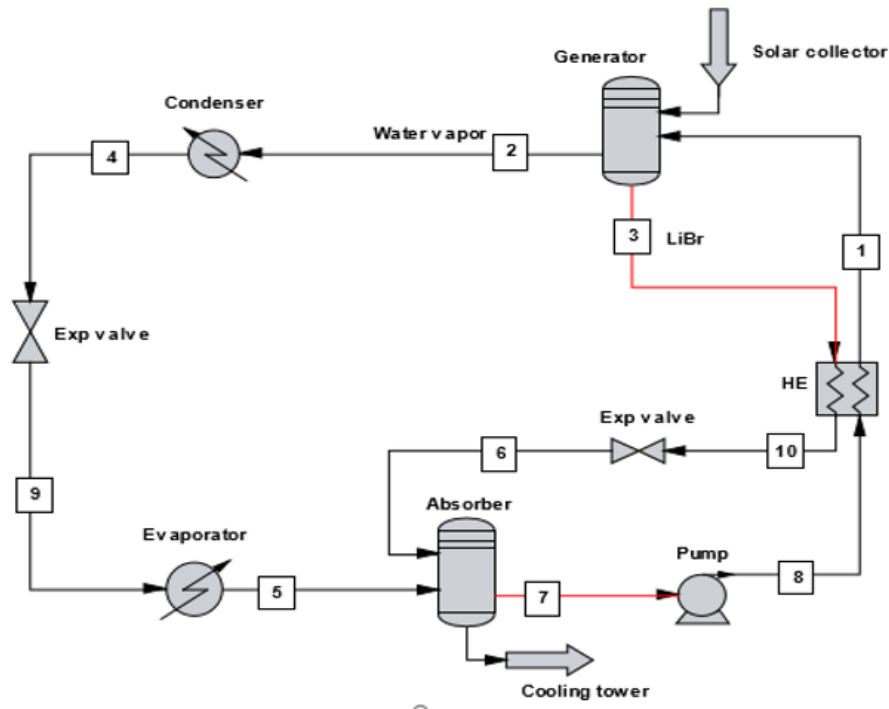


Figure 2: Schematic diagram of the absorption cycle adopted from Balghouthi, et al 2008.

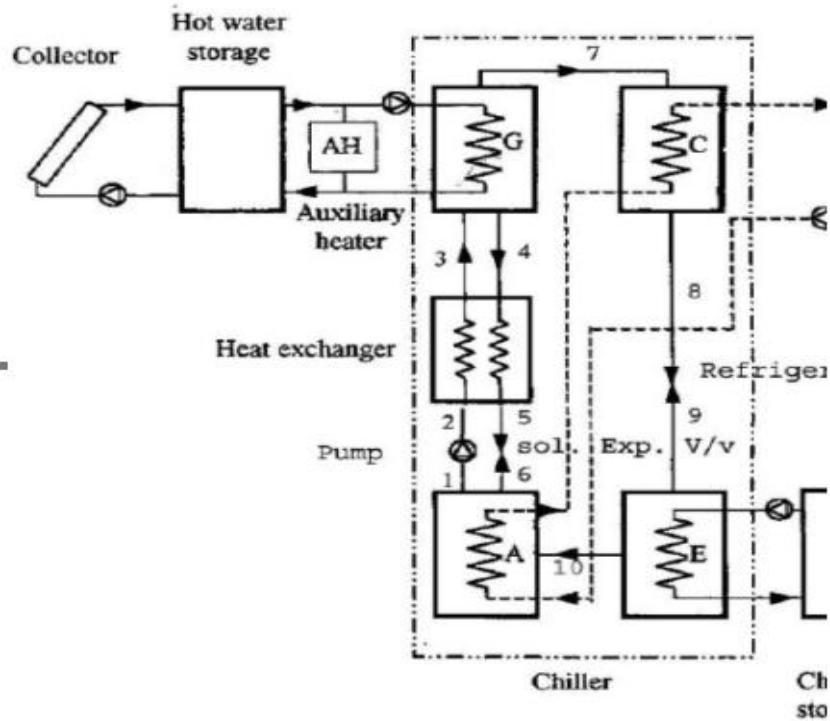


Figure 3 Schematic Diagram of the solar-powered cooling system adopted from Balghouthi, et al 2008. A-Absorber, G- generator, C- Condenser, E- Evaporator

Generally, the heat is removed from the system by a cooling tower. The cooling water passes through the absorber first then the condenser. The temperature of the absorber has a higher influence on the system efficiency than the condensing temperature of the cooling tower where the heat is dissipated to the environment. In the case that the sun is not shining, an auxiliary heat source is used by electricity or conventional boiler to heat the water to the required generator temperature.

MATHEMATICAL MODEL

Preliminary material balance is taken across each unit i.e. the generator, absorber, evaporator, condenser and heat exchanger to analyze the working conditions of all components of the system. Energy balances are performed and a computer simulation is developed for the cycle analysis. A control volume analysis around each component, which covered the rate of heat addition in the generator, and the energy input of the cycle, is given by equation Klein, (2018). (3.1):

$$Q_{Generator} = Q_{Solar} = m_4 h_4 + m_7 h_7 - m_3 h_3 \quad (3.1)$$

The rate of heat rejection out of the condenser is given equation (3.2):

$$Q_{Cond} = m_7 (h_7 - h_8) \quad (3.2)$$

The rate of heat absorption of the evaporator is given by equation (3.3):

$$Q_{Evap} = m_9(h_{10} - h_9) \quad (3.3)$$

The rate of heat rejection of the absorber is given by equation (3.4):

$$Q_{ABS} = m_{10}h_{10} + m_{12}h_{12} - m_1h_1 \quad (3.4)$$

An energy balance on the hot side of the heat exchanger is given by equation (3.5):

$$Q_{shx-hot} = m_4(h_4 - h_5) \quad (3.5)$$

Similarly, an energy balance on the cold side of the heat exchanger is given by equation (3.6):

$$Q_{shx-cold} = m_2(h_3 - h_2) \quad (3.6)$$

Coefficient of performance (COP) according to Figure 3.1. is defined as follows:

$$COP = \frac{Q_{Evap}}{Q_{Generator} + Q_{Pump}} \quad (3.7)$$

The solar collector was modeled in this manner proposed by Klein.(2018). The basic equation for the rate of useful energy gain by a flat-plate solar collector is given by:

$$Q_S = F_r A_C (IR - U_L(T_{ci} - T_a)) \quad (3.8)$$

Where:

F_r = collector heat removal factor (0.8)

I = radiation intensity, W/m²K

R = ratio of total radiation on tilted surface to that on plane of measurement (1.08)

U_L = overall loss heat transfer coefficient, W/m²oK, (7.811)

T_c = temperature of the Collector surface (48°C)

T_a = ambient temperature (25°C)

For simplicity, the above values in bracket will be use based on the results obtained by Dara, (2010). Radiation Intensity (I) was obtained from monthly daily average solar energy parameters measured in Maiduguri by (Luqman, et al., 2016).

SETTING UP ASPEN PLUS V8.4

The first step was to add the components of interest, in this case water, lithium bromide as well as the lithium ion Li⁺ and the bromide ion Br⁻ as seen in Figure 3.1. Then the electrolyte wizard was used in order to add the chemistry and specify the property method.

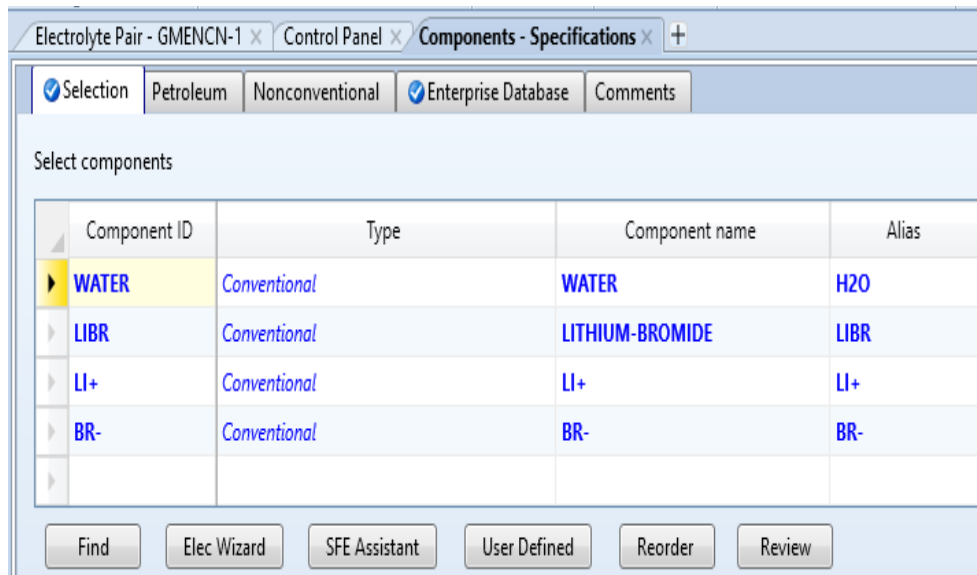


Figure 3: Component specifications required for the absorption cooling system.

The base method of ENRTL-RK, an unsymmetric model, was automatically chosen for the thermodynamics fluid properties based on the chemistry produced by the electrolyte wizard. Once the required components are added, the missing data for the components of interest need to be pulled from various Aspen databases. This can be done by clicking on retrieve parameters under the tools heading in the home ribbon. In the case of some electrolytes, in this case lithium bromide, the Aspen database does not contain all of the necessary properties to perform the simulation using Redlich-Kwong as the EOS; therefore, they must be added manually. The missing parameters are the critical pressure P_c , critical temperature T_c , critical volume V_c and Z_c of the LiBr. These four values were obtained from the literature (Wikipedia, 2018) as 50, 1726.85, 100 and 0.2 for P_c , T_c , V_c and Z_c respectively. These values were entered in the LiBr property column using the review button of Figure 2.

MODEL SIMULATION

Aspen plus was used to simulate the solar-powered lithium bromide absorption system. The generator and absorber were modeled by using a multipurpose flash column. ASPEN PLUS uses the flash column to visualize generator and absorber operations. Simultaneously, a modular mode was used to solve the algebraic equations of the flow sheet. The Non-random two-liquid (NRTL) model and latent-heat enthalpy model were used in the simulation to obtain the thermodynamic properties and phase equilibrium of the Lithium bromide solution. The NRTL model software keeps all flashes as three-phase flashes (LLV) or two-phase flashes (LV). Liquid phase activity coefficients are calculated by the NRTL equation by the known values of the liquid phase mass fraction. The NRTL equation is a good method to solve the binary mixture where equilibrium prevails between liquid and vapor. Previous studies have shown that the NRTL equation is in good agreement with the experimental phase equilibrium of Lithium Bromide solution. The numerical data obtained are in good agreement with Balghouthi et al. (2008) results adopted.

The input data required for simulating the system consists of the following: generator temperature, absorber temperature, generator and condenser pressure, evaporator and absorber pressure, pump output pressure, mass flow rate entering generator, lithium bromide solution concentration entering the generator and fixed saturated liquid state from heat exchanger to generator. Figure 3 shows flow-diagram for how simulation works using input data. The output includes the generator heat gain, cooling capacity and COP.

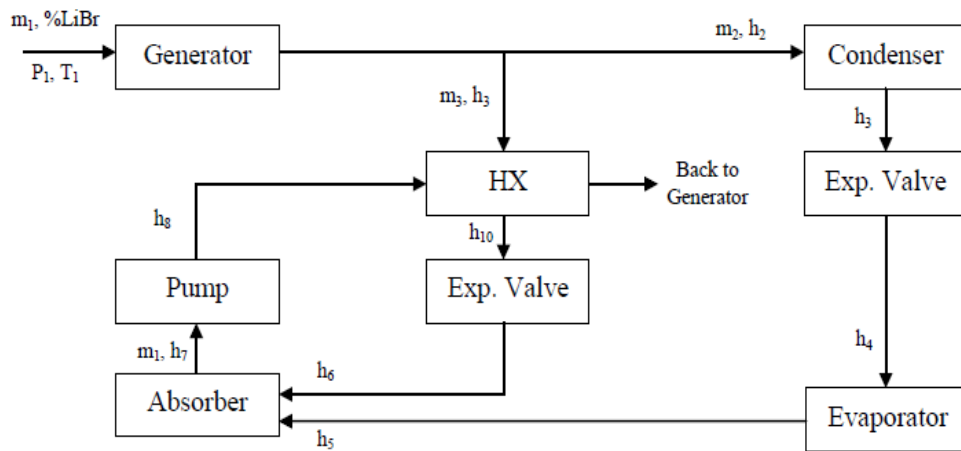


Figure 4: Modified Information-flow diagram for solar-powered absorption cooling system

RESULTS AND DISCUSSIONS

VARIATION OF GENERATOR TEMPERATURE AGAINST COP

The effect of the variation of the generator temperature with Coefficient of performance (COP) and cooling capacity against generator temperature is shown in figure 4.1. The cooling capacity increases rapidly from a low value of 13 kW (at 79°C) up to 669 kW (at 150°C). The COP rises from a low value of 0.24 (at 79°C) to reach a constant value of 0.781 (at 111°C). The cooling capacity increases as the generator temperature increases.

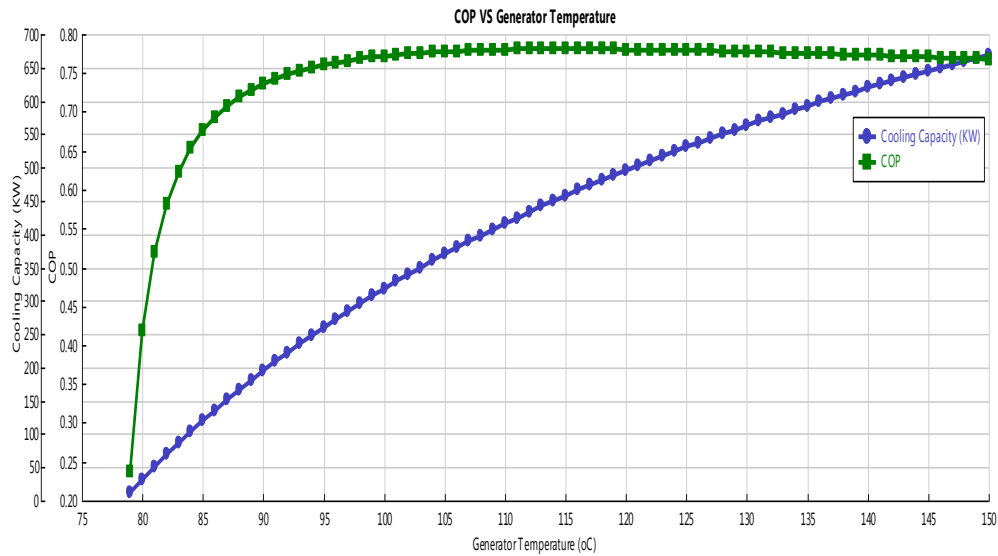


Figure 4: Effect of generator temperature on cooling capacity and COP as Predicted by ASPEN model.

The COP increase significantly with increasing generator/collector temperature, but as the generator/ collector temperature increases, the heat transfer in all the heat exchangers of the system also increases as shown in Figure 4.2. The figure shows similar increase in the heat transfer in all of evaporator, condenser and absorber when varying the generator (or collector) temperature. The concentration of Lithium Bromide (LiBr) solution increases rapidly with increase in generator temperature (See Figure 6). This is expected, since more water evaporate with temperature which result in more LiBr with less water in the generator (hence higher concentration).

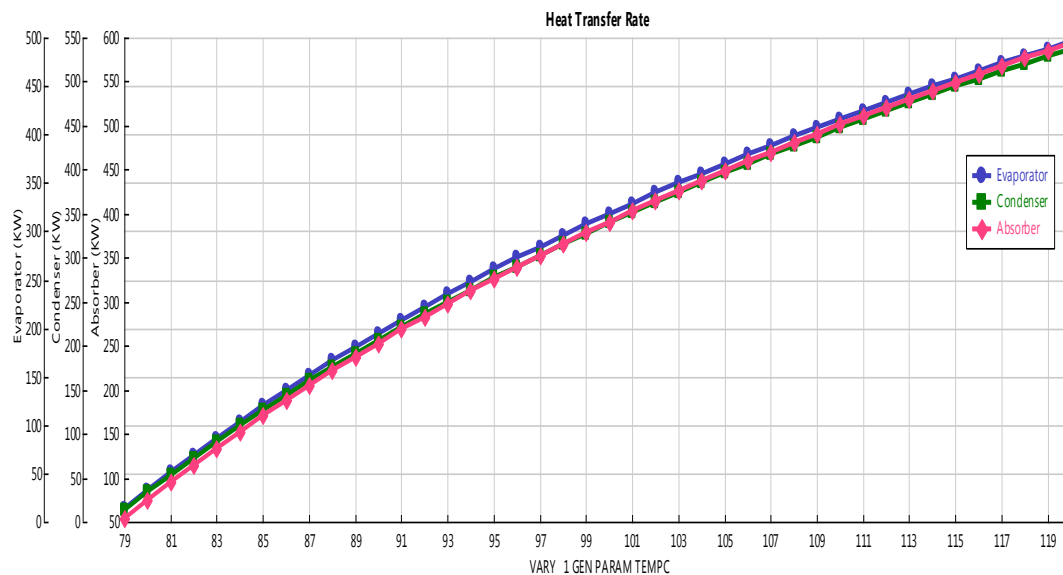


Figure 5: Effect of generator inlet temperature on evaporator, absorber, condenser against generator heat transfer rates.

The concentration of Lithium Bromide (LiBr) solution increases rapidly with increase in generator temperature (See Figure 6). This is expected since more water evaporates with temperatures which result in more LiBr with less water in the generator (hence higher concentration).

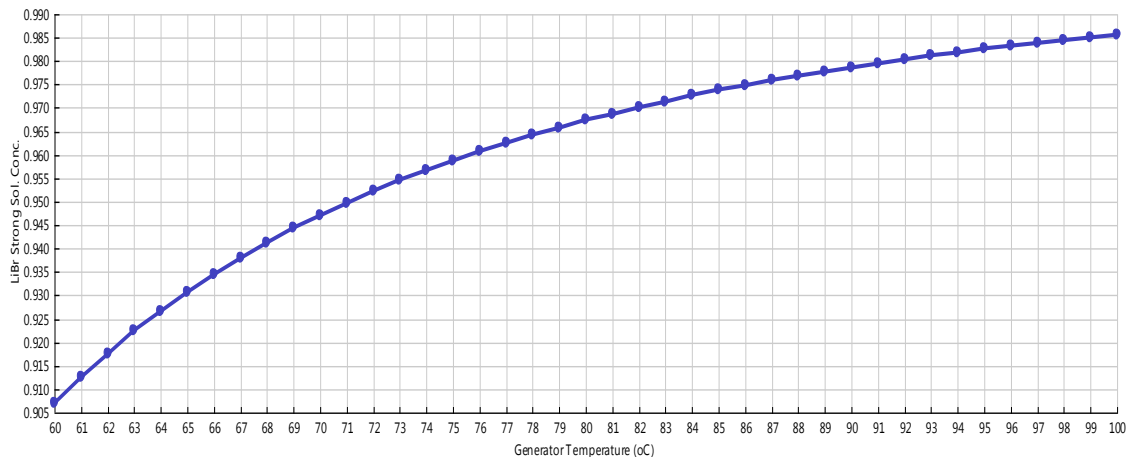


Figure 6: Effect of generator temperature ($^{\circ}\text{C}$) on LiBr- H_2O concentration (kg)

The generator inlet temperature could not be increased or decreased too much because of the crystallization of the lithium bromide as seen in figure 4.4. Because lithium bromide is a salt, in its solid state it has a crystalline structure. There is a specific minimum solution temperature for any given salt concentration when lithium bromide is dissolved in water. The salt begins to leave the solution and crystallize below this minimum temperature. In an absorption system, if the LiBr-solution concentration is too high or if the LiBr-solution temperature is reduced too low, crystallization may occur. The crystallization influences the cycle performance and the temperatures at different streams.

There are several causes for crystallization. Air leakage into the system is one of most common reason for crystallization. Air leakage results in increased pressure in the evaporator. This, in turn, results in higher evaporator temperatures and, consequently, lower cooling capacities. In the other case, at high load conditions, the control system increases the heat input to the generator, resulting in increased solution concentrations to the level where crystallization may occur. Non-absorbable gases, like hydrogen, produced during corrosion, can also be present; this can reduce the performance of both the condenser and the absorber. Electric power failure is found to be another reason for crystallization. Crystallization is most likely to occur when the machine is stopped while operating at full load, when highly concentrated solutions are present in the solution heat exchanger. To solve this problem, during normal shutdown, the system should go into a dilution cycle, which lowers the concentration of the LiBr-solution throughout the system, so that the machine may cool to ambient temperature without crystallization occurring in the solutions.

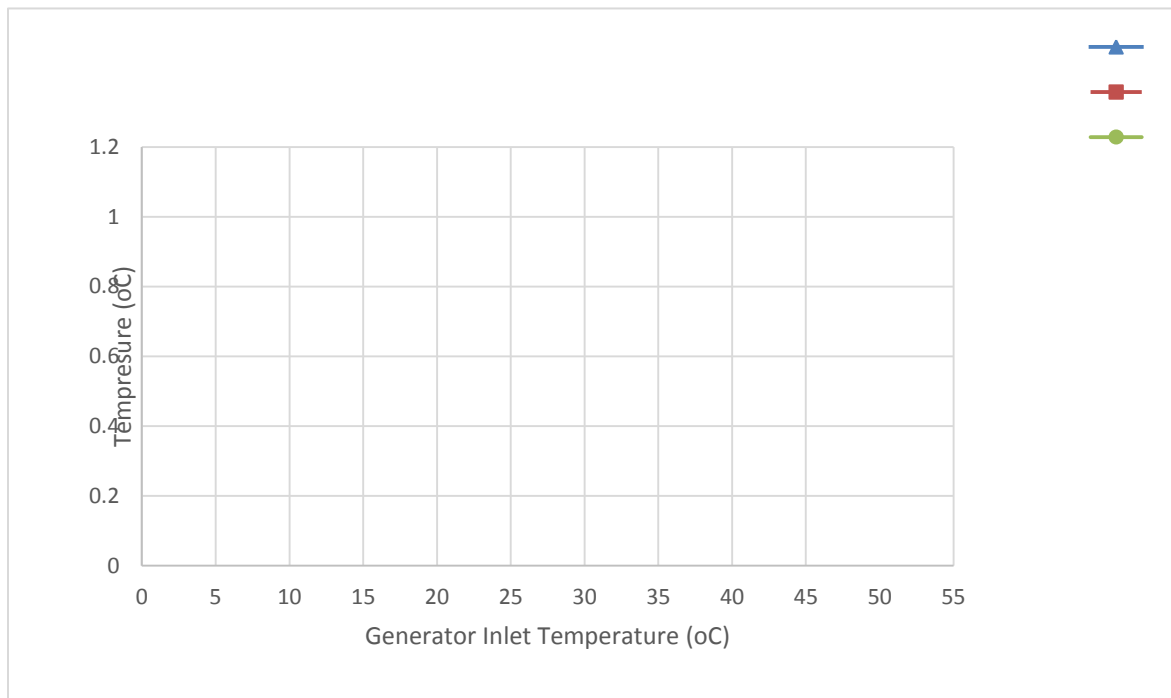


Figure 7: Effect of generator inlet temperature on generator, evaporator and condenser temperatures.

VARIATION OF EVAPORATOR TEMPERATURE AGAINST COP

The greater the collector area the greater the heat gained. This can be good for the auxiliary boiler as seen in figure 7 above. Once the heat gained is increased, less heat is required from the auxiliary boiler to maintain the required generator temperature. The next parameter of interest is evaporator temperature. This is an important parameter to consider because it has a significant effect on chiller performance, as a higher evaporator temperature means a higher COP. The evaporator temperature is a set value that is dictated by the desired cooling temperature, but since a variety of cooling temperatures are needed in an LNG plant, it is important to consider a variety of evaporator temperatures.

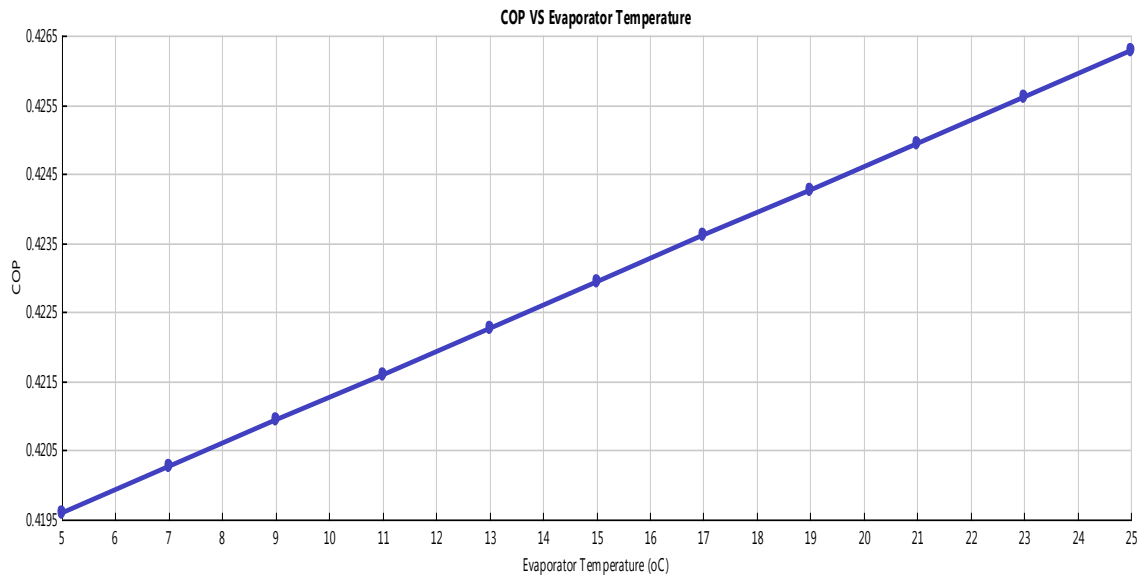


Figure 8: Effect of evaporator temperature on absorption cooling system COP as predicted by ASPEN model

From this Figure, it can be seen that; within the range of temperature investigated, the absorption cooling system COP Increases from 0.4195 to 0.4262.

VARIATION OF LITHIUM BROMIDE CONCENTRATION AGAINST COP

In this section, Lithium Bromide concentration was varied in the refrigerate solution in other to determine it significant on the COP. From Figure 9, it is shown that the COP decreases rapidly with increase in LiBr-concentration. From this Figure, an increase in the concentration of LiBr from 0.03 to 0.88 LiBr kg/kg solution resulted in a decrease in the COP from 37 to 2 %. This is due to the little or lack of the absorbent (water) present for circulation in higher concentration of LiBr. Since higher LiBr concentration, means lower water present.

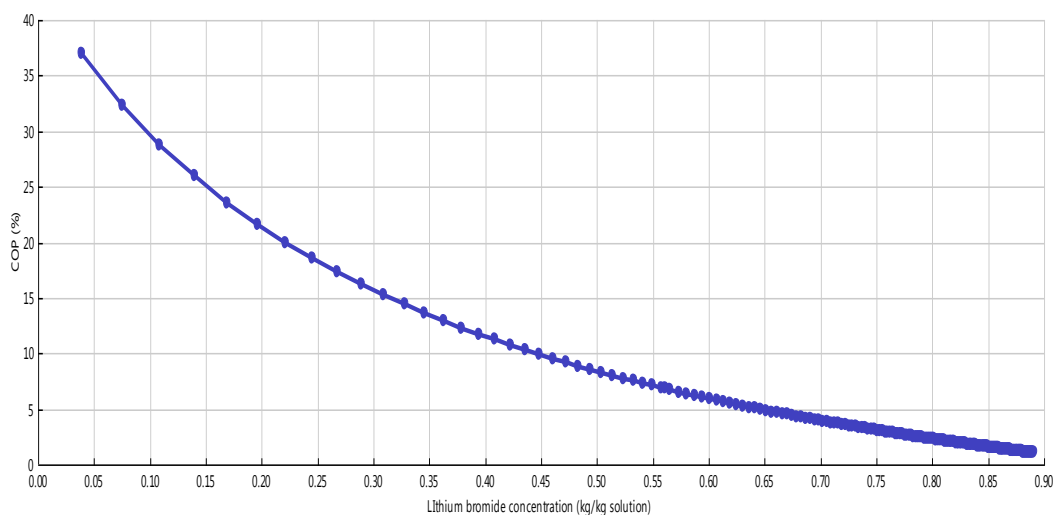


Figure 9: Effect of lithium-bromide concentration on the COP as predicted by Aspen model.

VARIATION OF SOLAR COLLECTOR AREA AGAINST COP

Increase in solar collector area on the same setting will supply more energy to the system, which in turn increase the temperature of the generator thereby making more water to evaporate, this decrease the performance of the system. This behavior is depicted in Figure 10.

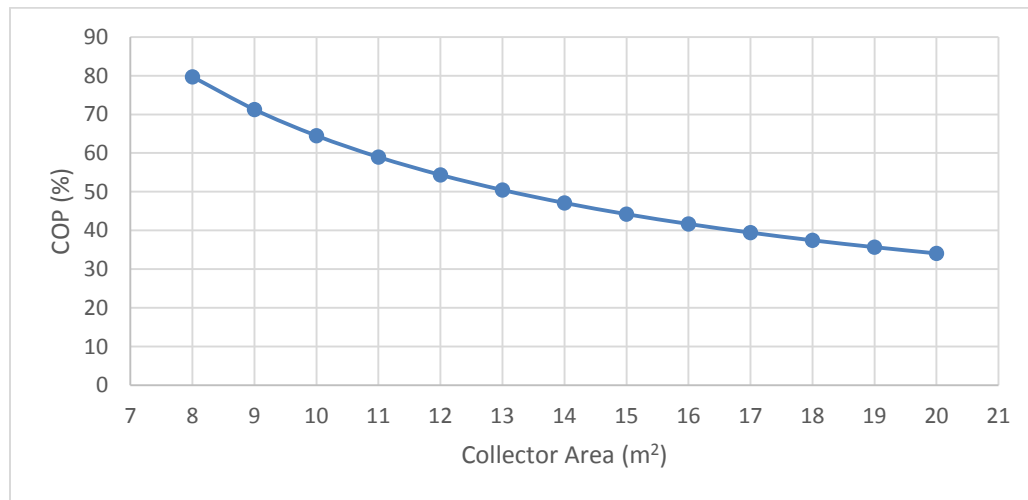


Figure 10: Effect of Solar Collector area on the COP as predicted by Aspen model.

VARIATION OF SOLAR INSOLATION AGAINST MONTHS OF THE YEAR

Figure 11. Illustrate a typical climatic condition of Maiduguri in a particular month, as depicted by the insolation variation in the month. This values used in the model to provide the heat required in the generator based on Equation 3.8. From this Figure, it can be seen that more heat (energy) is expected between Augusts to December of the year.

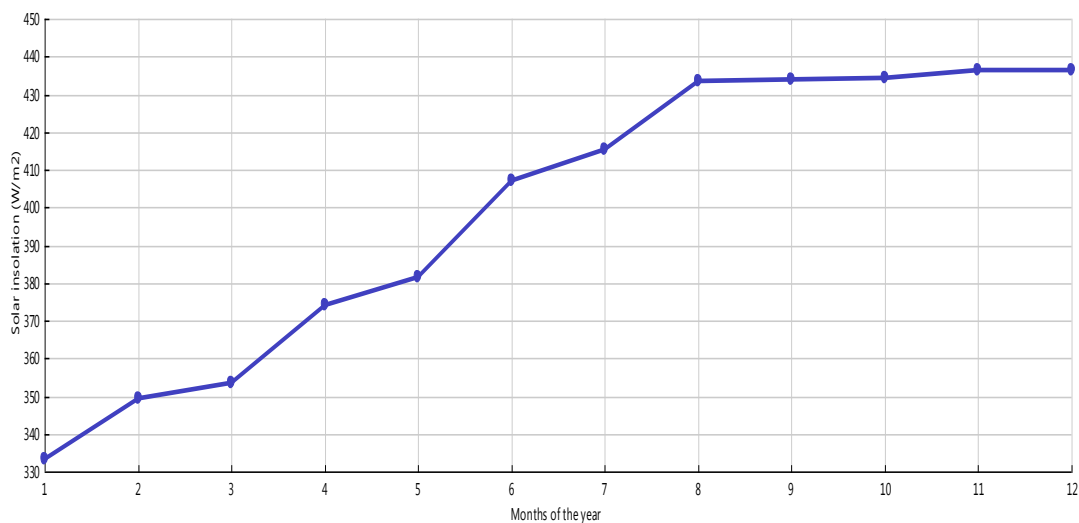


Figure 11: Effect of Solar Collector area on the COP as predicted by Aspen model.

VALIDATION OF THE DEVELOPED MODEL

The operational validation of the developed model in table 4.1 shows comparison between TRNSYS (a) adopted from Balghouthi et al, 2008 and Aspen plus (b)

Table 3: Modified Operational condition (a) (Balghouthi, et al., 2008), adopted and (b) ASPEN PLUS process model.

Stream	T (°C)		P (kPa)		x(kg LiBr/kg solution)		m (kg/s)	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
1 Pump Outlet	36.2	8.1	6.601	6.601	0.561	0.561	0.056	0.056
2 Condenser Inlet	70	78	6.601	6.601	0	0	0.0048	0.023419
3 Generator Outlet	84.6	78	6.601	6.601	0.613	0.964	0.0512	0.032581
4 Condenser outlet to exp. Valve	38	37.8	6.601	6.601	0	0	0.0048	0.023419
5 Vapor from evaporator to absorber	4.4	5	0.9	0.9	0	0	0.0048	0.023419
6 Solution inlet in absorber	47.1	39.1	0.9	0.9	0.613	0.964	0.0512	0.023419
7 Absorber outlet	36.2	8.1	0.9	0.9	0.561	0.561	0.056	0.032581
8 Generator inlet from heat exchanger	62.4	62.4	6.601	6.601	0.556	0.561	0.056	0.032581
9 Evaporator inlet from expansion valve	5.5	4.5	0.9	0.9	0	0	0.0048	0.023419
10 Absorber inlet from heat exchanger	53.6	53.6	6.601	6.601	0.613	0.964	0.0512	0.032581
11 Absorber inlet from exp. Valve	62.4	39.1	0.9	0.9	0.556	0.964	0.056	0.032581

OPTIMIZATION PROCESS

As can be observed from the above analyses based on the input variables (generator temperature and evaporator temperature), the tangible input value(s) that will give highest COP and high cooling capacity has not been obtained. This called for the optimization of the process using the same Aspen Plus model. The optimization of this process was carried out to obtain the optimum input variables that would give the maximum COP and Cooling Capacity on bi-objective function using equation 4.1, where α varied from 0 to 1. The input variables were varied based on the knowledge gained from the parametric analysis (see second column in Table 4.2) and COP_{max} was set as the objectives function. The optimum input variables obtained from the optimization carried out and those of the steady-state simulation carried out prior to it (the optimization) are also presented in Table 4.2. From the table, it was discovered that the input values obtained from the optimization (the final values) were different from those of the steady-state simulation carried out prior to the optimization (initial values), also noticed that the final values were within the ranges specified for the input variables during the optimization.

$$COP_{max} = \alpha(COP) + (1 - \alpha)(Cooling\ Capacity) \quad (4.1)$$

Table 4: Initial input (or steady-state) and optimum parameters obtained from the process

Variable	Initial value	Final Value	Units
Generator Temperature	48	110	°C
Evaporator Temperature	5	24	°C

Presented in Table 5 are the initial and final values of the objective function recorded before and after optimization;

Table 5: Objectives Function

Variable	Initial value	Final Value
Cooling Capacity	32.3 kW	430.7 kW
COP	0.684	0.793

From Table 5, it was noticed that the optimized values were different from their steady-state values, just as it was discovered in the case of the steady-state and the optimum input variables. Specifically, the cooling capacity was increase from 32.3 to 430.7 kW while COP increased from 0.684 to 0.793 after optimization.

CONCLUSION

The study developed a model for vapor absorption cooling system and evaluated the coefficient of performance (COP) of the vapor absorption cooling system, optimized the coefficient of performance (COP) .and validation studies of the COP was also conducted. In conclusion, the following were observed:

- The input values obtained from the optimization (the final values) were different from those of the steady-state simulation carried out prior to the optimization (initial values).
- The final values were within the ranges specified for the input variables during the optimization.
- The cooling capacity was increased from 32.3 kW to 430.7 kW while COP increased from 0.684 to 0.793 after optimization.

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EFFECT OF COVID-19 ON AGRIBUSINESS SMEs: A STUDY OF BENUE STATE

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ABSTRACT

The main aim of this study was to examine the effect of COVID-19 on agribusiness SMEs in Benue State, Nigeria. The population for this study is 415 registered agribusiness SMEs. Multi-stage random sampling was used to arrive at a sample size of 204. Data for the study was collected using structured questionnaire. Inferential statistics was used to analyze data. The Logit regression was used to realize the effect of COVID-19 on agribusiness SMEs in Benue State. A total of 204 questionnaires were sent-out and the same 140 were retrieved; after careful scrutiny, 18 were rejected, because they were defaced and improperly filled. Findings showed that an increase in education of agribusiness managers was statistically positive and significant at a value of 5%. The coefficient of the educational level of agribusiness managers is positively and significant at 1%. This implies that additional years of formal education can increase the chance of SMEs survival during COVID-19. Higher education can enhance acquisition of innovation/technology, skills/competencies and adaptation of existing knowledge to new ones. Experience of agribusiness SMEs was significant at 1%. An increase in experience of agribusiness SMEs, influence the likely probability that agribusiness SMEs will use or not use available raw materials. That is, odds ratio of COVID-19 influence and non-influence is increased by a factor of 0.0003427, with other factors remaining constant. Consumer preference for product is positive and significant at a value of 1%. The study concludes that, there is certainly an effect of COVID-19 on agribusiness SMEs in Benue State. Awareness of Government policy and incentives regarding COVID-19 and agribusiness SMEs should be encouraged by government agencies, especially the National Orientation Agency. Benefits from government policies incentives on COVID-19 and agribusiness SMEs should be encouraged by bringing on board NGOs and cooperatives in order to checkmate nepotism and favoritism.

Keywords: Agribusiness SMEs, effect of COVID-19, Benue State

1. INTRODUCTION

Nigerian SMEs contribute significantly to the Nation's GDP and over 80% of the workforce. Yet enormous challenges hampering growth exist and COVID-19 heightens these. It is difficult for SMEs identify inherent growth opportunities in the aftermath of the pandemic or build lasting businesses for generations. With COVID-19, the challenges hampering the attainment of food security in Nigeria could deepen (PwC, 2020). The impact of the pandemic in Benue State is

already being felt in the form of rising food prices. As at April 2020, food inflation rose to 15% compared to 14.7% in December 2019. To ensure that the agricultural sector is not further impacted by the distortions caused by COVID-19, the government should ensure more palliatives are provided to farmers in the form of improved seedlings, basic farm implements at highly subsidized prices, and free or more affordable farm extension services (FAO, 2020). Also, of importance is the need to ensure that the sector is accorded more budgetary allocations in line with the Maputo declaration, increase the operational capacity of the strategic grain reserves, and reintroduction of farming clusters to be financed through Public Private Partnership (PPP) arrangement. In addition, state governments should reassess their area of core competence in the agriculture value chain and promote investment in that area.

The pandemic adds to other threats including climate change and recurrent drought, Fall armyworm (FAW) and locust infestations in West Africa. "In Nigeria, it becomes more important to provide support to production systems across value chains towards mitigating the impact of this pandemic," the minister added. The states were selected based on the importance of sorghum and millet as food crops and access of partners to needy smallholder farmers. Nigeria had initiated an early coordinated response to minimize impact, Minister Nanono said. He explained that Joint Technical Task Teams (JTTF) at national and state levels developed strategies to facilitate free movement of food and agricultural inputs exempted from lockdown (PwC, 2020). The government is also planning ahead with research institutions to produce breeder and foundation seeds for production of high yielding seeds for 2020 wet and dry season as well as 2021 rainy season," the minister said. Nigeria's Federal Ministry of Agriculture and Rural Development (FMARD) and Centre for Dryland Agriculture at the Bayero University Kano (CDA-BUK) joined hands with ICRISAT and Syngenta Foundation for the initiative, which draws support from the Technologies for African Agricultural Transformation (TAAT) of the African Development Bank, Harnessing Opportunities for Productivity Enhancement for Sorghum and Millets (HOPE II), Accelerated Varietal Improvement and Seed Delivery of Legumes and Cereals in Africa (AVISA) and Agricultural Transformation Agenda Support Program (ATASP-1) projects. To mitigate the impact of COVID-19 and contribute to building sustainable food systems and food security, ICRISAT developed a three-phase response plan with Recovery and Coping Phases, Adaptive Phase and Transformative Phase in West and Central Africa.

2. METHODOLOGY

The study adopted descriptive survey approach. The study area, Benue State is comprised of three Agricultural Zones. The population for this study is 415 registered agribusiness SMEs. However, since it will be impractical to study the entire population, a sample size from obtained sample frame was taken for the study. Multi-stage random sampling was used to arrive at a sample size of 204. Data for the study was collected using structured questionnaire. Inferential statistics was used to analyze data. The Logit regression was used to realize the effect of COVID-19 on agribusiness SMEs in Benue State. Following the procedure adopted by Essien (2014) and Barthelémy *et al.* (2016), the model is specified as:

$$\text{Prob}(Y_i = 1) = \text{Ln} = \left(\frac{PY_i}{1-PY_i} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + e_i \quad \dots (1)$$

Where,

L_i = Logit or log of odds ratio

$PY_i = 1$ = is the probability that COVID-19 affects agribusiness SMEs

$1 - PY_i$ = is the probability that COVID-19 does not affect agribusiness SMEs

$\beta_1, \beta_2 \dots \beta_{10}$ = Coefficients to be estimated

e_i = error term

X_1 = price of product (Naira)

X_2 = education of owners/managers (years)

X_3 = age of owners/managers (years)

X_4 = experience in production/sales (years)

X_5 = cost of raw materials (Naira)

X_6 = availability of raw materials (1= adequate supply of raw materials during COVID-19, 0= otherwise)

X_7 = government policies (1= government policies help during COVID-19, 0= otherwise)

X_8 = technology (1= technology is vital during COVID-19, 0= otherwise)

X_9 = consumer preference (1= increased consumer consumption, 0= otherwise)

X_{10} = Cost of labour (Naira)

β =estimated parameters, including the constant term (β_0).

a priori expectations are $\beta_1, \beta_2, \beta_3, \beta_4, \beta_7, \beta_8, \beta_9 > 0$ and $\beta_5, \beta_6, \beta_{10} < 0$

3. RESULTS AND DISCUSSION

3.1 Survey Response

A total of 204 questionnaires were sent-out and the same 140 were retrieved; after careful scrutiny, 18 were rejected, because they were defaced and improperly filled. A successful response rate of 59.80% was achieved as 122 of the questionnaires were considered acceptable. Majority of the respondents gave a positive remark; they commented that the study is an interesting project worth researching.

3.2 Effect of COVID-19 on Agribusiness SMEs in Benue State

Logit regression was used to estimate the factors influencing agribusiness SMEs during the COVID-19 pandemic via logit regression in Table 1; which show that an increase in education (X_2) of agribusiness managers was statistically positive and significant at a value of 5%. This implies that additional years of formal education can increase the change of managing the business. The coefficient of the educational level of agribusiness managers is positively and significant at 1%. This implies that additional years of formal education can increase the chance of SMEs survival during COVID-19. Higher education can enhance acquisition of innovation/technology, skills/competencies and adaptation of existing knowledge to new ones.

Table 1: Factors that affect agribusiness SMEs during COVID-19 (n=122)

		Coef.	Std. Err.	z	p > z
<i>logit model</i>					
Constant	β_0	45.6308	8.811621	5.18**	0.000
X ₁ = price of product (Naira)	β_1	0.9444308	0.9424302	1.00	0.316
X ₂ = education of owners/managers (years)	β_2	1.031881	0.3586103	2.88*	0.004
X ₃ = age of owners/managers (years)	β_3	0.2899172	0.0976580	2.96.*	0.006
X ₄ = experience in production/sales (years)	β_4	0.0003427	0.000677	5.06**	0.000
X ₅ = cost of raw materials (Naira)	β_5	0.9289832	1.244904	0.75	0.456
X ₆ = availability of raw materials	β_6	0.0390841	0.0767207	0.51	0.610
X ₇ = government policies	β_7	0.4039831	0.3278327	1.23	0.218
X ₈ = technology	β_8	0.0213085	0.0246783	0.86	0.388
X ₉ = consumer preference	β_9	0.0003506	0.0000756	4.64**	0.000
X ₁₀ = cost of labour	β_{10}	0.0670339	0.4740138	0.14	0.888
<i>parameters</i>					
Log Likelihood	LLF	-29.053085			
LR test of the one sided error	LR	326.98**			
Prob > Chi ²		0.000			
Pseudo R ²		0.8491			

Note: * and ** indicate that the parameter is significant at 5% and 1%, respectively

Source: Field Survey (2020) Computation from STATA Version 14.2 for Windows

Rubas (2004) however cautioned that acquisition of knowledge, and skills does not automatically translate to efficient (or substantial) use of resources; that but significant adoption (which for this study may indicate sustained use of raw materials in production) will only occur when such adds value to the individuals. This is important especially when the average gross margin of agribusiness SMEs are not radically different. Older agribusiness SMEs are also more likely to source for cheaper and better raw materials. For age of managers (X₃) of agribusiness SMEs, the likely probability that they will be affected or not by COVID-19 (i.e. odds ratio of COVID-19 effect or not) is increased by a factor of 0.2899172, other factors remaining constant. Experience of agribusiness SMEs was significant at 1%. An increase in experience of agribusiness SMEs (X₄), influence the likely probability that agribusiness SMEs will use or not use available raw materials. That is, odds ratio of COVID-19 influence and non-influence is increased by a factor of 0.0003427, with other factors remaining constant. The variable X₉ (consumer preference for product) is positive and significant at a value of 1%. The coefficient estimate for the variable X₉ is 0.0003506. This means that for a one-unit increase in X₉ (in other words, going from high to low), we expect a 0.0003506 increase in the log-odds of the dependent variable – COVID-19 influence or no-influence of COVID-19 – i.e. holding all other independent variables constant.

3.3 Test of hypothesis for objective

The LR chi² also referred to as LR test of the one sided error, is the likelihood ratio (LR) chi-square test. The likelihood chi-square test statistic was 326.98 which is significant at a 1% level

for the logit model on Table 1. The chi-square value of 19.70 achieved by Adikwu, Ayoola and Akerele (2016) was also statistically significant ($p < 0.05$). This implies that the model can be relied upon to explain probability of COVID-19 effect on agribusiness SMEs in the study area. The $\text{Prob} > \chi^2$ is the probability of obtaining the chi-square statistic given that the null hypothesis is true. This is, of course, the p-value, which is compared to critical value of 0.05 or 0.01 to determine if the overall model is statistically significant. In this case, the model is statistically significant because the calculated value is greater than the table values. Thus, the null hypothesis was rejected and the alternative accepted which states that, “*effect of COVID-19 on agribusiness SMEs in Benue State exists*”, was adopted.

4. CONCLUSION

There is certainly an effect of COVID-19 on agribusiness SMEs in Benue State. This effect is reflected in the price of products, experience in production/sales, cost of raw materials, availability of raw materials, government policies, technology, consumer preference, cost of labour, etc. However, certain agribusiness SMEs are able to cushion themselves against the COVID-19 pandemic which is reflected in their survival as of the time of this study, while the laggard agribusiness SMEs showed tendencies of folding up in the near future. The COVID-19 pandemic may have rendered havoc on agribusiness SMEs, but post COVID-19 plans and strategies are necessary for firms to survive in this bleak period.

5. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are appropriate:

- i. Awareness of Government policy and incentives regarding COVID-19 and agribusiness SMEs should be encouraged by government agencies, especially the National Orientation Agency;
- ii. Benefits from government policies incentives on COVID-19 and agribusiness SMEs should be encouraged by bringing on board NGOs and cooperatives in order to checkmate nepotism and favoritism;

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EMPLOYEE WORK SELF-ESTRANGEMENT AND EMPLOYEE DEVIANT BEHAVIOUR IN THE HOTEL INDUSTRY WITHIN SOUTH-SOUTH, NIGERIA

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ABSTRACT

The purpose of this paper is to examine the relationship between employee work self-estrangement and deviant behaviour in the hotel industry within the South-South Region of Nigeria. A survey design was adopted using questionnaire as the research instrument which was distributed to 291 employees of three selected hotels in the South-South region of Nigeria. The data derived were analyzed through the use of Spearman's Rank Order Correlation Coefficient Statistical as well as t-statistics to test the relationship between the variables of the study through the use of Statistical Package for Social Sciences within a significance level of 0.05. The findings showed that employee work self-estrangement has significant influence on deviant behaviour vis-à-vis production deviance, property deviance, political deviance and personal aggression as measures of deviant behaviour in the studied hotels. We therefore recommend that managers should encourage the free flow of communications between employees and managers in order to reduce boredom that might lead employee exhibiting deviant behaviour in the organization and managers should give more priorities to employee participation so as to reduce employee work self-estrangement and give necessary training to minimize the occurrence of deviant behaviours in the organization.

Keywords: Work Alienation; Self-estrangement; Deviant Behaviour

INTRODUCTION

Due to today's complex and uncertain business environment, the study of employee behaviour in the organization has become of more importance than before in the sense that organizations need their employees to exhibit the right behaviour in order to enhance their productivity as well as performance in today's turbulent business environment. However, there are employees in the workplace who exhibit behaviours that are not in line with the organization's standards known as deviant behaviours. Deviant behaviours in the workplace have become one of the major quandary that has bedeviled the success of the organization of today (Bashir, Nasir, Qayyum & Bashir, 2012). Hence, Yildiz, Alpkhan, Ates, and Sezen (2015) articulated that the understanding of these deviant behaviours has today become a significant area of research and emerging phenomenon. Deviant behaviour is also known as dysfunctional behaviour and organizational misbehaviour (Fox, Spector & Miles, 2001; Vardi & Wiener, 1996) which occurs among

workers in the organization (Novalien, 2017). These behaviours are intentional behaviours exhibited by employees that do not conform to set values and standards within the organization which threatens the organization's success and survival as well as its members (Robinson & Bennett, 1995). Hence, deviant behaviours are acts displayed by employees that are not in line with the objectives of the organization. Nevertheless, the occurrence of deviant behaviour in the workplace is not without a cause which according to Kelloway, Lori, Matthew and James (2010) is as a result of employee work alienation. When an individual is suffering from alienation such as self-estrangement it means that either the individual cannot utilize his given qualities or he is not given the opportunities to utilize his or her given qualities (Weisskopf, 2006).

In the workplace as well as in our society of today, alienations comes in the form of squat output, reduced drive, increased employee's absenteeism, reduced organization's dedication, turnover which result in different kinds of social vices like enhanced rate of crimes, disruption, vandalism, as well as a dejected society (Erjem, 2005). Employee suffering from alienation is not always happy but tries as much as possible to saves time though the employees tries to save time he or she has the tendencies of wasting the same time he is trying to save (Fromm, 2014). The symptoms of alienated employee in the workplace includes separation, boredom, lack of commitment to one's job, low participation to organization's activities, withdrawing, detachment as well as seclusion (Erjem, 2005) which often times lead to the exhibition of deviant behaviours such as absenteeism, late arrival and so on. An employee who is alienated in the form of work self-estrangement sees his or her work as a tool to just meeting needs, hence, he or she is not excited about work and not personally involved in the day to day operations of the organization as a result do not care to participate in the organization success. When workers in the organization have the feeling that they are alienated from their organization's work environment, they may not have the tendency to be committed to their job which can result in the exhibition of negative attitude towards the organization such as coming late and misusing the organizational properties at the detriment of the organization. Thus, Nelson and O'Donohue (2006) expressed that employee self-estrangement has the capability to cause diminished motivation and work involvement as well as hinder employees from being good organizational citizens. When a worker is estranged from his or her work, he or she might develops pessimistic and hostile behaviour towards people around him or her in the organization. This is because work alienation in the form of work estrangement decreases the worker's passion and emotionally separates him or her from the organization which reduces his or her level of participation in the organization (Banai, Reisel & Probst, 2004).

All employees in the organization have tendency to exhibit deviant behaviour; however its occurrence may be higher in some jobs than others (Griffin & Lopez, 2005). Furthermore, been an everyday occurrence in the workplace, the issue of deviant behaviour in the hotel sector is not an exemption, centered on the consistent facts from media as regards to workers poor work attitude, absenteeism, late arrival and early departure, sabotage among other deviant behaviours. Thus, this study looks forward in reducing the occurrence of deviant behaviours in the hotel sector in the south-South Region of Nigeria by studying the relationship between employee work self-estrangement and deviant behaviours. This study would be of great impact to managers in the hotel industry as well as other sectors in the Nigerian economy because understanding deviant behaviour and what influences it is the first step for knowing how to manage its frequent

occurrence. This study would provide information about the effect of employee work self-estrangement on deviant behaviours, thus through the outcomes of this research; managers of organization in general and the studied hotels particularly will be able to reduce deviant behaviours by effectively managing such behaviours in their organization by avoiding employee work estrangement in their workplace.

Research Questions

The research questions this paper seeks to answer are as follows:

- i. What is the relationship between employee work self-estrangement and production deviance of Hotels in the South-South Region of Nigeria?
- ii. What is the relationship between employee work self-estrangement and property deviance of Hotels in the South-South Region of Nigeria?
- iii. What is the relationship between employee work self-estrangement and political deviance of Hotels in the South-South Region of Nigeria?
- iv. What is the relationship between employee work self-estrangement and personal aggression of Hotels in the South-South Region of Nigeria?

Research Hypotheses

The research hypotheses are stated in the null form and they are as follows:

H0₁: There is no significant relationship between employee work self-estrangement and production deviance of Hotels in the South-South Region of Nigeria.

H0₂: There is no significant relationship between employee work self-estrangement and property deviance of Hotels in the South-South Region of Nigeria.

H0₃: There is no significant relationship between employee work self-estrangement and political deviance of Hotels in the South-South Region of Nigeria.

H0₄: There is no significant relationship between employee work self-estrangement and personal aggression of Hotels in the South-South Region of Nigeria.

LITERATURE REVIEW

Theoretical Framework

This study is anchored on social exchange theory which suggests that behaviour is the product of exchange process with aim of minimizing cost and maximizing benefits by each party involved (Cropanzano & Mitchell, 2005). Employees often time analyze the difference between the cost and benefit provided by their organization and once the relationship is fair enough they exhibit behaviours that will also benefit the organization. On the other hand, if employees sense that the organization is not taking their interest seriously they might exhibit behaviours that are deviant in nature to the values and objectives of the organization. Therefore, Blau (1964) expressed that if employees feel lack of participation and belongingness (feel alienated) they are likely to display harmful behaviour. Since work alienation can be as a result of lack of participation (Yen & Teng, 2013), we propose that employee alienation brought about by low participation can be a source of deviance behaviour in the organization. Thus, if employees are self-estranged from their work environment they are more likely to exhibit deviant behaviours in the workplace.

Employee Work Self-estrangement

Employee self-estrangement as used here is a dimension of employee work alienation and alienation is a disconnection from ones job, situation or oneself (Nair & Vohra, 2010). It is the

degree at which an employee has low emotional commitment to a particular job which borders on circumstances where employees does not take interest in the work he or she is performing and commit little efforts in doing the work as well as work basically for extrinsic remuneration (Weisskopf, 2006). Employees suffering from alienation manifest behaviour such as flaccid abandonment from work and regularly been absent from work. Furthermore, self-estrangement in the workplace occurs when an individual do not feel any happiness of achievement because he/she is unable to connect to the things that he/she wants to realize and achieve with the work he/she does (Banai & Raisel, 2007). Self-estrangement occurs according to Mottaz (1981) when workers do not find their work exciting to them. For this reason, the employees cannot draw a link with the things they actually wants to do and what they are doing as a result they are not happy (Eryilmaz & Burgaz, 2011). Ashforth and Humphrey (1993), sees it as a form of alienation, whereby the worker is not in reality with himself and feels he is behaving against the normal way of others. Self-estrangement is an emotion of withdrawal, disaffiliation, or recoil from some object, condition, or situation perceived to be unpleasant or toxic (Kavanagh & Bower, 1985). In self-estrangement, the estranged self is seen as repugnant and undesirable. Here disgust is not considered as an elementary, visceral reaction to repulsive or contaminated material, but rather as a socio-moral connotation triggered by a person, behaviour, or condition seen as aversive, degraded, or polluted. The self-estranged individual experiences disgust and a feeling of disaffiliation upon perceiving that one's actual self is significantly inferior to the self that one has aspired to become (Blauner, 1964). The effect of isolation and loneliness culminates, where an individual feels unable to tackle or face their oddness, thus resulting to estrangement concerning oneself and others. This estrangement prevents the individual from effective relationship with others. The self-estranged individual experiences sadness upon perceiving a failure to satisfy fundamental human needs; an inability to engage in activities that are intrinsically rewarding; a sense that the actual self is not the ideal or moral self to which they aspired; a loss of a true, or authentic, self, or the sense that one possesses a false self; loss of knowledge of what one's true self might be; a loss of memories of biographical episodes that have been significant to one's life and formation of one's present self; and a loss of a feeling of self-efficacy; a concomitant need to adhere to social constraints and social demands (Kavanagh & Bower, 1985).

Deviant Behaviour

Deviant behaviour is a purposeful act engaged by individual that is not in conformity to the interest of the organization. It is an employee behaviour that is intended to have negative effect on co-workers and the firm (Gruys & Sackett, 2003; Fox *et al.*, 2001). More so, according to Schnake (2011), employee deviance is an intentional behaviour exhibited by employees that could violate substantially the standards and norms of the organization thereby affecting the success of the organization and its stakeholders. In other words, deviant behaviour in the organization is behaviour that tends to impinge on the capability of the organization to attain set goals and its general success. There are two basic features of deviant behaviour vis-à-vis they are done intentionally and the primary goal of this kind of behaviour is to harm the firm and its stakeholders (employees, customers, shareholders and host of others). Its features includes low work quality, sabotage, lack of commitment, deliberately working slowly, stealing, gossiping, misuse of organizational resources, absenteeism and coming late to work, nepotism and partiality, use of abusive words as well as verbal assault among others. Furthermore, Bennett and

Robinson (2000) categorized employee work deviant behaviour to include production deviance, property deviance, political deviance and personal aggression which were also adopted in this study. Political deviance (interpersonal and minor) including deviant behaviours like favourism, gossiping about fellow co-workers, as well as raining blames on co-workers, organizational vulgarity, unhealthy competition between co-workers; these deviant acts contributes towards a negative working environment which breeds hostile work environment, demoralizing employee morale and destroying leader- member and/ or managers-employee relationship. More so, victims of political deviance suffer from depression which can lead to other workplace deviance such as absenteeism and intentionally doing work wrongly (Everton, Jolton & Mastrangelo, 2007). In the same vein, Sarwar, Awan, Alam, and Anwar (2010) expressed that political favouritism in the organization increase in the employee negative behaviour; hence, such favouritism can cost the organization a lot; personal aggression (interpersonal and serious) which include deviant behaviour like, embarrassing others, maltreatment of other workers, verbal abuse of co-workers, sexual persecution and endangering of co-workers; production deviance (organizational and minor) include deviant behaviour such as intentionally working slowly on a given task, going on undue breaks, using work time for personal use, coming late to work, leaving workplace earlier than the scheduled time, sleeping on duty, wasting organization's resources; and property deviance (organizational and serious) include deviant behaviours such as thievery, sabotage, using organizational properties without due permission.

METHODOLOGY

The study adopted the survey research design vis-à-vis correlational design that examines the relationship between employee self-estrangement and deviant work behaviour. The time horizon adopted is cross-sectional while the unit of analysis was on the employee of three (3) selected Hotels in the South-South, Nigeria. One each from Rivers State, Akwa-Ibom State and Cross-Rivers State and a visit to the 3 Hotels (the various hotels' human resource managers), we discovered that they have 1014 employees made up of junior staff, middle-cadre staff, senior staff, and management cadre. Out of the 1014 employees in the 3 hotels, 291 employees were used as the sample size gotten through the use of Krejcie and Morgan (1970) sample size determination. We also used cluster sampling to get the number of respondents in each hotel, a hotel been a cluster. More so, selection from the clusters to arrive at sample size was by proportionate sampling complemented with simple random sampling techniques which was done using Bowley's (1964) technique in the determination of unit sampling. More so, the study adopted questionnaire as the research instrument. Employee self-estrangement is the predictor variable and is used as a dimension of work alienation thus it is operationalised as a uni-variable using Merkhe (2015) questionnaire which consist of four respond choices with 5 Point Likert scales ranging from 1 to 5 indicating strongly disagree, disagree, indifference, agree and strongly agree respectively. The criterion variable is deviant behaviour with measures as production deviance, property deviance, political deviance and personal aggression which was operationalised using Bennett and Robinson (2000) deviant behaviour questionnaire consist of four respond choices each with 5 Point Likert scales ranging from 1 to 5 indicating strongly disagree, disagree, indifference, agree and strongly agree respectively. Face and content validity was also used for the validity of the research instrument while the reliability of the research instrument indicates a Cronbach Alpha value higher than 0.7; specifically the employee self-estrangement = 0.917; production deviance = 0.914; property deviance = 0.931; political

deviance = 0.928 and personal aggression = 0.919. From the 291 questionnaire distributed, 276(94.81%) copies of questionnaire were retrieved while the remaining 15(5.19%) were not retrieved. More so, out of the 276 number of questionnaire retrieved, 13(4.71%) copies was not useful because it was not filled properly while the remaining 263(95.29%) copies of the retrieved questionnaire were filled correctly which were used for data analysis. The data derived were analyzed through the use of Spearman's Rank Order Correlation Coefficient Statistical as well as t-statistics to test the relationship between the variables of the study through the use of Statistical Package for Social Sciences (SPSS) Windows version 25 within a significance level of 0.05.

DATA ANALYSIS AND RESULTS

Relationship between Employee Self-estrangement and Production Deviance

Table 1: Correlations Analysis showing the strength of Relationship between Employee Self-estrangement and Production Deviance

		Self-Estrangement	Production Deviance
Spearman's rho	Self-Estrangement	Correlation Coefficient	1.000
		Sig. (2-tailed)	.966**
		N	263
	Production Deviance	Correlation Coefficient	.966**
		Sig. (2-tailed)	1.000
		N	263

** . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Windows Version 25

Table 1 above indicates that $\rho = 0.966$ and a $PV = 0.000$ less than 0.05; it means that the relationship between employee self-estrangement and production deviance in the studied Hotels is very strong, positive and significant. The relationship is further tested applying t-statistics as shown in Table 2 below:

Table 2: Effects of Employee Self-estrangement on Production Deviance

Coefficients ^a					
Model		UnStandardised Coefficients		Standardised Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	1.687	.357		.000
	Self-estrangement	.369	.080	.292	.000

a. Dependent Variable: Production Deviance

Source: SPSS Windows Version 25

The table 2 above shows a ($t_{\text{cal.}} = 4.595$ and $t_{\text{crit.}} = 1.96$) at significant level of ($P = 0.000 < 0.05$) which indicates a significant relationship between employee self-estrangement and production deviance. Thus, we reject the null hypothesis; we therefore conclude that employee self-estrangement had a positive and significant relationship with production deviance in the studied Hotels in Nigeria.

Relationship between Employee Self-estrangement and Property Deviance**Table 3: Correlations Analysis showing the strength of Relationship between Employee Self-estrangement and Property Deviance**

			Self-Estrangement	Property Deviance
Spearman's rho	Self-Estrangement	Correlation Coefficient	1.000	.986**
		Sig. (2-tailed)	.	.000
		N	263	263
	Property Deviance	Correlation Coefficient	.986**	1.000
		Sig. (2-tailed)	.000	.
		N	263	263

** . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Windows Version 25

Table 3 above indicates that $\rho = 0.986$ and a $PV = 0.000$ less than 0.05; it means that the relationship between employee self-estrangement and property deviance in the studied Hotels is very strong, positive and significant. The relationship is further tested applying t-statistics as shown in Table 4 below:

Table 4: Effects of Employee Self-estrangement on Property Deviance

Coefficients ^a					
Model		UnStandardised Coefficients		Standardised Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	6.584	.390		.000
	Self-estrangement	.808	.088	.530	.000

a. Dependent Variable: Property Deviance

Source: SPSS Windows Version 25

The table 4 above shows a ($t_{\text{cal.}} = 9.216$ and $t_{\text{crit.}} = 1.96$) at significant level of ($P = 0.000 < 0.05$) which indicates a significant relationship between employee self-estrangement and property deviance. Thus, we reject the null hypothesis; we therefore conclude that employee self-estrangement had a positive and significant relationship with property deviance in the studied Hotels in Nigeria.

Relationship between Employee Self-estrangement and Political Deviance**Table 5: Correlations Analysis showing the strength of Relationship between Employee Self-estrangement and Political Deviance**

			Self-Estrangement	Political Deviance
Spearman's rho	Self-Estrangement	Correlation Coefficient	1.000	.688**
		Sig. (2-tailed)	.	.000
		N	263	263
	Political Deviance	Correlation Coefficient	.688**	1.000
		Sig. (2-tailed)	.000	.
		N	263	263

** . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Windows Version 25

Table 5 above indicates that $\rho = 0.688$ and a $PV = 0.000$ less than 0.05; it means that the relationship between employee self-estrangement and political deviance in the studied Hotels is strong, positive and significant. The relationship is further tested applying t-statistics as shown in Table 6 below:

Table 6: Effects of Employee Self-estrangement on Political Deviance

Coefficients ^a						
		UnStandardised Coefficients		Standardised Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.277	.203		8.367	.173
	Self-estrangement	.145	.046	.115	3.173	.002

a. Dependent Variable: Political Deviance

Source: SPSS Windows Version 25

The table 6 above shows a ($t_{\text{cal}} = 3.173$ and $t_{\text{crit}} = 1.96$) at significant level of ($P = 0.002 < 0.05$) which indicates a significant relationship between employee self-estrangement and political deviance. Thus, we reject the null hypothesis; we therefore conclude that employee self-estrangement had a positive and significant relationship with political deviance in the studied Hotels in Nigeria.

Relationship between Employee Self-estrangement and Personal Aggression

Table 7: Correlations Analysis showing the strength of Relationship between Employee Self-estrangement and Personal Aggression

		Self-Estrangement	Personal Aggression
Spearman's rho	Self-Estrangement	Correlation Coefficient	1.000
		Sig. (2-tailed)	.885**
		N	.000
	Personal Aggression	Correlation Coefficient	263
		Sig. (2-tailed)	.885**
		N	.000
			263

** . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Windows Version 25

Table 7 above indicates that $\rho = 0.885$ and a $PV = 0.000$ less than 0.05; it means that the relationship between employee self-estrangement and personal aggression in the studied Hotels is very strong, positive and significant. The relationship is further tested applying t-statistics as shown in Table 8 below:

Table 8: Effects of Employee Self-estrangement on Personal Aggression

Coefficients ^a						
		UnStandardised Coefficients		Standardised Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	4.305	.282		15.273	.000
	Self-estrangement	.781	.063	.593	12.327	.000

a. Dependent Variable: Personal Aggression

Source: SPSS Windows Version 25

The table 8 above shows a ($t_{\text{cal.}} = 12.327$ and $t_{\text{crit.}} = 1.96$) at significant level of ($P = 0.000 < 0.05$) which indicates a significant relationship between employee self-estrangement and personal aggression. Thus, we reject the null hypothesis; we therefore conclude that employee self-estrangement had a positive and significant relationship with personal aggression in the studied Hotels in Nigeria.

Discussion of Findings

Employee self-estrangement is an individual's inability to find intrinsically rewarding activities that engages him/her. The inability of the employee to find his or her work not rewarding (that is not finding his or her work satisfying) may result in deviant behaviour such as watching YouTube, checking Facebook, playing video games, online shopping, and so on during work hours which can result in the reduction of organizational productivity. More so, Blauner (1964) observed that workers experienced estrangement when they felt their work was neither self-fulfilling nor intrinsically rewarding, but that their tasks were merely a means to accomplishing something else. So, for the estranged worker, nothing is inherently gratifying about work; work is merely an instrumental activity which is done only for extrinsic rewards (Blauner, 1964), which can lead the employee to lose interest on the job and indulge in deviant behaviour such as arriving late, leaving early and indulging in absenteeism. Also, when an employee feel estranged in his or her workplace, the employees lacks pride on what he or she is doing, lacks identification with his/her work duties, he/she feels essentially detached from his/her employer, and he/she is involved in activities that are mainly instrumentally necessary, such as a paycheck, as opposed to activities that are mainly intrinsically rewarding (Blauner, 1964; Seeman 1959), this can make him or her to indulge in behaviour such as outright theft and organizational sabotage, since he or she does not feel any sense of pride or identification in his job. More so, self - estrangement is a crucial dimension of employee work alienation, this situation happens when employees' realize that they are strangers from the work process and there is a gap separating them from the product, in other words, they are alien and independent from their contributions (Sarros, Tanewski, Winter, Santora & Densten, 2002). The feeling of been estranged to work can make employees lose commitment to work that may lead to absenteeism and arriving late to work. Furthermore, Bugental (2005) observed that self-estrangement is a feeling of being caged in a glass, where one can see the entire world and as people move by but one cannot do same. It occurs in the organization when workers do not feel a sense of wholeness as well as association. More so, self-estrangement is a combination of isolation, meaninglessness and powerlessness. Rose (1988) expressed that it comes into manifestations when employees feel that the work he or she is doing is not in conformity with his or identity which can lead to deviant behaviour.

Employee work estrangement results in job dissatisfaction which is very distasteful to employees and employees naturally have the tendencies to react to distasteful situations through the search to look for way to minimizing the distasteful situation by looking for better job placement in the organization. This can make them indulge in political deviance such as spreading rumours or gossiping about others in a bid obtain better position in the organization as well as to better adapt. Self-estrangement which has to do with workers separations from their work operation and lack of identity with the organization has a lot to do with behaviour of the employee in the organization. Self-estrangement prevents employees from interacting with others and not being interacted with can lead to aggressive behaviour towards others such as verbal abuse, threats of physical harm, and endangering other co-workers. Employees are social beings and when he or she becomes unwanted, detested, or relegated to the background by others, they may display aggressive behaviour (Dodge, Coie & Lynam, 2006). Warburton, Williams, and Cairns (2006) observed that when employees are rejected in the organization they display aggressive behaviour. More so, Williams (2001) expresses that employee's segregation with organizations brings about a negative impact to fundamental worker human needs and that such frustrated makes the worker to feel frustrated which result in increased aggression towards others in the organization. The detrimental part of self-estrangement is that it hinders workers development, self-realization as well social connection between employees that may lead them to indulge in deviant behaviour.

CONCLUSION

From the result of data analysis, we discovered that employee self-estrangement has direct and significant effect on all the measures of deviant behaviour in the studied firms. In other words, if employees' self-estrangement are allowed to increase, there will be a higher tendency that deviant behaviours will increase in the organization. Inevitably, employees who do not feel powerful and valuable in the organization will have no enthusiasm towards the organization as well put less importance on their job as times goes by and display behaviour that may be detrimental to the firm. This means that when employees are not connected to their job makes them to questioning their sense of belongingness and if appropriate managerial precautions are not taken may degenerate into display of deviant behaviours in the organization. However, while we recognize that employee self-estrangement can result to display of deviant behaviours; is not applicable to all employees due to fear of been sanctioned.

RECOMMENDATIONS

We therefore recommend that:

1. Managers of hotels in the south-south region in Nigeria should make sure workers do not waste organization's time for their personal use by monitoring workers activities during work hours electronically, such as checking histories of internet browsing and so on.
2. The managers should encourage the free flow of communications between employees and managers in order to reduce boredom that might lead to employee deviant behaviour in the organization.
3. More so, Managers should give more priorities to employee participation so as to reduce employee work self-estrangement and give necessary training to minimize the occurrence of deviant behaviours in the organization.

4. Also, managers should organize get to gather once a while in the organization to enhance its social environment so as to reduce boredom and deviant behaviour.

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EMERGING CHALLENGES AND OPPORTUNITIES OF THE CORONAVIRUS (COVID-19) PANDEMIC FOR SMALL AND MEDIUM ENTREPRISES (SMEs) IN NIGERIA

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ABSTRACT

The year 2020 has been incredibly challenging for the global community. The spread of the novel coronavirus known as Covid-19, has led to an unparalleled health crisis in countries across the world. The pandemic has also caused unprecedented panic and disruptions for both the public and private sectors and is considered an existential threat to the global economy with governments and businesses grappling with the effects. In Nigeria, the pandemic has generated critical challenges for Small and Medium Scale Enterprises(SMEs) thereby threatening their survival and forcing many to shift focus from routine operations to crisis management and alternate business response efforts. This paper sought to determine the challenges of Covid-19 pandemic to Small and Medium Scale Enterprises in Nigeria and identify the emerging opportunities arising as a consequence of the pandemic. Findings show that amidst the crisis caused by Covid-19, numerous opportunities have also emerged for innovative entrepreneurs to explore. It was recommended that SMEs should assess the damages their companies may face and do their best to mitigate the negative effect of the pandemic while maximizing the new opportunities.

Keywords: Novel, Covid-19, Pandemic, SMES, lockdowns, Emerging, Opportunities.

1. INTRODUCTION

The novel coronavirus outbreak was identified in the city of Wuhan, Hubei province of China in December 1, 2019. On January 30, 2020, the World Health Organization (WHO) declared the outbreak a Public Health Emergency of international concern and as a result of its rapid spread across continents (WHO, 2020) It was declared a pandemic on the 11th of March, 2020. As of

August 10, 2020 more than 20 million cases have been reported in more than 188 countries and territories resulting in more than 734,000 deaths (WHO, 2020).

The virus is primarily transmitted from person-to-person by coming into contact with an infected person's droplets. When an infected person coughs, sneezes or exhales, droplets are expelled and can land in another person's nose or mouth and inhaled into the lungs. The virus can also be transmitted by infected persons not showing symptoms of illness. This is why it is important to stay at least 2 metres apart. Infected droplets can also land on surfaces or objects. It may be possible for a person to contract the virus when they touch an infected surface and then touch their mouth, nose or eyes.

The pandemic has caused global social and economic disruption. It has also led to cancellation of sporting, religious, political and cultural events (Bouey, 2020). Given the virus high infectivity and continued spread, authorities worldwide responded to the pandemic by implementing travel restrictions, lockdowns, workplace hazard controls and facility closures to prevent the spread of the virus. Yet the pandemic has also resulted in a planet-wide economic slowdown, affecting trade, investments, growth and employment. With fewer resources to ride out the storm, Small and Medium Enterprises (SMEs) have been particularly vulnerable to the repercussions of the crisis with the SMEs in Nigeria being no exception. This paper looks at the Emerging Challenges and Opportunities of the coronavirus (Covid-19) Pandemic for SMEs in Nigeria.

1.2 Purpose of the Study

The purpose of this paper is to summarize the current knowledge on Covid-19, identify its Challenges on Small and Medium Enterprises in Nigeria and discuss the emerging opportunities of the pandemic to innovative SMEs.

1.3 Methodology

The data and information used in this paper are entirely from secondary sources, mostly review of online database of WHO and NCDC, European Commission, International Trade Centre and IMF. Some other data sources like studies, seminars, workshops and conference were reviewed. The deductive or inductive statements are purely based on review of these literatures.

2. LITERATURE REVIEW

2.1 Economic Impact of Covid-19 Pandemic around the world.

The International Monetary Fund (IMF) has said the coronavirus pandemic had instigated a global economic downturn the likes of which the world has not experienced since the great depression. This view is supported by the latest figures from the European Commission, which has forecast that the GDP of European Union (EU) countries will contract by 7.5% in 2020. The European Union Commission in its spring forecast released on 6th May, 2020 during the World Economic Forum reported that

“Despite the swift and comprehensive policy response of both the European Union and National level, the EU economy will experience a recession of historic proportions this year” (WEF, 2020)

In Europe, governments are attempting a phased re-opening of businesses but over 30 million people in Germany, France, United Kingdom, Spain and Italy have applied for state support of their wages while first quarter 2020 data indicate the Eurozone economy contracted by 3.8% at an annual rate, the largest decline since the series began in 1995 (Stoff, 2020). Industrial production across the Eurozone as a whole fell by 17% April, raising the annual decline to 28%, surpassing the contraction experienced during the global financial crisis (Arnold, 2020).

The European Commission's July 8, 2020 forecast projected that EU Economic growth in 2020 could contract by 8.3% and only partially recover in 2021 (European Economic Forecast Summer, 2020). Some estimates indicate that 29 million people in Latin America could fall into poverty reversing a decade of efforts to narrow income inequality.

On the 15th of April, 2020 the IMF warned economies in Asia would see no growth this year, for the first time in 60 years with the service sector particularly under pressure. In the United States, the unemployment rate in April, 2020 climbed to 14.7% as more than 20 million Americans lost their jobs (World Economic Forum, 2020). The novel coronavirus (Covid-19) is having a profound impact on global trade and the businesses that drive it. With countries in various stages of lockdown or loosening confinement periods, it is becoming clear that the virus has particularly impacted small and medium sized enterprises (SMEs) (ITCNews, 2020). The International Trade Centre, 2020 SME Competitive Outlook reveals how Small and Medium Enterprises and global supply chains have been tested by the covid-19 pandemic and left international trade in turmoil (ITC, 2020). While most countries experienced some form of shutdown, the findings highlights that it was lockdown in China, the European and the United States that have had the greatest impact on trade. Together these three economies account for 63% of world supply chain imports and 64% of supply-chain exports. The report estimates that the global disruption of the manufacturing hubs will amount to US\$126 billion in 2020. This disruption is also having a negative knockdown effect on developing countries.

Drawing from a data collected by ITC's Covid-19 Business Impact Survey carried out in the first months of the pandemic, more than 55% of all businesses have been strongly affected by the pandemic. Meanwhile the United Nations Commission for Africa reports that half of jobs in Africa are at risk as a result of Covid-19 outbreak.

2.2 Covid-19 Pandemic in Nigeria

The outbreak of coronavirus (Covid-19) pandemic in Nigeria has increased the extent of tension and anxiety among citizens within the country. The virus unlike other cases in the country is extremely transmittable with severe signs and symptoms.

The first case of Coronavirus in Nigeria was reported on the 27th of February, 2020 and since then the number of cases has been on the increase (Bamidele and Daniel, 2020). To prevent the spread of the virus, the Federal Government of Nigeria on March 30, 2020 took a drastic decision to close all national borders and airspace, schools, worship centres and other public centres and placed the Federal Capital Territory (FCT), Lagos and Ogun State on total lockdown. (Olapegba, Anyandele, Kolawole and Iorfa, 2020).

The pandemic has affected the 36 states of the country with Lagos leading the pack. Notwithstanding the strides achieved over a brief time, the cases of Covid-19 continues to multiply exponentially. As at July 27th, 2020, the NCDC gave the coronavirus update in Nigeria as 40,532 confirmed cases, 22,300 active cases and 858 deaths.

2.3 *NCDC Confirmed Cases by State as at July 27, 2020*

Table 1.

States Affected No. of Cases (Lab Confirmed) No. of Cases (on admission) No. Discharged No. of Deaths

Lagos	14,456	12,177	2,087	192
FCT	3,481	2,387	1,053	41
Oyo	2,570	1,398	1,148	24
Edo	2,167	681	1,409	77
Rivers	1,652	286	1,314	52
Kano	1,520	254	1,213	53
Delta	1,464	790	634	40
Kaduna	1,365	321	1,032	12
Ogun	1,301	246	1,032	23
Ondo	1,061	591	448	22
Plateau	834	369	446	19
Ebonyi	759	155	580	24
Enugu	741	299	425	17
Katsina	733	261	449	23
Kwara	711	493	202	16
Borno	611	17	559	35
Gombe	571	27	521	23
Bauchi	538	9	516	13
Abia	536	106	426	4
Imo	465	348	108	9
Osun	443	219	214	10

States Affected No. of Cases (Lab Confirmed) No. of Cases (on admission) No. Discharged No. of Deaths

Benue	337	278	53	6
Bayelsa	327	55	251	21
Jigawa	322	3	308	11
Nasarawa	308	187	113	8
Akwa Ibom	221	93	121	7
Niger	168	23	133	12
Sokoto	153	0	137	16
Adamawa	140	46	85	9
Anambra	132	45	75	12
Ekiti	113	56	55	2
Kebbi	90	4	79	7
Zamfara	77	1	71	5
Yobe	66	4	54	8
Taraba	54	43	11	0
Cross River	40	28	9	3
Kogi	5	0	3	2

2.3 Challenges of the Covid-19 Pandemic to SMEs in Nigeria

Small and Medium Enterprises in Nigeria are non-subsidiary, independent firms or organizations with an annual turnover not exceeding five hundred thousand Naira and/or less than 300 employees (Onyinyechukwu, 2020). These kind of businesses are less capital intensive as well as highly flexible in filling the need in various niche markets.

The SMEs are literally the backbone of practically all developed economies because they contribute immensely to employment, economic and export growth. In Nigeria, Small and Medium sized Enterprises play a crucial role in the economy. According to the Nigerian Bureau of Statistics, Small and Medium Enterprises (SMEs) in Nigeria contribute 48% of the National GDP, account for 96% of businesses and provide for 84% of employments for the citizens (Nigerian Bureau of Statistics, 2010). With a total number of 17.4 million, they account for about 50% of Industrial jobs and nearly 90% of the manufacturing sector, in terms of the number of enterprises.

Prior to the Covid-19 Pandemic, the Small and Medium businesses (SMEs) in Nigeria were faced with the challenges of lack of skilled manpower, multiplicity of taxes, and high cost of doing businesses. The SMEs are characterized by low productivity, limited access to financial resources and a negligible role in global value chains and the trading system. The vulnerability of these Small and Medium Enterprises stem from lack of market space to grow, compete and thrive. Without growth, they can create neither sustainability nor resilience to crisis.

The coronavirus (Covid-19) has generated critical challenges for SMEs in Nigeria leaving businesses reeling from a sharply reduced demand for their goods and services. Some are already shutting down since they can no longer get supply of new materials for production due to Covid-19 restrictions. Lots of containers have been delayed at the seaports and shipping dates have been repeatedly postponed on account of Covid-19 (Onyinyechukwu, 2020). Businesses cannot get supply of the goods they buy because most of them are majorly imported from China. Since most of these SMEs operate on a day to day level, their investments for the first half of this year 2020 have all but washed down the drain.

Supply and demand challenges have led to an inability to meet loan and lease repayment schedules. As the overall volume of production falls and cash starts to run out, some SMEs have already had to offload staff. Association of Small Business Owners of Nigeria (ASBON) reported that coronavirus was already having negative impact on the operations of SMEs in the country as some were cutting down production. (Business Day, April 13, 2020).

SMEs are having logistics issues with the supply chain being impacted negatively by the current crisis. The disruption has increased cost of business especially those businesses that have not closed. There is a decline in income for most SMEs leading to dwindling income and wages for employees while some are considering laying off employees (Falokun, 2020).

2.3.1. Phases of pandemic Impact on Nigerian SMEs

SMEs in Nigeria are travelling through phases of impact as their businesses face Covid-19 crisis.

1. Shutdown impacts where the pandemic led the government to adopt measures shutting down economic activities. Such measures to contain the spread of the pandemic have had devastating effects on SMEs.
2. Supply chain disruption have affected the businesses in Nigeria as the pandemic induced lockdowns in China, the European Union (EU) and the United States, also known as the group of three (3G) have had major impacts on production, imports and Exports.
3. Demand depression where confinement reduced sales to consumers and businesses. Even when the health emergency begins to ease, business investment will remain low due to run-down in savings. Households may reduce spending in the medium to long term to compensate for lower incomes during the pandemic period.

2.4 Emerging Opportunities for Nigerian SMEs as a Consequence of Covid-19 Pandemic

Although the current pandemic has had a severe impact on the global economy, SMEs are exploring innovative ways and means of cushioning the effects of these challenging times.

Majority of them have had a rapid response to the pandemic and have taken measures to thrive (Falokun, 2020). With Covid-19 induced shutdown being gradually lifted around the world and business owners shifting their focus towards the post-pandemic world, one of the emerging tools that has become a must for businesses to survive and rise above the ongoing crisis is the new digital technologies. The pandemic has accelerated the process of digital transformation across almost all sectors.

As the world slowly but steadily shifts to the recovery stage, we have also seen that the pandemic has brought on changes to consumer behavior that are likely to stay for good. The question then becomes what opportunities should SMEs on a path of recovery have their antennae tuned into, to adapt to new consumer behaviors using digital tools? (Wong, 2020).

The digital services that people relied on during the outbreak like online marketplaces, digital payments, contactless delivery, teleconferencing, on-line health services, remote learning, e-commerce and live streaming will certainly become prevalent (Van Daalen, 2020). These presents enormous opportunities for entrepreneurs as it is clear that digital economy will play an increasingly important role in the recovery of the global economy post Covid-19. As pointed out by Wong (2020), those SMEs leveraging digital technology are in a position to adapt their businesses to meet new challenges. The digital economy can be integral in opening up new opportunities and driving inclusive growth. There is aggressive on-line marketing to boost sales and patronage (Falokun, 2020). SMEs are the pathfinders during the journey to economic recovery. Those among them who can pivot their venture and team to adopt digital technologies and enable their customers will have the best opportunity to survive and thrive in the long term (World Economic Forum, 2020).

A post-pandemic Nigeria doesn't need to lead to financial ruin for the Nigerian entrepreneur. Adaptation to the new normal can present opportunities for innovative SMEs in the country (Oyewole, 2020). Below are just a few examples of what opportunities could emerge in key sectors as SMEs seek to adapt to life after Covid-19.

2.4.1. Healthcare

The coronavirus pandemic has exposed serious flaws in the healthcare sector in Nigeria and this sector is likely to undertake reforms as the government put in place measures designed to address the ongoing pandemic. The supply of protective materials will mean opportunities for local manufacturers that can produce surgical masks, plastic gloves, hand sanitizers and wipes, testing kits and an entire range of products that hospital personnel and private individuals will need to protect themselves. With the pre-occupation with raising hygiene standards at all public places, small businesses will be required to make soap, disinfectants and other hygiene products.

2.4.2. Education

With the stay-at-home regulations put in place by the government, schools from the primary to tertiary levels were shut down. Many countries around the world responded by providing on-line classes to their students. This is likely to become a growing feature in countries with universal students access to computers and internet connectivity. Distant learning in Nigeria can be a challenge especially at primary and secondary school levels largely constrained by technological

infrastructure barrier. SMEs that can discover ways to make it more accessible to Nigerian students at the primary, secondary and tertiary levels can make huge profits while providing learning opportunities for tens of millions of people at a lower cost.

2.4.3. The Corporate World – Demand for Applications that enable Remote Working, Conferencing and Remote Learning Platforms

The recent explosion in the use of internet-based videotelephony technologies such as Skype and Zoom, has highlighted the important role they can play for video-conferencing and telecommuting in the corporate world thus saving travel costs. There will be increased demand for secure applications to enable and support remote working, conferencing and remote learning in the post-Covid-19 economy. Opportunities exist for Nigeria entrepreneurs in the tech industry to design applications that can make the use of video-telephony more widespread in the corporate world adapting them to local environment.

2.4.4. Cleaning Products and Services

Demand for specialist cleaning services that pay more attention to disinfecting surfaces will also be sought after as more organizations and governments will require decontamination of locations and offices.

2.4.5. E-Commerce and Delivery Services

The demand for the services of e-commerce firms is expected to grow significantly in a post-pandemic Nigeria. Online shopping that experienced a boom during the lockdown will continue to grow post-Covid. The continued need for social distancing may sustain the need for online shopping boosting the e-commerce sector. However, these firms may need to address logistical constraints and improve their delivery speed and reliability (Oyewole, 2020).

2.4.6. Events Planning

Events catering is one of the fastest growing industries in Nigeria given the important role wedding, birthday and funeral ceremonies play in this society. In addition to this, thousands of conferences, retreats and conventions that are arranged by both government agencies and private sector and the sheer size and potential of this market is evident. Opportunities for creative new approaches to service via virtual participation through video-telephony is likely to broaden. Firms that can provide video-telephony option with consistent reliability can be assured of growing demand for their services.

2.4.7. Entertainment and Sports

Video games are alternative for sports enthusiasts in this period of lockdown and even after. Video game Software design is an area of potential opportunity for tech experts as is the design of board games that can be played on Smartphones, especially those that can be adapted to have an African theme.

Entrepreneurial opportunities exist for film producing industry in the pandemic period as there is a global demand for higher quality movies from Nollywood via Netflix and other streaming services. SMEs that are able to guide musical performers in how to profitably live stream their performances and make them available to large audiences can help extend the reach of their music.

2.4.8. Greater Need for Portable Hardware and Devices

As businesses increase their agility and remote working, the need for the hardware and devices to make that model succeed will surge. Hence, there will be an increase in demands for laptops, tablets and other mobile devices. Businesses that sell these devices and accessories will see increased demand in the post-covid-19 era (Omole, 2020).

2.4.9. IT Security Consultancy

Information technology and web security practitioners will be in high demand as more businesses move online and automate. The demand for such professionals would increase to keep hackers and security breaches at bay.

3. CONCLUSION

Covid-19 will inevitably change the way business is done forever. While the prospects for many Small and Medium Enterprises may look bleak in the short to medium term, the global economy will eventually bounce back and activity will pick up. For now SMEs should assess the damages their companies may face and do their best to mitigate the negative effects of the pandemic while maximizing the opportunities that will most certainly present themselves once the pandemic is contained.

4. RECOMMENDATIONS

1. At a time when the world is gravitating towards technology, SMEs could benefit from diversifying business platforms. On-line based platforms and virtual service provisions can help SMEs sustain business. They must leverage technology for their investment needs.
2. SMEs are the backbone of any society for the job creation and economic contribution. They are the foundation of our commercial life as a nation. It would be helpful if policy makers could bring tax breaks and technical guidance to help SMEs restructure their business operations.
3. The Covid-19 situation calls for SMEs to become innovative and adapt accordingly. This could mean they change their line of production and explore new trends and opportunities by providing in-demand products and services.

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EFFECT OF COVID -19 PANDEMIC GUIDELINES ON ACADEMIC DISRUPTION: MARKETING IMPLICATIONS

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ABSTRACT

The education sector was heated up when stakeholders assumed different positions on school resumption. The different positions were to keep locking down till such a time when it would be deemed safe for students to resume, or open up schools and insist on observance of Covid-19 guidelines. To help take this decision, this paper looked at the effect of Covid-19 guidelines on academic disruption. To this end, four hypotheses were formulated and subsequently tested. The survey was done with the aid of a four point Likert scale questionnaire comprising twenty four statements covering the independent variables (lockdown, wearing of face masks, maintenance of social/physical distancing, and regular hand washing) and the dependent variable (disruption of academic activities). Copies of this questionnaire were administered on 246 persons spread all over the country via WhatsApp to avoid physical contact with persons during this period of Covid-19. Regression analysis results revealed that lockdown of students significantly disrupted academic activities, e-learning notwithstanding. With respect to school resumption and observance of Covid-19 protocols, it was found that both wearing of face masks and maintenance of social/physical distancing did not have significant effect on disruption of academic activities. However, regular hand washing was found to have contributed significantly to disruption of academic activities. Consequently, the paper recommended that governments should reopen tertiary institutions, while insisting on strict adherence to Covid-19 protocols. Since regular hand-washing was found to have significantly disrupted academic activities, the paper further recommended that the use of alcohol based hand sanitizer be made compulsory in tertiary institutions. This will create marketing opportunities for institutions to market this and other Covid-19 related products, hence boosting income generation of institutions. Finally, more mega phones should be procured to help amplify lecturers' voices, as they are also expected to wear face masks while lecturing to avoid the spread of the virus.

Key Terms: *Pandemic, COVID -19, Academic Disruption, Lockdown, E-learning*

1. INTRODUCTION

Global activities had been disrupted severally in the past decades due to war, natural disaster, pandemics, and the like. The latest pandemic took the world unawares and appears to have

defied immediate scientific solutions. It has temporarily shut down many countries and allowed only skeletal movements of people on essential services.

Winasih et al., (2020) opined that the outbreak of Covid-19 pandemic in various parts of the world impacted on health and economy in terms of trade, investment and tourism. It grossly affected the education sector. According to UNESCO (2020), Covid-19 pandemic has affected one billion, one hundred and eighty four million, one hundred and twenty six thousand, five hundred and eight (1,184,126,508) learners. This represents 67.6% of total enrolled learners across one hundred and forty country-wide closures.

At the onset of this pandemic, Nigeria, like other African countries, recorded no case of Covid-19 till the 25th of February, 2020, when she recorded her index case, an Italian citizen who worked in Nigeria and returned from Milan to Lagos (NCDC, 2020). Following the outbreak of Coronavirus in the country and as part of measures to contain the spread, the Federal Ministry of Education ordered immediate closure of tertiary institutions, secondary and primary schools nationwide with effect from 23rd March, 2020 (Nlebem, 2020). This closure resulted in students staying at home beyond school resumption dates.

The Minister of State for Education and member, Presidential Task Force (PTF) on Covid-19, had pronounced August 4, 2020 as the resumption date for students in exam classes only, but this was modified by the Minister of Education, Prof Adamu Adamu, who indefinitely halted school resumption for the safety of students till such a time when Covid-19 would have been brought under control (Omololu, 2020). His decision could be attributed to the fact that the 2009 worldwide influenza A/H1N1 pandemic as cited by Uchida et al (2012) particularly affected younger people, including school children.

In all these, resumption of tertiary institutions was put on hold. Given the lockdown of schools, Federal and some state governments like Abia ordered the adoption of e-learning to mitigate the impact of lockdown of schools on students (Ijendu, 2020).

While the Federal Government applauded the indefinite halt in resumption of schools, it was condemned by federal lawmakers and some stakeholders, who felt that necessary consultations were not made before the pronouncement. Some unions of tertiary institutions opposed the move to reopen schools when all safety measures were not provided. Leke (2020) averred that the counter order was bound to create further confusion in the education sector, create disappointment and suspicion among parents, frustrate the students, and show to our development partners and Nigerians that the distortions and disarticulations in the sector are only getting worse.

As the debate raged on, the government mapped out conditions to meet if schools were to resume, in addition to wearing of face masks which was made compulsory to everybody in the country. Parts of the conditions were that hand-washing facilities, body temperature checks and body disinfectants were to be provided at all points of entry to their major facilities including the gates, hostels, classes, offices, etc. Decontamination of premises of every institution and the overall maintenance of hygiene were also included in the conditions that must be met.

Authorities of academic institutions were also mandated to ensure social/physical distancing in classes and meeting spaces (Tunde, 2020).

While political campaigns were approved, and markets, banks, airports, worship centres, eateries, and similar places that encourage large gathering were permitted to open up, tertiary institutions were locked down, with the injunction that e-learning be adopted by all institutions. The problem boils down to whether to continue with the lockdown policy and augment with e-learning, or open up tertiary institutions and stick to Covid-19 guidelines as specifically mentioned. If students were locked down from schools alone, but were allowed to go to congested places like markets, salons, burial places, and the like, will they still not be exposed to Covid-19 infection? If e-learning were adopted by tertiary institutions while on lockdown, will academic activities still be disrupted in the real sense of it? If students were forced to wash their hands regularly, wear face masks and maintain social/physical distancing, will academic activities be disrupted and to what extent? Which of these Covid-19 protocols: lockdown, hand washing, wearing of facemasks, maintenance of social/physical distancing is likely to disrupt academic activities the most? This research work would respond to all issues raised and recommend the way forward, as well as explore the marketing implications of decisions reached.

Research Hypotheses

The following hypotheses were tested in this work:

H₀₁: Lockdown of tertiary institutions does not significantly disrupt academic activities since e-learning is in progress.

H₀₂: Compulsory use of face masks on campus does not have a significant effect on disruption of academic activities.

H₀₃: Practice of social/physical distancing on campus does not have a significant effect on academic disruption.

H₀₄: Regular hand washing on campus does not contribute positively to academic disruption.

2. REVIEW OF RELATED LITERATURE

2.1 Theoretical Review

Pandemic. Taro (2013) asserted that pandemic originated from two Greek words: “pan” and “dēmos” which mean all and people, respectively. Thus, pandemic originally meant all people. Taro went further to define pandemic as infectious disease that spreads globally and causes mortality on a significant scale. Similarly, WHO (2020) simply defined a pandemic as the worldwide spread of a disease. They added that a pandemic is an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. The classical definition includes nothing about population immunity, virology or disease severity. By this definition, pandemics can be said to occur annually in each of the temperate southern and northern hemispheres, given that seasonal epidemics cross international

boundaries and affect a large number of people. However, seasonal epidemics are not considered pandemics.

Covid – 19. Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. It was first reported to the World Health Organization on 31st December, 2019 and on January 30, 2020, the WHO declared the COVID-19 outbreak a global health emergency. On March 11, 2020, the WHO, finally declared COVID-19 a global pandemic, and this became the first of such designation since 2009 when they declared H1N1 influenza a pandemic (David, 2020).

Academic Disruption. Disruption is an interruption in the normal flow or course of an activity, event or process. Academic disruption, therefore, is an interruption in the planned and scheduled academic activities of an academic institution.

Lockdown. Wikipedia defined lockdown as a requirement for people to stay where they are, usually due to specific risks to themselves or to others if they can move freely. The term "stay-at-home" or "shelter-in-place" is often used for lockdowns that affect an area, rather than specific locations. Lockdowns limit movements or activities in a community while allowing most organizations to function normally, or limit movements or activities such that only organizations on essential services are allowed to function normally. During COVID-19 pandemic, lockdown was described as mass quarantine or stay-at-home order by governments to their citizens. It ranged from total lockdown to partial lockdown. With partial lockdown in progress, academic institutions are still under lockdown. This means that gates of academic institutions are shut, thus halting normal academic activities.

E-Learning. This is the science of learning with the aid of electronic gadgets. It is the use of telecom devices to train and ultimately educate people. According to Sun et al. (2008), e-learning is emerging as the paradigm of modern education. They added that the great advantages of e-learning include liberating interactions between learners and instructors, from limitations of time and space through the asynchronous and synchronous learning network model. Naidu (2006) opined that the term, e-learning, comprises a lot more than online learning, as the letter “e” in e-learning stands for the word “electronic”, e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline.

Protection Motivation Theory

Protection Motivation Theory (PMT) was propounded by R.W. Rogers in 1973 as a means of appreciating how and why people react to threats to their health and safety (Audrey and Joshua, 2015). PMT expounds how people cope with and make decisions in life threatening situations or stressful events in life. These decisions are a way of protecting oneself from perceived threats. The theory attempts to explain and predict what motivates people to change their behavior.

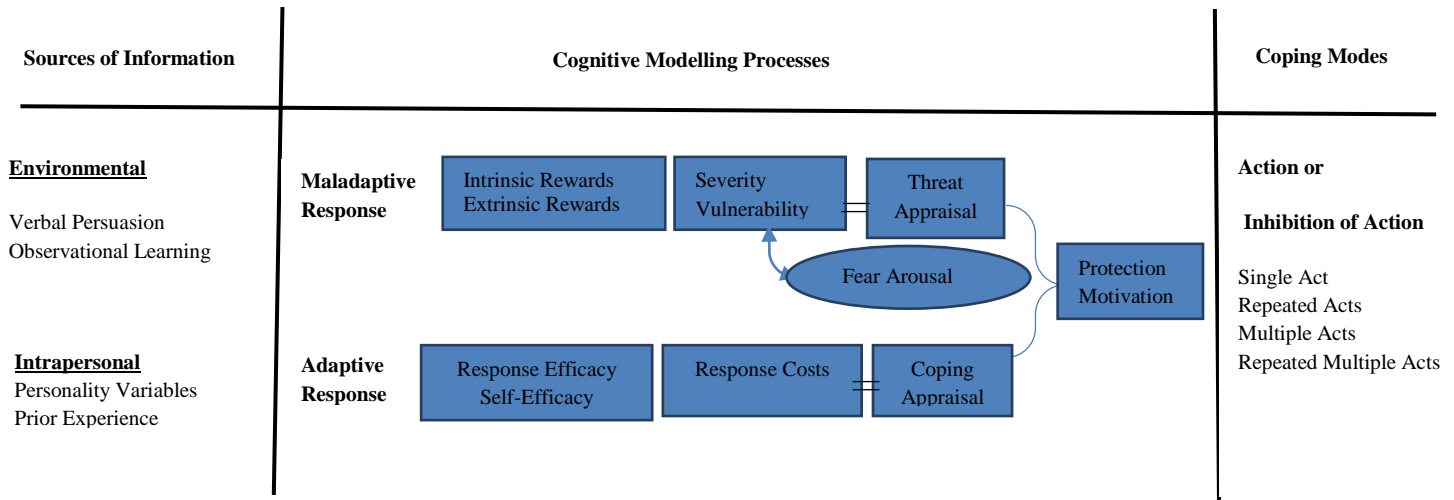


Fig. 2.1. Protection Motivation Theory

Source: Rogers (1983).

According to Rogers, information for such decisions come from two major sources: environmental and intra-personal.

Environmental Sources. Environmental sources of information are those sources that are external to an individual. It includes verbal persuasion from the media, health agencies, family members, friends, neighbours, among others. Environmental sources include information obtained from observation. Information on protection against Covid-19 (persuasive messages on regular hand washing, wearing of face masks, and observance of social/physical distancing) could come from World Health Organization (WHO), National Centre for Disease Control (NCDC), Ministry of Health, media, family members, friends on various social platforms, and others.

Intra-personal Sources. Intrapersonal sources of information spring from the inside of an individual. It relates to an individual's personality traits or prior experiences in life. If one has ever experienced life threatening disease, he may not need to be persuaded for him to protect himself.

Roger as cited by Audery and Joshua asserted that information obtained from environmental and intrapersonal sources are assessed during cognitive mediating process to know whether to respond to such potential threats or not, and whether to react in a specific way or other ways. He identified two cognitive mediating response processes by which an individual does this assessment. They are:

Maladaptive Response. This is also known as threat appraisal process. It is an inadequate adaptation to a new situation. During this process, the individual assesses the potential threats of continuing with a current lifestyle and goes with an option, that is obviously inadequate. An

individual may assess intrinsic or extrinsic rewards of embarking on a particular action. For instance, a female student who likes to make up, may just ignore the use of face masks, and consider the extrinsic reward of not wearing a facemask, which might just be to earn people's admiration, even at the expense of her life. This could also be seen in people's aesthetic decision to wear only face shield that has been proven to be a non-substitute to face mask.

Adaptive Response. While the maladaptive response process allows an individual to evaluate the risks of potential threats, the adaptive response process (coping appraisal process) allows an individual to evaluate potential responses that could protect the individual from a given threat. The first thing an individual does is to check his/her perception of whether or not a given protective response will be able to prevent a given threat [response efficacy], and whether he/she is capable of employing the protective response in a way that it will be effective in offering protection against any potential threat (self-efficacy). He or she also considers the relative cost (monetary or social costs) of adopting a given protective response [response costs]. Having evaluated these factors, he or she will determine whether a proposed protective response will actually offer the desired protection in a cost-effective manner.

Narrowing this theory to Covid-19 pandemic threat, it is obvious that lockdown, wearing of face mask or face shield are protective responses to Covid-19 threats. These options have to be evaluated properly by governments at all levels and every stakeholder to be able to motivate people to take the right response action that is both cost effective and safe to all.

2.2 Conceptual Review

The Covid-19 guidelines under consideration are lockdown, wearing of face masks, maintenance of social or physical distancing and regular hand washing. All these are independent variables, while academic disruption is the dependent variable.

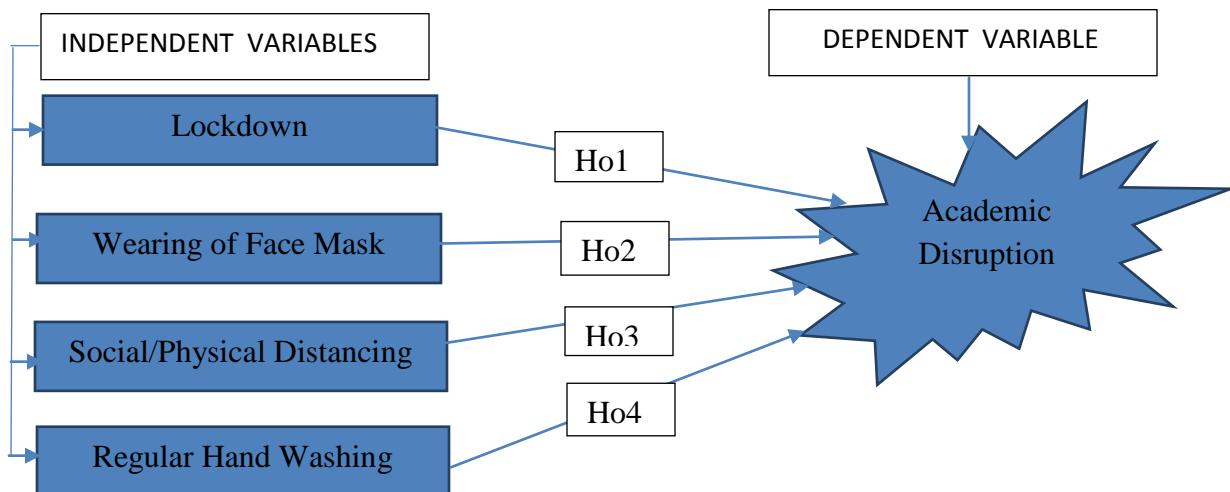


Fig 2.2 Covid-19 Guidelines and Academic Disruption Interface

Source: Researchers (2020)

From the conceptual framework above, it is obvious that there are two sets of variables: independent and dependent. Independent variables comprise of lockdown, wearing of face masks, maintenance of social/physical distancing and regular hand washing. On the contrary, academic disruption represents the dependent variable. The extent, to which lockdown, wearing of facemask, physical distancing and regular hand washing affect disruption of academic activities, as captured by the stated hypotheses, will be revealed in the data analysis below. The extent of relationship between these two variables will be appropriately weighed to decide on whether to continue with the lockdown policy, or open up and ensure the observance of Covid-19 protocols.

2.3 Empirical Review

Chen et al., (2011) conducted an empirical study on the Social and economic impact of school closure resulting from pandemic influenza A/H1N1. Households were surveyed using a questionnaire to obtain information on adherence to, socio-economic impact by and inconveniences of school closure. The school principal and other stakeholders were interviewed to assess the impact on the staff. Compliance and adverse events of chemoprophylaxis were assessed. The study concluded that short-term school closure was supported by the majority of families despite economic inconvenience to the households.

Similarly, Bilal et al., (2020) conducted a study on impact of Covid-19 lockdown on psychological health, economy and social life of people in Kashmir. The study was aimed at surveying the general public in Kashmir to understand their levels of psychological impact, anxiety, depression and stress along with the economic downfall disturbing the social life of people during the initial stage of the Covid-19 outbreak. The study revealed that lockdown was a temporary solution to prevent the spread of Covid-19 infection, though it can result in many new problems such as psychological problems.

On the other hand, Olalekan et al., (2020) conducted a cross sectional survey on the need to evaluate the public perception of social distancing, lockdown obligatory, and response satisfactory during the pandemic using a sample size of one thousand one hundred and thirty one (1,131) respondents spread across Nigeria. The researchers used snowball sampling to reach their respondents with the aid of Google based questionnaire. Results showed that majority of the respondents believed that social distancing is an effective measure to reduce the spread of COVID-19. They also found that the general public accepted the obligatory lockdown.

3. METHODOLOGY

A descriptive research design was adopted for this study and a sample size of two hundred and forty six (246) was determined using proportion method, given the fact that the population of students in tertiary institutions in Nigeria is not domiciled within public domain. To reach both students and lecturers in Nigeria, copies of questionnaire designed in Likert scale format were administered on respondents who were on various WhatsApp platforms. The questionnaire consists of twenty four statements that covered the five variables: lockdown, wearing of face masks, observance of social/physical distancing, regular hand washing, and academic disruption.

The questionnaire was conveniently administered, but retrieved amidst some challenges, given the discouraging level of electronic communication infrastructure at the disposal of an average Nigerian. The decision to administer the questionnaire electronically was taken to reduce the spread of Covid-19, which would have been there if the questionnaire were to be administered physically on the respondents.

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Descriptive Analysis of Responses

Responses obtained from the questionnaire, as well as the frequency distributions, percentages (put in parentheses), mean and standard deviation are summarized and shown in Table 4.1 below.

Table 4.1: Descriptive Statistics of Responses of the Questionnaire. $n = 246$

SN	SD (%)	D (%)	A (%)	SA (%)	Mean	SD
1	69 (28.0)	106 (43.1)	36 (14.6)	35 (14.2)	2.15	0.989
2	20 (8.1)	20 (8.1)	122 (49.6)	84 (34.1)	3.10	0.861
3	16 (6.5)	38 (15.4)	78 (31.7)	114 (46.3)	3.18	0.922
4	67 (27.2)	85 (34.6)	57 (23.2)	37 (15.0)	2.26	1.021
5	35 (14.2)	36 (14.6)	106 (43.1)	69 (28.0)	2.85	0.989
6	49 (19.9)	82 (33.3)	68 (27.6)	47 (19.1)	2.46	1.016
7	13 (5.3)	20 (8.1)	66 (26.8)	147 (59.8)	3.41	0.851
8	56 (22.8)	19 (7.7)	62 (25.2)	109 (44.3)	2.91	1.195
9	70 (28.5)	109 (44.3)	30 (12.2)	37 (15.0)	2.14	0.997
10	7 (2.8)	2 (0.8)	119 (48.4)	118 (48.0)	3.41	0.657
11	5 (2.0)	6 (2.4)	87 (35.4)	148 (60.2)	3.54	0.649
12	6 (2.4)	0 (0.0)	122 (49.6)	118 (48.0)	3.43	0.627
13	146 (59.3)	89 (36.2)	6 (2.4)	5 (2.0)	1.47	0.649
14	2 (0.8)	6 (2.4)	114 (46.3)	124 (50.4)	3.46	0.590
15	3 (1.2)	33 (13.4)	83 (33.7)	127 (51.6)	3.36	0.757
16	8 (3.3)	34 (13.8)	99 (40.2)	105 (42.7)	3.22	0.805
17	7 (2.8)	54 (22.0)	94 (38.2)	91 (37.0)	3.09	0.835
18	19 (7.7)	24 (9.8)	116 (47.2)	87 (35.4)	3.10	0.868
19	3 (1.2)	33 (13.4)	83 (33.7)	127 (51.6)	3.36	0.757
20	15 (6.1)	13 (5.3)	89 (36.2)	129 (52.4)	3.35	0.838
21	38 (15.4)	79 (32.1)	74 (30.1)	55 (22.4)	2.59	1.001
22	147 (59.8)	68 (27.6)	19 (7.7)	12 (4.9)	1.58	0.833
23	134 (54.5)	85 (34.6)	13 (5.3)	14 (5.7)	1.62	0.828
24	3 (1.2)	39 (15.9)	122 (49.6)	82 (33.3)	3.15	0.721

Source: Field Survey, 2020

The results of Table 4.1 show that the mean values of the 24 questions in the questionnaire for the research questions lie between 1.47 and 3.54 of the 4-point Likert scale used in collecting the data. This indicates that the data obtained fall within the expected range of data required for this study. Similarly, the associated standard deviation values lie between 0.590 and 1.195, which are close to zero as expected.

The responses to the statements in the questionnaire are captured in the bar charts below to reveal at a glance the views of respondents.

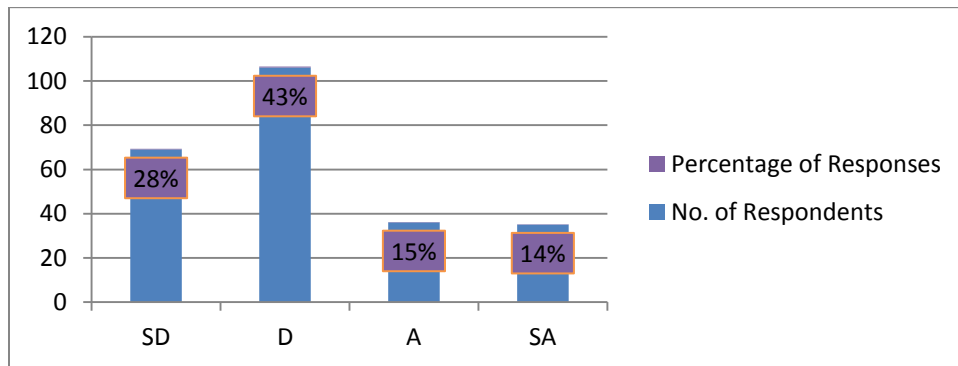


Figure 1: Students should be locked down at home from schools during this period of Covid-19

From the chart above, it is obvious that 71% of the respondents disagreed that students should be locked down at home, while 29% agreed with this view.

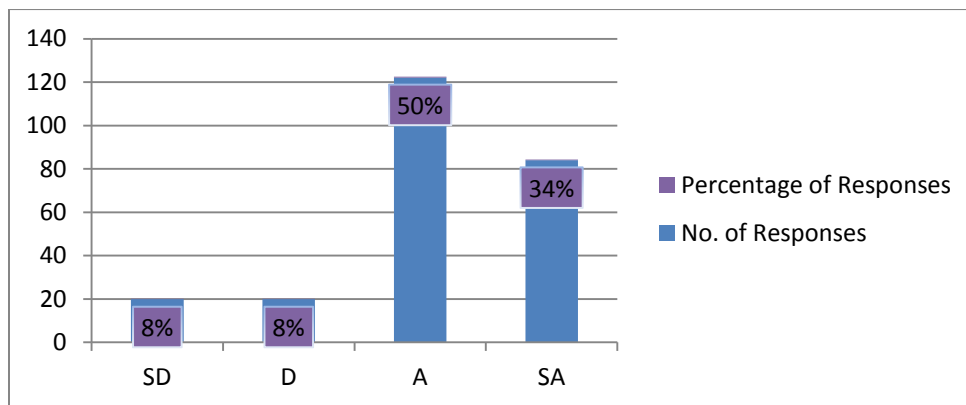


Figure 2: Lockdown of academic institutions promotes adoption of e-learning

The chart above shows that 84% of the respondents agreed that lockdown of students promotes the adoption of e-learning, while 16% disagreed with this view.

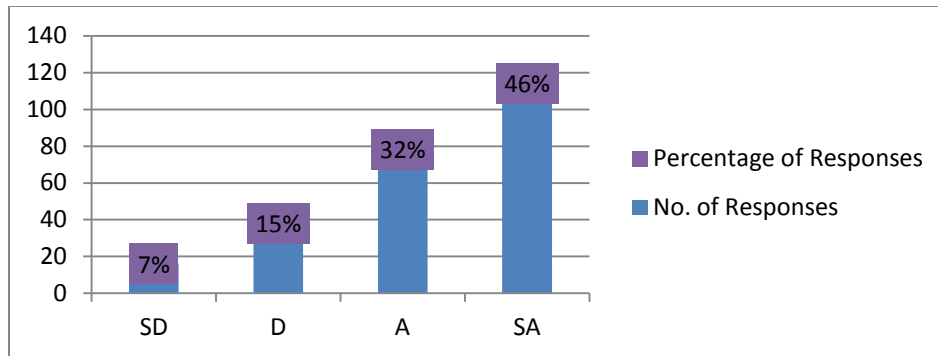


Figure 3: Lockdown of academic institutions frustrates students at home, despite the on-going e-learning practice

78% of the respondents in the chart above agreed that lockdown of students frustrates students at home despite the ongoing e-learning. However, 22% of the respondents did not align with this popular view. This is in line with the findings of Bilal et al., (2020) that revealed that lockdown has psychological impact on people.

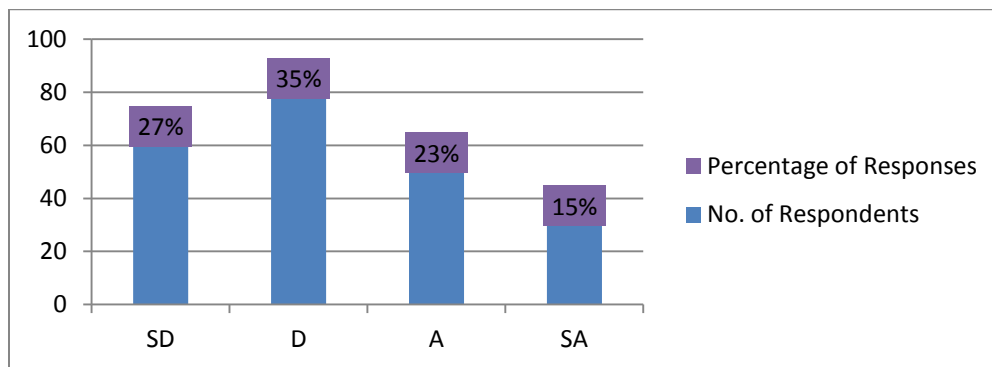


Figure 4: Students prefer being locked down at home to going for lectures at their various campuses

While 62% of the respondents did not agree that students prefer being locked down at home to going for lectures at their various campuses, only 38% of the respondents agreed. This is not in agreement with the findings of Olalekan et al., (2020) which revealed that majority of the people were in support of the lockdown policy of Nigerian government.

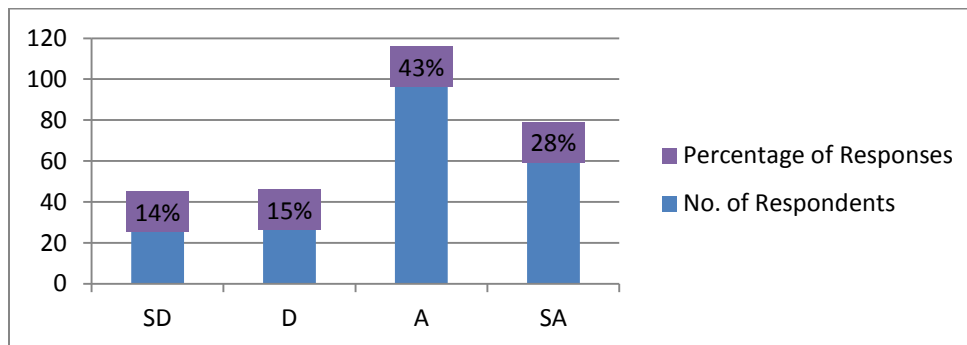


Figure 5: Lockdown of academic institutions does not reduce the spread of Covid-19 since students in question still go to the market and other congested places

From the chart above, 71% of the respondents agreed that lockdown of academic institutions does not reduce the spread of Covid-19 since the students in question still go to the market and other congested places. Only 29% of the respondents disagreed with this statement.

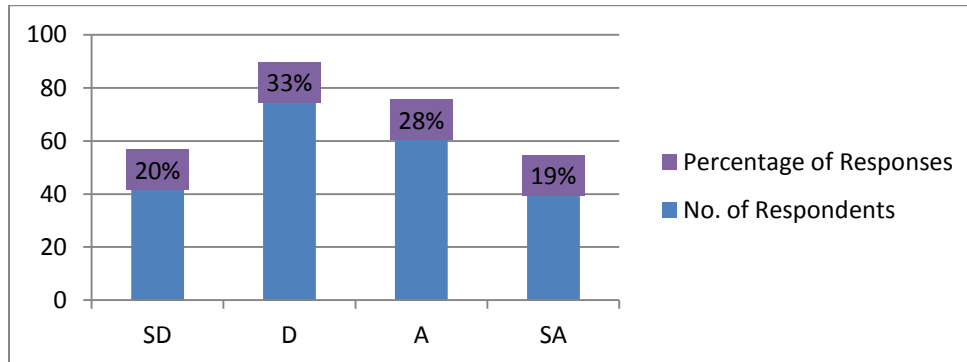


Figure 6: It is better to lock down students than to open schools

The chart above shows that 53% of the respondents disagreed that it is better to lock down students than to reopen schools, while 47% agreed.

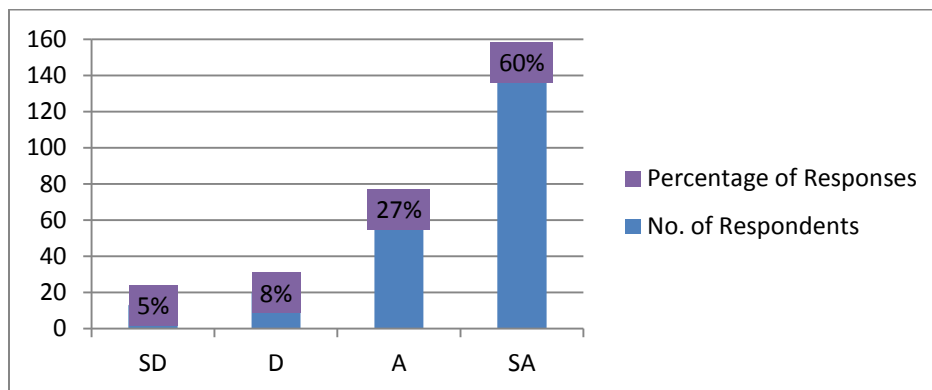


Figure 7: Students should be forced to wear face masks to their institutions

From the chart above, 87% of the respondents were of the view that students should be forced to wear face masks to their institutions. Only 13% of the respondents thought otherwise.

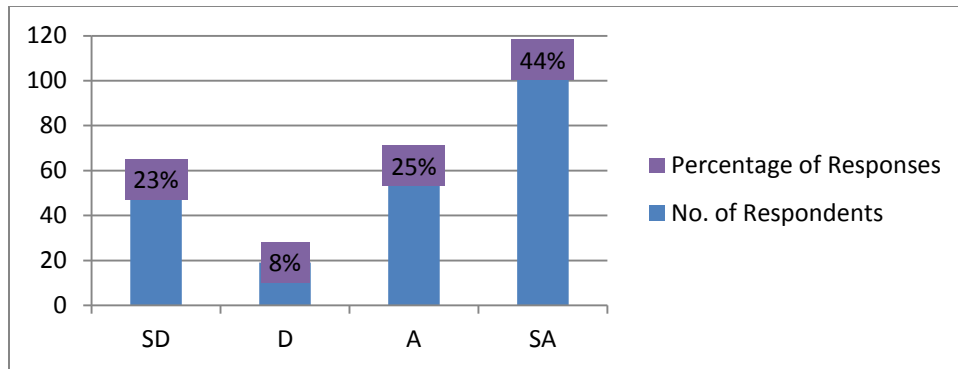


Figure 8: Students who are not with their face masks should not be allowed into the campus

The chart above shows that 69% of the respondents agreed that students without face masks should not be allowed into the campus, while 31% of the respondents did not agree with the statement.

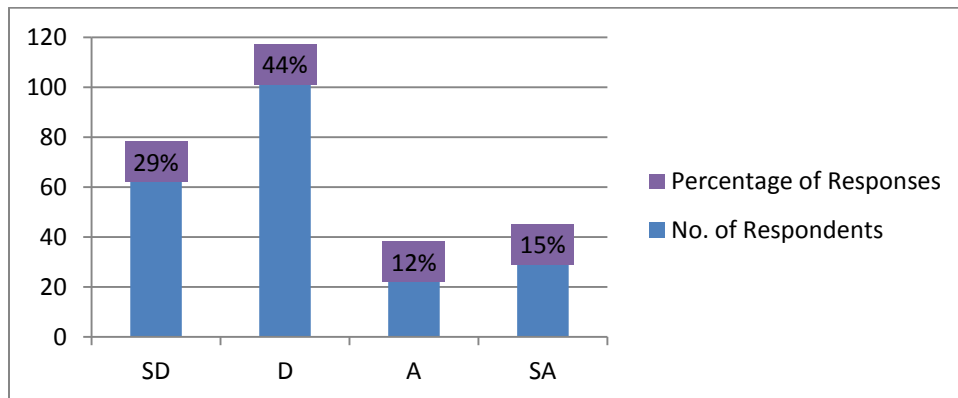


Figure 9: Lecturers can be excused from wearing face masks when they are lecturing

73% of the respondents in the chart above disagreed that lecturers should be excused from wearing face masks when lecturing, while 27% of the respondents said that they can be excused.

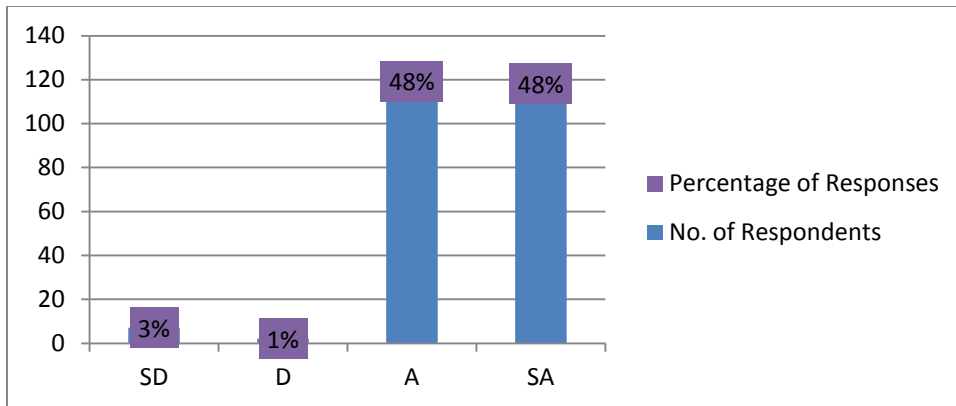


Figure 10: It is better to come to school with face masks than to be locked down at home due to Covid-19 pandemic

The chart above shows that almost all the respondents (96% of the respondents) agreed that it is better to go to school with face masks than to be locked down at home. 4% of the respondents said otherwise.

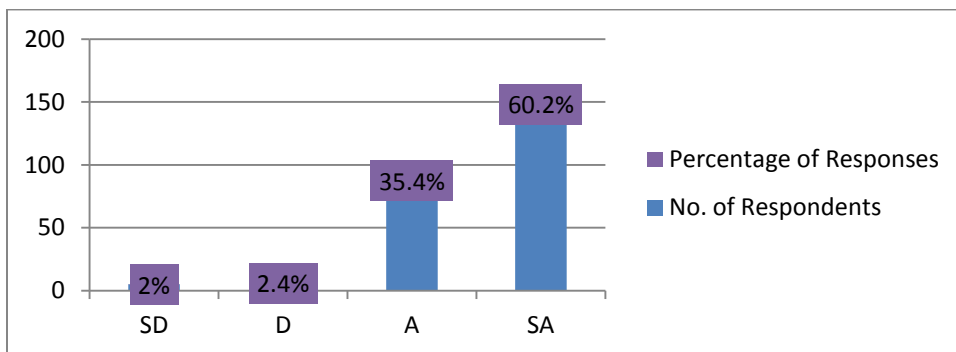


Figure 11: Students should maintain social/physical distancing from one another

From the chart above, 96% of the respondents agreed that students should maintain social/physical distancing from one another, while only 4% disagreed with the statement.

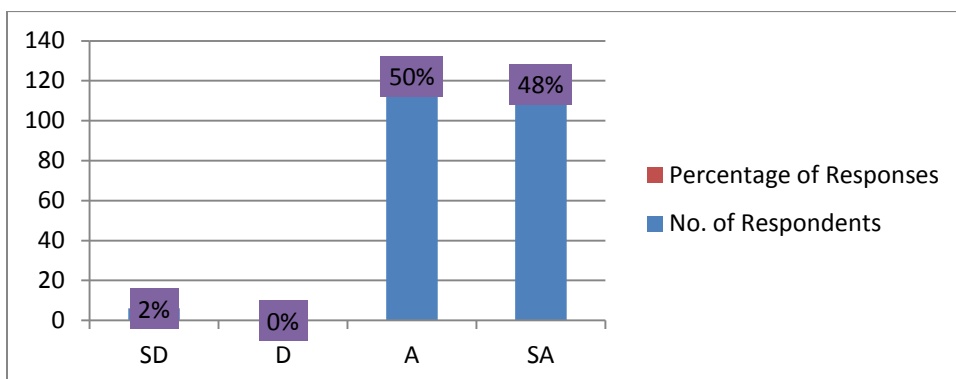


Figure 12: It is not practicable for students to maintain physical distancing on campus.

The chart above shows that 98% of the respondents were of the view that it is not practicable for students to maintain physical distancing on campus. Only 2% of the respondents disagreed.

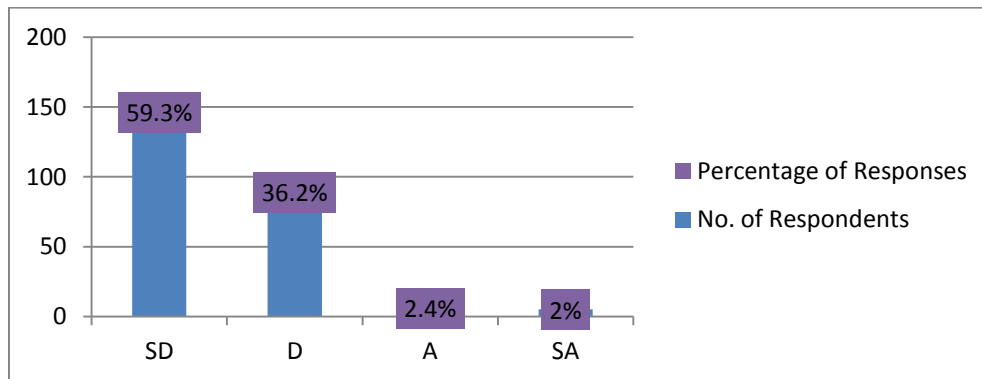


Figure 13: Academic institutions are likely to mark classrooms and hostels as it is done at airports to ensure physical distancing.

96% of the respondents shown in the chart above disagreed that academic institutions are likely to mark classrooms and hostels as it is done at airports to ensure physical distancing. Only 4% of the respondents agreed.

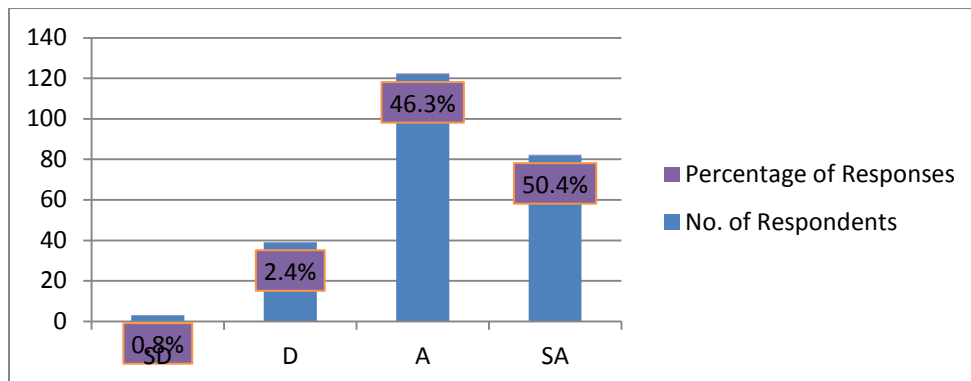


Figure 14: Ensuring that social/physical distancing is done is better than locking down students at home due to Covid-19.

While 97% of the respondents agreed that enforcing social/physical distancing in schools is better than being locked down at home due to Covid-19, only 3% of the respondents disagreed.

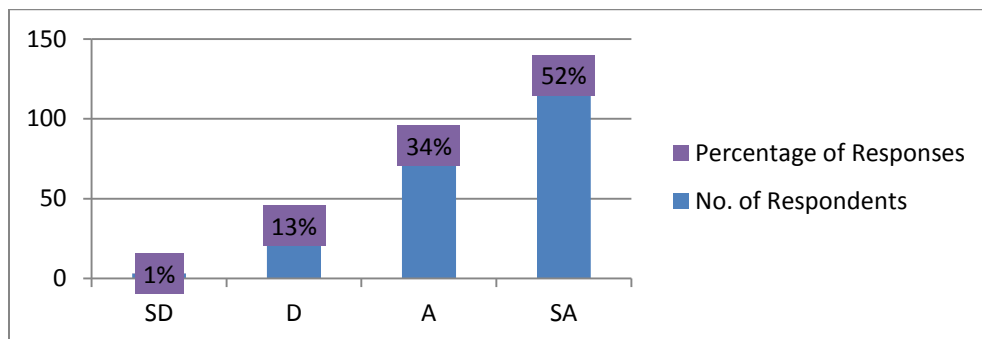


Figure 15: Students should wash their hands regularly.

From the chart above, 86% of the respondents agreed that students should wash their hands regularly, while 14% disagreed with the regular hand washing protocol.

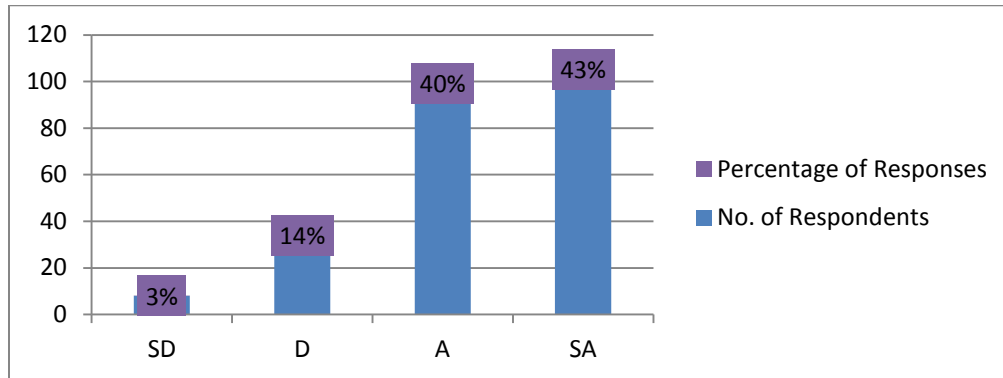


Figure 16: Running water is available in all tertiary institutions.

The chart above shows that 83% of the respondents agreed that running water is available in all tertiary institutions, while 17% of the respondents did not agree with this view.

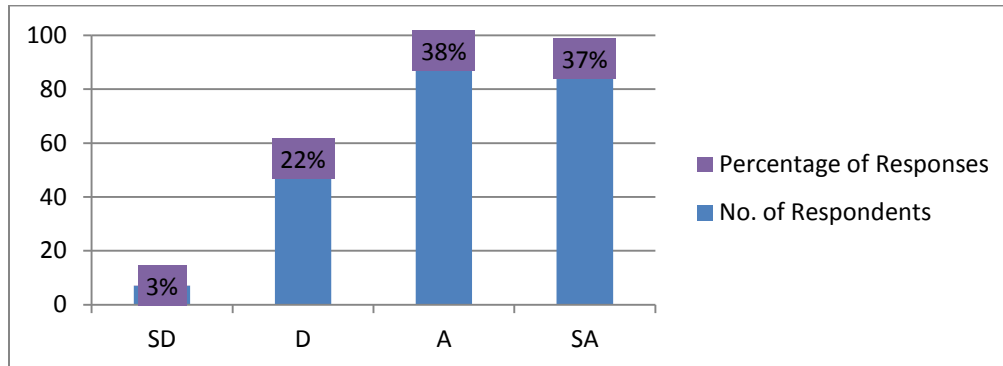


Figure 17: Schools will always make soap available to students.

75% of the respondents believed that schools will make soap available to students, while 25% disagreed with this.

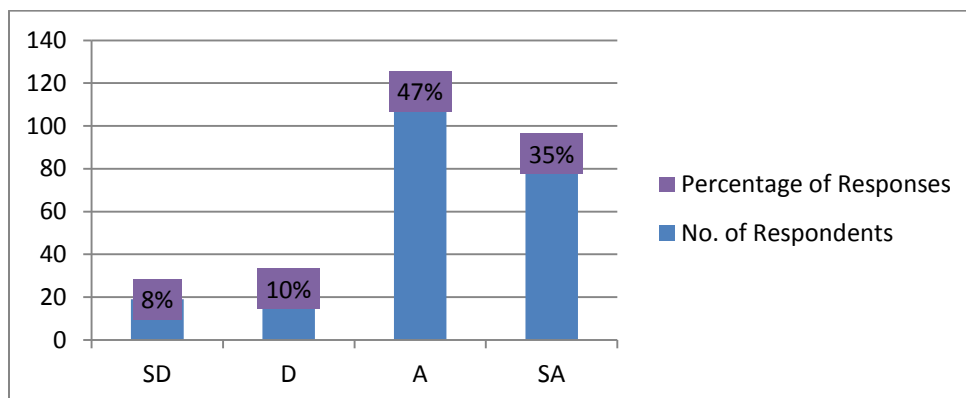


Figure 18: Washing of hands should be a criterion for entering the classroom when school resumes.

82% of the respondents agreed that washing of hands should be a criterion for entering the classroom when school resumes. Only 18% of the respondents disagreed with this.

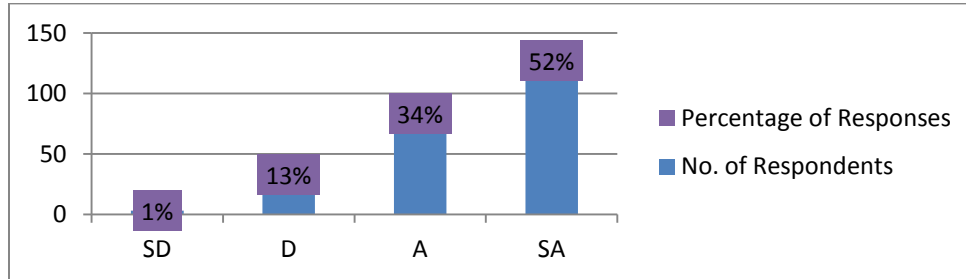


Figure 19: It is better to force students to wash their hands regularly than to lock them down at home.

While 86% of the respondents affirmed that it is better for students to wash their hands regularly than for them to be locked down at home, only 14% of the respondents disagreed with this.

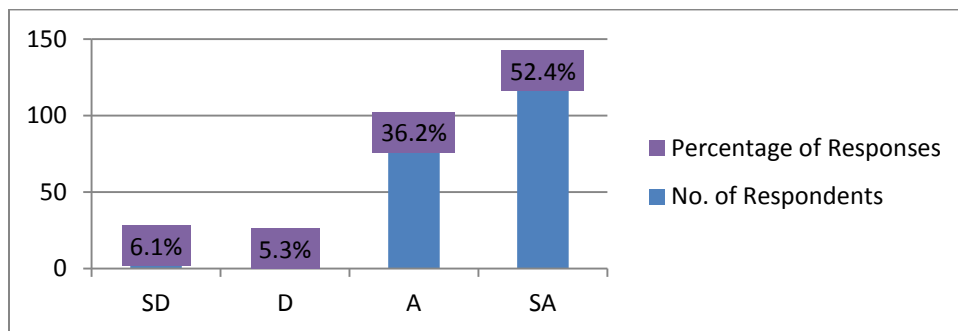


Figure 20: Lockdown of academic institutions disrupts academic activities.

From the chart above, 89% of the respondents agreed that lockdown of academic institutions disrupts academic activities, while 11% of the respondents disagreed with this view.

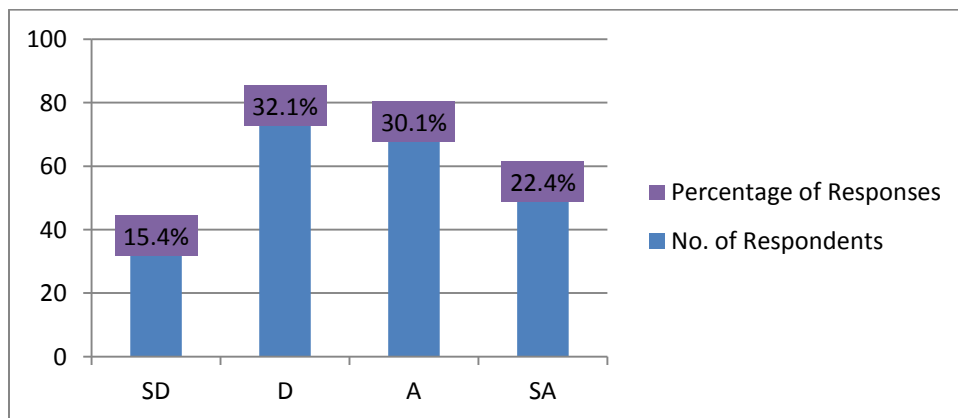


Figure 21: Lockdown of academic institutions does not disrupt academic activities if e-learning is in place.

While 47.5% of the respondents disagreed with the statement that lockdown of academic institutions does not disrupt academic activities if e-learning is in progress, 52.5% agreed with the statement.

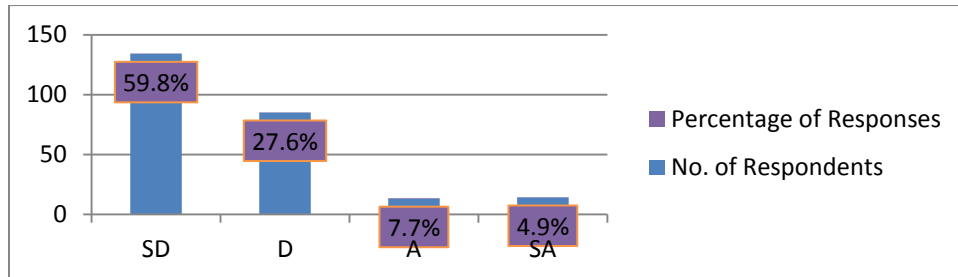


Figure 22: Compulsory use of face masks disrupts academic activities.

The chart above shows that 87% of the respondents disagreed that compulsory use of face masks disrupts academic activities, while 13% agreed with this statement.

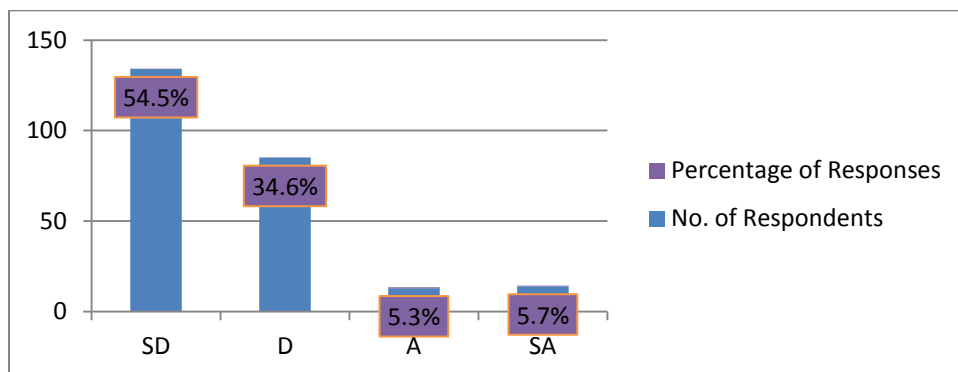


Figure 23: Practice of social/physical distancing disrupts academic activities.

From the chart above, 89% of the respondents disagreed that social/physical distancing disrupts academic activities, while 11% of the respondents agreed with this statement.

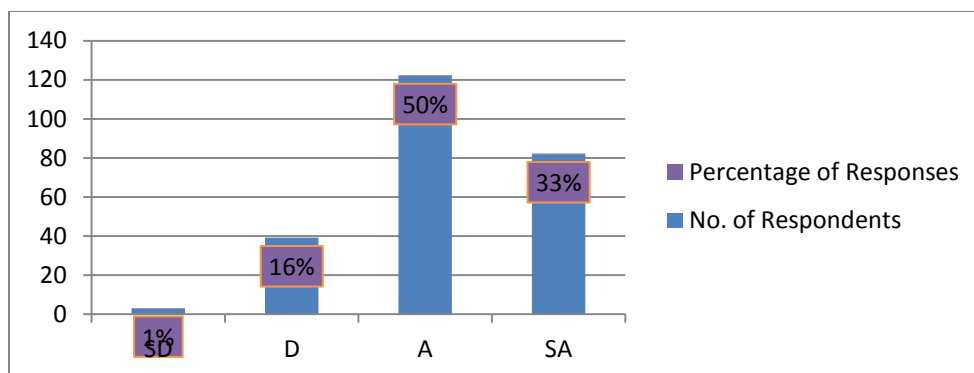


Figure 24: Regular washing of hands at strategic points on campuses disrupts academic activities.

The chart above shows that 17% of the respondents disagreed that regular hand washing at strategic points on campuses disrupts academic activities. However, 83% of the respondents agreed that it actually disrupts academic activities.

4.2 Regression Analysis for the Test of the Hypotheses

The independent and dependent variables (X and Y, respectively) for the analyses are operationalized using the statements (S) in the questionnaire as stated below:

X_1 = Lockdown of tertiary institutions = Average ($S_1, S_2, S_3, S_4, S_5, S_6$)

X_2 = Compulsory use of face masks on campuses = Average (S_7, S_8, S_9, S_{10})

X_3 = Practice of social/physical distancing on campuses = Average ($S_{11}, S_{12}, S_{13}, S_{14}$)

X_4 = Regular hand washing on campus = Average ($S_{15}, S_{16}, S_{17}, S_{18}$)

Y = Disruption of academic activities = Average ($S_{19}, S_{20}, S_{21}, S_{22}, S_{23}, S_{24}$)

Test of Hypothesis One

H_{01} : Lockdown of tertiary institutions does not significantly disrupt academic activities since e-learning is in progress.

Hypothesis one is tested by relating Lockdown of tertiary institutions (X_1) on Disruption of academic activities (Y) and the results of the regression analysis are given in Table 4.2 below:

Table 4.2: Regression Analysis of Lockdown and Disruption of Academic Activities

Variable	Coefficients		T	p-value	Decision
	B	Std. Error			
Constant	1.550	0.128	12.107	0.000	Reject
Lockdown of tertiary institutions	0.397	0.048	8.359	0.000	Reject

The results of Table 4.2 show that the effect of lockdown of tertiary institutions on disruption of academic activities is 0.397, indicating that a unit increase in the lockdown of tertiary institutions increases the disruption of academic activities by an average of 0.397 units. This effect is significant as its test statistics of 8.359 is higher than a unit value of one, and its p-value of 0.000 is significantly less than 0.05. This provides statistical evidence to reject the null hypothesis at 5 percent significance level and to accept the alternate hypothesis that states that lockdown of tertiary institutions significantly disrupts academic activities, even with e-learning in progress. Corroborating the result of this study, Simon & Hans (2020) asserted that the global lockdown of education institutions was going to cause major disruption in students' learning. Similarly, Ogunode et al., (2020) affirmed that lockdown causes disruption of education activities.

Test of Hypotheses Two, Three and Four

H_{02} : Compulsory use of face masks on campus does not have a significant effect on disruption of academic activities.

H₀₃: Practice of social/physical distancing on campus does not have a significant effect on academic disruption.

H₀₄: Regular hand washing on campus does not contribute positively to academic disruption.

Taking X as a linear combination of X_2, X_3 and X_4 ; then X = Observance of COVID-19 rules. To determine the effect of the observance of COVID-19 rules on the disruption of academic activities if schools were reopened, we regress X_2, X_3 and X_4 on Disruption of academic activities and the results are summarized in Tables 4.3 below:

Table 4.3: Observance of Effect of COVID-19 Rules on Disruption of Academic Activities.

Variables	Coefficients		t	p-value	Decision
	B	Std.			
Constant	2.348	0.232	10.12	0.000	Reject
Compulsory use of face masks on campus	-0.075	0.041	-1.823	0.070	Accept
Practice of physical distancing on campus	0.014	0.070	0.207	0.836	Accept
Regular hand washing on campus	0.137	0.043	3.178	0.002	Reject

The results of Table 4.3 show that the effect of compulsory use of face masks on campus on disruption of academic activities is -0.075. This indicates that a unit increase in compulsory use of face masks on campus has a slight negative effect on disruption of academic activities by an average of -0.075 unit, and this effect is not significant as its test statistics, -1.823, is insignificantly less than a unit value of one, and its p-value, 0.070, is greater than 0.05. This provides statistical evidence to accept at 5 percent significance level the null hypothesis that states that compulsory use of face masks does not have a significant effect on disruption of academic activities on campus.

With respect to the third hypothesis, the effect of practice of social/physical distancing on campus is 0.014. This indicates that a unit increase in practice of social/physical distancing on campus yields 0.014 unit increase in the disruption of academic activities. This effect is quite insignificant as its test statistics, 0.207, is less than 1, and the p-value is 0.836, hence the third null hypothesis that states that practice of social/physical distancing on campus does not have a significant effect on academic disruption is accepted at 5 percent significance level as its p-value of 0.836 is greater than 0.05.

Finally, the test of the fourth hypothesis shows that the effect of regular hand washing on campus on disruption of academic activities is equal to 0.137. This indicates that a unit increase in regular hand washing on campus increases the index of disruption of academic activities by 0.137 unit. This effect is significant as its test statistics, 3.178, is greater than 1, and its p-value of 0.002 is less than 0.05. Therefore, the fourth null hypothesis that states that regular hand washing on campus does not contribute positively to academic disruption is rejected at 5 percent significance level, hence the alternate that states that regular hand washing on campus disrupts academic activities is accepted.

5. CONCLUSION

Since the incident of Covid-19 pandemic, stakeholders of one of the probably worst hit sectors, the education sector, appeared to be indecisive on whether to open up tertiary institutions or keep locking down, given the unabating spread of the pandemic. To weigh in on this, this study investigated the effect of some Covid-19 protocols: lockdown of tertiary institutions, wearing of face masks, practice of social/physical distancing, and regular hand washing on campus on disruption of academic activities to unveil the variable that contributes most to academic disruption, and be well informed to take scientific decisions on this raging issue. The findings from the analysis showed that lockdown of tertiary institutions contributes significantly and positively to the disruption of academic activities, while wearing of face masks on campus and the practice of social/physical distancing on campus have no significant effect on disruption of academic activities. However, regular hand washing on campus was found to have a significant effect on disruption of academic activities.

6. RECOMMENDATIONS

From the findings of this research, we, therefore, recommend the following:

- That since lockdown of tertiary institutions significantly increases the disruption of academic activities despite the ongoing e-learning, there is serious need to reopen schools.
- Use of face masks on campus should be made compulsory to both students and staff of tertiary institutions as it will not significantly disrupt academic activities when schools reopen within this period of COVID-19.
- Practice of social/physical distancing on campus should be observed by lecturers and students alike, as it does not disrupt academic activities significantly.
- Instead of insisting on regular hand washing on campus, the use of alcohol based hand sanitizer should be promoted and made compulsory, since regular hand washing was found to have a significant effect on disruption of academic activities,.
- Marketing arm of various institutions should swing into action to see that branded quality hand sanitizers of all sizes, shapes and colours are produced and aggressively marketed both within and outside the premises of higher institutions to boost internally generated revenue of tertiary institutions.
- Similarly, high quality, very attractive and customized face masks of various sizes, shapes and colours should be made by schools, and strategically marketed and sold at reduced prices to encourage students' patronage.
- Since nobody is excused from wearing face masks, efforts should be made by school authorities to provide public address systems to help amplify the voices of lecturers as they lecture with their face masks on them. This will help to reduce the spread of the virus among people who use common mega phones on the campus.

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APPENDIX 1: QUESTIONNAIRE ON EFFECT OF COVID-19 GUIDELINES ON ACADEMIC DISRUPTION IN TERTIARY INSTITUTIONS

KEY: SD (Strongly Disagree); D (Disagree); A (Agree); SA (Strongly Agree)

S/N	STATEMENT	SD	D	A	SA
1	Students should be locked down at home from schools during this period of Covid-19.				
2	Lockdown of academic institutions promotes adoption of e-learning.				
3	Lockdown of academic institutions frustrates students at home, despite the on-going e-learning practice.				
4	Students prefer being locked down at home to going for lectures at their various campuses.				
5	Lockdown of academic institutions does not reduce the spread of Covid-19 since students in question still go to the market and other congested places.				
6	It is better to lock down students than to open schools.				
7	Students should be forced to wear face masks to their institutions.				
8	Students who are not with their face masks should not be allowed into the campus.				
9	Lecturers can be excused from wearing face masks when they are lecturing.				
10	It is better to come to school with face masks than to be locked down at home due to Covid-19 pandemic				
11	Students should maintain social/physical distancing from one another.				
12	It is not practicable for students to maintain physical distancing on campuses.				
13	Academic institutions are likely to mark classrooms and hostels as it is done at airports to ensure physical distancing.				
14	Ensuring that physical distancing is done is better than locking down Students at home due to Covid-19.				
15	Students should wash their hands regularly.				
16	Running water is available in all tertiary institutions.				
17	Schools will always make soap available to students.				
18	Washing of hands should be a criterion for entering the classroom.				
19	It is better to force students to wash their hands regularly than to lock them down at home.				
20	Lockdown of academic institutions disrupts academic activities.				
21	Lockdown of academic institutions does not disrupt academic activities if e-learning is in place.				
22	Compulsory use of face masks disrupts academic activities.				
23	Practice of physical distancing disrupts academic activities.				
24	Regular washing of hands at strategic points on campuses disrupts academic activities.				

APPENDIX 2: SAMPLE SIZE DETERMINATION

Sample size was obtained using Cochran's formular: $n = \frac{Z^2 \sigma^2}{\epsilon^2}$

Where,

n = Sample size.

$Z = 1.96$ for 95% confidence level. Z is the abscissa of the normal curve.

σ^2 = variance of the characteristic of the population under study.

ϵ = error margin i.e., the desired level of precision (set at 0.10, 0.05, 0.01).

In this case, $\sigma^2 = 0.4$, $\epsilon = 5\% = 0.05$

$$n = \frac{Z^2 \sigma^2}{\epsilon^2} = \frac{1.96^2 (0.4)}{(0.05)^2} = 245.86 \approx 246$$

COVID-19: THE SOCIO-ECONOMIC EFFECT ON NIGERIANS AND THE WAYFORWARD (STUDY OF ABA METROPOLIS)

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ABSTRACT

The coronavirus pandemic is wreaking havoc globally, leaving governments and communities struggling to find a response. The work titled: Covid-19: The Socio Economic Effect on Nigerians and the Way forward (Study of Aba Metropolis) is aimed at x-raying the socio-economic effect of the pandemic on Nigerians with recommendation on the way forward. The work is hinged on system theory. The study apply descriptive survey design, the researchers used purposive sampling technique to determine sample size from the Aba population. Data were generated through Socio-Economic Effect (SEE) survey questionnaire and analyzed with percentage. The finding is that the coronavirus (Covid-19) have tremendously crushed on the economic and social life of the people of Aba metropolis and by extension, Nigeria. The work therefore recommend full ease out of lockdown to ameliorate the sufferings and the social effect on the citizenry, howbeit, with the provision and observance of covid-19 protocol by government and individual. Also the central government and indeed other governments should actively respond through fiscal and monetary interventions and implement same to help both the Small and Medium Enterprises to bounce back.

Keyword: *Coronavirus (COVID-19), socio-economic, fiscal response, monetary response, and Small and Medium Enterprises (SMEs)*

1.0 INTRODUCTION

World Health Organization (WHO) declared the outbreak as a pandemic on the 11th of March 2020, but then Nigeria had recorded her index case on the 28th of February 2020 in Lagos which has remained till date the Epicenter of the disease. The case is an Italian citizen who works in Nigeria and returned from Milan, Italy to Lagos, Nigeria on the 25th of February, 2020. He was

confirmed by the Virology laboratory of the Lagos University Teaching Hospital, part of the laboratory network of the Nigerian Center for Disease Control {NCDC}(Osagie, 2020).

David (2020) opined that Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China (CDC, 2019) It was initially reported to the WHO on December 31, 2019. On January 30, 2020, the WHO declared the COVID-19 outbreak a global health emergency (Gallegos, 2020; Ramzy & McNeil, 2020) On March 11, 2020, the WHO declared COVID-19 a global pandemic, its first such designation since declaring H1N1 influenza a pandemic in 2009 (The New York Times, 11, March).

Illness caused by SARS-CoV-2 was termed COVID-19 by the WHO, the acronym derived from "coronavirus disease 2019." The name was chosen to avoid stigmatizing the virus's origins in terms of populations, geography, or animal associations (CDC, 2019).

Nigerian Center for Disease Control (2020) affirm that Coronaviruses are zoonotic, meaning they are normally transmitted between animals and people. The coronavirus disease (COVID-19) is caused by a new strain of coronavirus (SARS-CoV-2) that has not been previously identified in humans.

Experts have contributed on the symptoms of the novel coronavirus. Presentations of COVID-19 have ranged from asymptomatic/mild symptoms to severe illness and mortality. Symptoms may develop 2 days to 2 weeks following exposure to the virus. (CDC, 2019) A pooled analysis of 181 confirmed cases of COVID-19 outside Wuhan, China, found the mean incubation period to be 5.1 days and that 97.5% of individuals who developed symptoms did so within 11.5 days of infection (Lauer , Grantz, Bi , Jones, Zheng & Meredith 2020).

Wu and McGoogan reported that, among 72,314 COVID-19 cases reported to the Chinese Center for disease Control and Prevention (CCDC), 81% were mild (absent or mild pneumonia), 14% were severe (hypoxia, dyspnea, >50% lung involvement within 24-48 hours), 5% were critical (shock, respiratory failure, multiorgan dysfunction), and 2.3% were fatal (Wu & McGoogan, 2020).

The following symptoms may indicate COVID-19 (CDC, 2020): Fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting and diarrhea.

Other reported symptoms have included the following: Sputum production, malaise, respiratory distress. The most common serious manifestation of COVID-19 appears to be pneumonia.

A complete or partial loss of the sense of smell (anosmia) has been reported as a potential history finding in patients eventually diagnosed with COVID-19 (Rabin, 2020) A phone survey of outpatients with mildly symptomatic COVID-19 found that 64.4% (130 of 202) reported any altered sense of smell or taste (Spinato, Fabbris, Polesel, Cazzador, Borsetto & Hopkins, 2020)

Symptoms in children with infection appear to be uncommon, although some children with severe COVID-19 have been reported (Wu & McGoogan, 2020; Dong, Mo, Hu, Qi, Jiang & Jiang, 2020; Qiu, Wu, Hong, Luo, Song & Chen, 2020).

The pandemic is not just a health issue, rather it has become a global socio economic menace as well. The UN department of Economic and Social Affairs (UN DESA) lamented on the impact of the disease thus: “We are facing a global health crisis unlike any in the 75-year history of the United Nations — one that is killing people, spreading human suffering, and upending people’s lives. But this is much more than a health crisis. It is a human, economic and social crisis. The coronavirus disease (COVID-19), which has been characterized as a pandemic by the World Health Organization (WHO), is attacking societies at their core”

This work therefore is aimed at examining the socio-economic impact of coronavirus on Nigeria, with a focus on Aba metropolis.

2.0 EMPIRICAL REVIEW

Ozili (2020) in his work titled: COVID-19 in Africa: Socio-Economic Impact, Policy Response and Opportunities, examines the socio-economic impact of COVID-19 and the policy response in African countries. The study used discourse analysis to analyze the socio-economic impact of COVID-19 in Africa. The findings reveal that African countries have been affected by the coronavirus pandemic, and the effect was more severe for African regions compared to other regions. The rising pandemic affected social interaction and economic activities through the imposed social distancing policies that have different levels of strictness in several African countries. The implication of the findings is that social policies can affect the social and economic well-being of citizens. Secondly, the coronavirus outbreak has revealed how a biological crisis can be transformed to a sociological subject. The most important sociological consequence of the coronavirus outbreak for African citizens is the creation of social anxiety among families and households in the region. The outbreak has also shown how vulnerable African societies are in facing health hazards. He recommended that Policymakers should enforce social policies that unite communities in bad times, to reduce social anxiety. Though Ozili’s work was revealing on the socio-economic effect of covid-19, the scope is too large for a meaningful study of the effect of the pandemic in Nigeria.

PwC Nigeria’s Webnir 2020. Covid-19: Economic implication and Policy Responses, Andrew S. Nervin and Oyedele gave notes on the subject matter. Here are some of their insights: After slipping in to its first recession in 25 years in 2016, growth in Nigeria’s gross domestic product (GDP) returned but remained below population expansion, meaning that Africa’s most-populous nation became poorer per capita between 2017- 2019. The economy had begun to show promising signs of recovery but the pandemic will slow this progress. Nigeria is still dependent on oil, so the current crash in oil prices is adding to the COVID-19 lockdown effect where people stop spending – one person’s spending is another person’s income. Other findings include: that the Nigerian government is projecting revenue flow from oil to decline from 5.5 trillion Naira in 2020 to 1.1 trillion Naira, so, we have a sudden fiscal crisis in Nigeria presenting some pretty immense economic challenges. The impact will be felt across all sectors. Because of

the country-wide lockdown, there are concerns around overall economic activity in sectors like retail and real estate, and how banks adjust to that. Though the insight helps in unveiling the implication of the covid-19, it didn't show the effect on Nigeria.

The Organization for Economic Co-operation and Development {OECD} (2020) carried out a study on the socio-economic impact of covid-19 in Africa and observed that although the number of COVID-19 cases and fatalities might still appear comparatively low in Africa than in other world regions, the looming health shock of COVID-19 could have disastrous impacts on the continent's already strained health systems, and could quickly turn into a social and economic emergency. Beyond health risks, the COVID-19 shock to African economies is coming in three waves: (i) lower trade and investment from China in the immediate term; (ii) a demand slump associated with the lockdowns in the European Union and OECD countries; and (iii) a continental supply shock affecting domestic and intra-African trade. It is shaking commodity-driven growth models that had largely failed to create more and better jobs or improve well-being. On the health front, greater capacities to test, protect, treat and cure are essential. On the socio-economic front, policy measures should cushion income and jobs losses, while tackling the specific challenges of high informality. Beyond the immediate response, recovery strategies should include a strong structural component to reduce dependence on external financial flows and global markets, and develop more value-adding, knowledge-intensive and industrialized economies, underpinned by a more competitive and efficient services sector. Effective implementation of the African Continental Free Trade Area (AfCFTA) and the African Union's productive transformation agenda can strengthen regional value chains, reduce vulnerability to external shocks, advance the digital transition, and build economic resilience against future crises. The study also centers on Africa.

McKibbin and Fernando (2020) studied the Global Impact of Covid-19. According to them the outbreak of coronavirus named COVID-19 has disrupted the Chinese economy and is spreading globally. The evolution of the disease and its economic impact is highly uncertain, which makes it difficult for policymakers to formulate an appropriate macroeconomic policy response. In order to better understand possible economic outcomes, their work explores seven different scenarios of how COVID-19 might evolve in the coming year using a modelling technique developed by Lee and McKibbin (2003) and extended by McKibbin and Sidorenko (2006). It examines the impacts of different scenarios on macroeconomic outcomes and financial markets in a global hybrid DSGE/CGE general equilibrium model. The scenarios in this paper demonstrate that even a contained outbreak could significantly impact the global economy in the short run. These scenarios demonstrate the scale of costs that might be avoided by greater investment in public health systems in all economies but particularly in less developed economies where health care systems are less developed and population density is high.

This study therefore is necessitated by the various gaps hitherto articulated and the need to localize the study of the socio-economic effect of Covid-19 on Nigeria. Hence the focus is Aba the commercial nerve Centre of Abia state, Nigeria. This will help to present the local content of the effect on Nigeria. Moreover, the work employed survey study which enabled the researchers analyze the opinion of respondents.

2.1 Literature Review

Prior to the COVID-19 pandemic, most of the healthcare infrastructure in African countries had deteriorated. Currently, in Africa, 65% of healthcare expenses are made from out-of-pocket expenditure compared to Europe where the national and regional authorities are responsible for the health policies and expenditure of citizens (Ozili, 2020). Ozili continued “the situation mounted unprecedented pressure on the public health systems in many African countries. Some private hospitals refused to admit infected patients while public hospitals exceeded their capacity. This pressured the government of some countries to build isolation centres in large open fields around the country; notably, football stadiums were converted to isolation centres in countries such as Cameroon and Nigeria”

The fact is that before the pandemic, Nigerian economy was anything but stable. Very low tax to GDP ratio (less than 6%), High debt service to revenue ratio, Low level of tax compliance, Significant fiscal risks due to COVID-19 economic disruption, Exposure to the risks of a sustained decline in oil prices, Dated Brent oil prices as low as US\$19/barrel as at Friday 3 April 2020, Compared to 2020 Budget benchmark of US\$57/barrel, Oil production in 2020 year-to-date is 2.0mbpd versus Budget projection of 2.18mbpd, Little fiscal buffers compared to 2008/2009 or 2015/2016 (Oyedele, 2020). The severe social effect of the coronavirus crisis was felt through the imposition of movement restrictions in many African countries. Some restrictive measures that were imposed to control the spread of coronavirus include: restricting non-essential activities, closing schools and universities, encouraging people to stay home, the lockdown of entire cities, requiring essential businesses to run skeletal operations and employees should work from home. These measures inevitably affected economic activities in African countries, and policymakers had to use economic policies, both fiscal and monetary policies, to mitigate the negative effect on the economy Ozili (2020).

COVID-19 has had an impact on social mobility whereby schools are no longer able to provide free school meals for children from low-income families, social isolation and school dropout rates. It has also had a significant impact on childcare costs for families with young children. Additionally, there exists a wide disparity amongst populations with a higher income who are able to access technology that can ensure education continues digitally during social isolation. (Nicola, Alsafi., Sohrabi, Kerwan, Al-Jabir, Josifidis, Agha, & Agha, 2020). Nicola *et al* (2020) further aver that “COVID-19 has affected communities, businesses and organizations globally, inadvertently affecting the financial markets and the global economy. Uncoordinated governmental responses and lockdowns have led to a disruption in the supply chain”

The COVID-19 outbreak affects all segments of the population and is particularly detrimental to members of those social groups in the most vulnerable situations, continues to affect populations, including people living in poverty situations, older persons, persons with disabilities, youth, and indigenous peoples. Early evidence indicates that the health and economic impacts of the virus are being borne disproportionately by poor people. For example, homeless people, because they may be unable to safely shelter in place, are highly exposed to the danger of the virus. People without access to running water, refugees, migrants, or displaced persons also stand to suffer disproportionately both from the pandemic and its aftermath – whether due to limited movement, fewer employment opportunities, increased xenophobia etc. (UN DESA, 2020).

The 2003 SARS outbreak, which infected about 8,000 people and killed 774, cost the global economy an estimated US\$50 billion. The 2015 MERS outbreak in South Korea, meanwhile, infected 200 people and killed 38, but led to estimated cost of US\$8.5 billion. Already the coronavirus epidemic has had a greater economic effect than either of this predecessors. The fragility of the global economy, which has high levels of indebtedness and asset bubbles, is a legacy of the way in which the 2008 global credit crisis was managed rather than solved. As pointed out in the World Economic Forum's Global Risk Report 2020, there are a number of tipping points in the economic system and the economic consequence of a shock to the global system is likely to be a correction (John, 2020).

2.2 Government Fiscal and Monetary Responses to the Pandemic

Fiscal response to covid-19 in Nigeria

According to Andrew (2020) Contingency funds of NGN984 million (\$2.7 million) were released to Nigeria's Centre for Disease Control and an additional NGN6.5 billion (\$18 million) is planned. Establishment of a N500bn COVID-19 Crisis Intervention Fund which will be channeled to the upgrade of healthcare facilities at the national and state-level, as well as provide intervention for states. The President approved the employment of 774, 000 Nigerians to ameliorate the suffering caused by COVID-19 in the country. The 774,000 youths will be engaged in Special Public Works Programme aimed at cushioning the effects of economic downtown. Each of the 774 local government area in the country will be allotted 1,000 slots. Three-month repayment moratorium for all TraderMoni, MarketMoni and FarmerMoni loans with immediate effect. Similar moratorium above to be given to all Federal Government-funded loans issued by the Bank of Industry, Bank of Agriculture and the Nigerian Export Import Bank NGN15 billion grant from Federal Government to the Lagos State Government. Conditional cash transfers for the next two months to be paid immediately to the most vulnerable at internally displaced persons camps. Also, due to the reduction in global oil prices, the government reduced the petrol pump price from NGN145 per litre to NGN123.50 per litre on April 1, 2020. Suspension of the proposed increase of electricity tariffs by the electricity distribution companies (Discos). Waiver of import duty on medical equipment, medicines, protection equipment for the treatment of COVID-19. All 43 Cabinet Ministers donated 50% of their March 2020 salaries to support the Federal Government's efforts (CBN Policy Communiques, PwC, 2020).

Monetary response to covid-19 in Nigeria.

1. Reduction of internal rate on all applicable CBN intervention from 9% to 5%
2. Liquidity injection of #3.6 trillion (stimulus package in the form of loan into the banking system).
3. Provision of #100 billion to support the health sector, #2 trillion to the manufacturing sector and #1.5 trillion to impacted industries in the real sector.
4. Creation of #50 billion targeted credit facility NIRSAL microfinance bank for household and MSMEs.
5. The CBN granted all DMBs leave to consider temporary restructure of loans terms for business and house hold affected of COVID.
6. Strengthening of the CBN loan to deposit ratio (LDR) policy.

7. Supervision of the state of foreign currency to members of the association of bureau de change operators of Nigeria {ABCON} (FGN, MoF, TVC News, PwC, 2020).

2.3 Theoretical Framework

Systems theory was first introduced in the 1940s by biologist Ludwig von Bertalanffy (1968) and furthered by W. Ross Ashby (1956). Bertalanffy initially argued for open systems as opposed to the more closed systems associated with classical science. Open systems refer to systems that interact with other systems or the environment outside of the systems, whereas closed systems do not. Open systems usually include biological and social systems, whereas closed systems are mostly mechanical systems (Bateson, 1979 cited in Ifegwu & Oparaku 2019).

A system is a cohesive conglomeration of interrelated and interdependent parts which can be natural or human-made. Every system is bounded by space and time, influenced by its environment, defined by its structure and purpose, and expressed through its functioning. A system may be more than the sum of its parts if it expresses synergy or emergent behavior. Changing one part of a system may affect other parts or the whole system. It may be possible to predict these changes in patterns of behavior. For systems that learn and adapt, the growth and the degree of adaptation depend upon how well the system is engaged with its environment. Some systems support other systems, maintaining the other system to prevent failure. The goals of systems theory are to model a system's dynamics, constraints, conditions, and to elucidate principles (such as purpose, measure, methods, tools) that can be discerned and applied to other systems at every level of nesting, and in a wide range of fields for achieving optimized equal finality (Beven, 2006).

Systems theory is defined as an interdisciplinary field of science concerned with the nature of complex systems, be they physical or natural or purely mathematical. Systems theory is also a conceptual framework based on the principle that the component parts of a system can best be understood in the context of the relationships with each other and with other systems, rather than in isolation (Thomas, 2010 cited in Ifegwu & Oparaku, 2019).

Furthermore, systems theory is based on the belief that individuals do not operate in isolation, but rather grow and develop in interaction with their physical and social environment. Systems theories explore the parts of a system that interconnect and interact to make a complete whole. Within social work, systems can constitute individuals, couples, families, communities, organizations, society, and the world. System theory holds that each system should be viewed as consisting of several elements that make the system a functional whole, and each system should be viewed in relation to the other systems that can cause a change or reaction within the main system. For example, when working with clients, social workers should consider the bio-psycho-social aspects of the client by looking at physical and psychological functioning, social relationships, and community or societal structures that impact on the client (Teater, 2014 cited in Ifegwu & Oparaku, 2019).

In systems theory the term “environment” is defined as the set of all objects a change in whose attributes affects the system as well as those objects whose attributes are changed by the behavior of the system (Hall & Fagen, 1956).

The covid-19 is a health related issue, but the influence is felt on every aspect of the country, nay, and the globe. This bore witness to the fact that a change in any component of the system, result to a change in all the other sub-system and in fact the whole system. Though pandemic is a health crisis, interrelated and interdependent of the system necessitated the study of the socio-economic effect of the pandemic.

3.0 METHODOLOGY

Descriptive survey research design was used for the study. according to Orji (2016 cited in Eneasator, Azubuike, & Orji, 2019) descriptive design is the type of design which is meant to get responses from a sample of respondents and this is obtained through the administration of relevant data collection instruments for the purpose of collecting primary data on a portion of the population known as sample. The descriptive design often focuses on collecting data relating to an area of interest for the purpose of finding relationship among variables.

3.1 Area of Study

Aba is surrounded by oil wells which separate it from the city of Port Harcourt. A 30 kilometers (19 mi) pipeline powers Aba with gas from the Imo River natural gas repository (Hoiberg, 2010) its major economic contributions are textiles and palm oil (Munro, 1995) along with pharmaceuticals, plastics, cement, and cosmetics. This trade makes the Ariara International market the second largest market in Nigeria after the Onitsha Main market. There is also a Heineken brewery, a glass company (Munro, 1995) and distillery within the city. Finally, it is famous for its handicrafts (Hoilberg, 2010).

3.2 Population of the Study

The population of Aba as of 2016, was estimated at 2,534,265 (Wikipedia, 2020).

3.3 The Sample and Method of Sampling

This study adopted a sampling method known as purposive sampling technique. In the words of Orji (2015 cited in Eneasator, Azubuike, & Orji, 2019) ‘purposive sampling technique is a method of sampling in which the researcher chooses certain sample composition and size which he considers convenient, appropriate, relevant and adequate for the study. Based on this technique, - the researchers choose a sampling of 2000 resident of the area. The questionnaire was distributed using the religious apparatus where we got aggregate of the Aba resident as they congregate. It was on the sport assessment, hence we were able to retrieve the 2000 questionnaire put forth.

4.0 DATA PRESENTATION AND ANALYSIS

Table 1: Showing Socio-Economic Effect (SEE) survey and analytical tool.

S/N	Item	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)	Total (%)
1	I have been receiving my salary since the pandemic	230(11.5)	245(12.25)	704(35.2)	821(41.05)	2000(100)
2.	I am able to carry out my job	70(3.5)	62(3.1)	620(31)	1,248(62.4)	2000(100)
3.	I am able to carry out my financial obligations	105(5.25)	154(7.7)	532(26.6)	1209(60.45)	2000(100)
4.	I have access to my place business(office, market, workshop)	270(13.5)	541(27.05)	638(31.9)	551(27.55)	2000(100)
5.	I have access to the financial institutions	104(5.2)	182(9.1)	902(45.1)	812(40.6)	2000(100)
6.	There is free flow of cash	267(42.9)	562(19.8)	210(17.8)	961(19.6)	2000(100)
7	There is free flow of movement to and fro my city	789(39.45)	705(35.25)	254(12.7)	252(12.6)	2000(100)
8.	I get good support from the government in terms of loan during this covid-19	14(0.7)	07(0.35)	689(34.45)	1,290(64.5)	2000(100)
9.	My customers are accessing my business as usual	34(1.7)	123(6.15)	807(40.35)	1036(51.8)	2000(100)
10.	I have same patronage for my services as other times	272(13.5)	96(4.8)	1112(55.6)	520(26)	2000(100)
11.	The price of goods are affected by the covid-19	1023(51.15)	867(43.35)	99(4.95)	11 (0.55)	490(100)
12.	Covid-19 did not affect transportation	71(3.55)	165(8.25)	788(39.4)	976(48.8)	490(100)
13.	I have maintained my job even during the covid-19 pandemic	301(15.05)	175(8.75)	812(40.6)	712(35.6)	2000(100)
14.	I have government palliative that cushioned the effect of covid-19	71(3.55)	134(6.7)	877(43.85)	820(41)	2000(100)
15	I am able to maintain normal production despite covid-19	186(9.3)	162(8.1)	1092(54.6)	560(28)	2000(100)
16.	I have access to religious activities	760(38)	817(40.85)	187(9.35)	236(11.8)	2000(100)
17.	I have access to social	138(6.9)	109(5.45)	413(20.65)	1340(67)	2000(100)

	activities and gatherings					
18.	There is constant supply of electricity during this covid-19	355(17.75)	232(11.6)	822(41.1)	591(29.55)	2000(100)
19.	I have access to physical entertainments	255(12.75)	134(6.7)	605(30.25)	1006(50.3)	2000(100)
20.	I have access to free medications occasioned by the covid-19.	-(-)	15(0.75)	809(40.45)	1176(58.8)	2000(100)
	Total					

Source: field work. (2020).Using Socio-Economic Effect (SEE) Survey

5.0 DISCUSSION OF RESULTS

Many of the respondent about 1,525 (76.25%) have not received their salary during this pandemic. About 1,524(76.2%) have equally lost their job due the economic situation while 1,1089 (59.45%) were unable to access their businesses or offices, hence large 93.4% of the respondent are unable to meet up with their financial obligation. 92.15% say that customers cannot access their businesses either as a result of restriction or general loss of money. While 81.6 % expresses low patronage to their business/service. Increase in Transport is not left out as 88.2% responses show. 94.5% affirmed that these challenges have led to increase in the price of goods and services. To worsen the case, 85.7% could not access the bank for loan while 98.95% cannot access any loan as response or intervention from the government and 84.85% cannot access any palliative from the government also. Those in the production line were also negatively affected, 82.6% shows this.

On the social effect, 1753 respondents (67.65%) aver that there are barred from social activities.80.25% do not have access to physical entertainment. 70.65% do not have supply of electricity during the pandemic. However, 78.85% have access to religious activities. Almost all the respondents (99.25%) had no access to free medication as a result of the pandemic except a negligible few (0.75%).

6.0 CONCLUSION

According to the PwC, some of the social economic effect of the pandemic include: massive spike in unemployment, massive number of people in informal sector not earning daily wage between lockdown and recession, huge food security challenge, fiscal crisis at both federal government and state level and depletion of external reserves. The coronavirus (Covid-19) have tremendously affected the economic and social life of the people. Every sector of the country, nay the globe was affected. Aba, the commercial nerve center of Abia state was not left out. Many businesses were adversely affected. Social life almost came to halt as a result of fear of the spread of the virus. There is capital loss, and general hardship occasioned by the covid-19 global pandemic.

7.0 RECOMMENDATIONS

According to the CDC group (2020) despite the challenges ahead... what this crisis has done is accelerate decisions on a number of structural issues that have impeded Nigeria over the last few years, “For example, the fuel subsidy policy – which has cost a lot of money and not been very effective in helping people those with lower incomes – has been reversed. Discussions about market-based tariffs for electricity in Nigeria are also coming to fruition. ... The government is starting to make decisions which have the potential to lead to much more investment and much more rapid, inclusive, economic growth in Nigeria.”

There’s also an increasing focus on stimulating local business. “The Central Bank is at the forefront of driving credit to sectors with capacity for local production – sectors that can source raw materials locally and meet local demands. There is also anticipation for a stronger focus on social infrastructure in Nigeria’s journey to economic recovery. Beyond the crisis there will be increased awareness of sectors like agriculture and increasing conversations around food security; and also driving credit to the healthcare sector to reduce medical tourism. These areas could lead Nigeria’s economic recovery (CDC group, 2020).

The covid-19 curve is gradually flattening, therefore Government should provide the necessary covid-19 protocol and ease out the lockdown fully on all sector to ameliorate the devastating effect of the pandemic on the people. With these in place schools, religious activities and other sectors will come back to life. Finally, the central government and indeed other governments should respond more actively to the myriads of challenges facing firms in Nigeria thoroughly implement the fiscal and monetary intervention to help both the Small and Medium Enterprises to bounce back.

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IMPACT OF COVID -19 PANDEMIC ON HUMAN SOCIAL LIFE

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ABSTRACT

This paper examines the impact of COVID -19 pandemic on the human social life with particular focus on the socio-psychological dimensions. Since 1918 – 2020, the world has witnessed various outbreaks of infectious diseases and pandemics that have greatly affected the sensibility of every sane individual across the globe. The impact of COVID -19 pandemic especially on the aged and the youths had been grievously devastated globally. Premised on projections and analysis based on experiential knowledge of facts on ground, this paper analyzes the COVID -19 pandemic crises within the frustration-aggression theory and argue that frustration is the bane of the various outburst of people all over the world against the period of lockdown and quarantine exercises. Through the paper an attempt is made to highlight the socio-psychological impacts of the pandemic on human life. The paper recommends that humans should follow the WHO stipulated rules to prevent the spread of the virus and concludes that corona virus has come to stay with humans just like other infectious diseases.

Keyword: COVID -19, pandemic, social impacts, frustration-aggression theory.

INTRODUCTION

COVID-19 is an infectious disease caused by newly discovered corona virus. World Health Organization (WHO) characterized it as a health crisis as well as a human economic and social crisis which is also called pandemic. COVID -19 disease is defined as an illness caused by a novel corona virus now called severe acute, respiratory syndrome corona virus 2 (SARS - COV - 2, formally called 2019 - n - COV), which was first identified amid an outbreak of respiratory illness cases in Wuhan city, Hubei province in China (Cennimo & Bronze, 2020).

COVID -19 was first reported to the WHO on December 31, 2019 and on the 30th January 2020, WHO declared the COVID -19 outbreak a global health emergency (Bronze & Cennimo, 2020). On march 11, 2020 WHO declared COVID -19 a global pandemic and its first such designation since declaring HINI influenza a pandemic in 2009.

The illness caused by SARS - COV-2 was termed COVID – 19 by WHO, the acronym derived from “corona virus disease 2019”. The name was chosen to avoid stigmatizing the virus origins in terms of populations, geography, or animal associations (Cennimo & Bronze, 2020). The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person caughs or sneezes.

The pandemic affected every aspect of human life around the globe in education, social, politics and religion and different hypotheses have been put forward for future life. Efforts to stem as social - distancing and self - isolation have prompted the widespread of closure of primary, secondary and tertiary schools all over 100 countries (UNESCO, 2020). Previous outbreaks of infectious diseases have prompted widespread school closures with varying levels of effectiveness (Frieden, 2020; Jackson, Mangans, Hawker, Olowokiwe & Vyanyeky, 2014).

Corona virus pandemic has not only affected human health and socio-psychological dimensions but has changed other important areas of human life. According to UNESCO on 25 march, 2020 report, data released showed that 165 countries closed due to COVID -19. This affects over 1.5 billion students globally accounting for 87% of enrolled students.

RESEARCH METHODOLOGY

This paper is a qualitative study which is based on secondary data. The study was carried out through the meta - analysis reports on COVID -19 pandemic on Nigeria and across the globe. Extant and relevant literature on COVID -19 pandemic impacts were reviewed which led to insight exciting study.

THEORETICAL FRAMEWORK

Frustration - aggression Theory and the COVID -19 Pandemic.

The frustration - aggression theory is associated with the works of Dollard, Doob, Mower and Shears (1939), the core assumption of which is that “aggression is always a consequence of frustration” (Dollard et al, 1939:1). Dollard and his associates argued that individuals are motivated to achieve life ambitions and fulfill destiny, but when these expectations are thwarted, frustration sets in. In their thoughts the occurrence of aggressive behaviour presupposes the existence of frustration and also that the “existence of frustration always leads to some form of aggression” (1939:1).

However, we know that many a times the existence of frustration does not always lead to aggression, given that frustration may have other consequences other than aggression. On this note therefore, the argument may have failed to differentiate between instigation to aggression and the real incidence of aggression, but this paper acknowledges that frustration generates inquiries to various kinds of consequences which may include instigation to certain types of aggression. By this way, aggression may develop as a consequence of having been exposed to extreme frustrating conditions sufficient to provoking the experiences of hopelessness.

Simplistic analysis of the reasons for frustration to COVID - 19 pandemic crises, lockdown, quarantine and its effective socio-psychological dimensions resulted to severe illness, fear of death and death, distracted attention from other major killer diseases that causes mortality rates globally. It is true that the virus is deadly, killing, enmesh frustration occasioned as a result of a sense of despair and deprivation, environmental and health development issues that neglected the ethics of corporate social responsibilities over individuals health care are more like it. While this study recognizes that the spread of COVID -19 in the world had made people with an unprecedented history of the virus to find themselves under the influence of the pervasive disease, its impacts on human social affairs can be considered a factor. We argue that various

radical responses shown in the media by host countries to Nigerians resulted to violent, aggression and frustrations to sane individuals globally. At Nkpo- Onitsha in Anambra State, police response to violent mob who were demonstrating the lockdown duration resulted to an outburst of shutting that claimed lives. Humans were aggrieved and frustrated and so rioted to be allowed out to look for their daily bread since the government can not take care.

IMPACT OF CORONA VIRUS PANDEMIC (EDUCATION, POLITICS, GEO-ECONOMICS, RELIGION, PSYCHO-SOCIAL) ON HUMAN LIFE

Educationally, COVID-19 affected the system world wide, leading to the widespread of closures of schools, universities and colleges (UNESCO, 2020). According to data released by UNESCO on 25 march 2020, schools and universities closed due to COVID-19 were implemented nationwide in 165 countries. School closures may be effective when enacted promptly. However, when there is minimal to moderate community transmission, social distancing strategies can be implemented such as postponing or cancelling fieldtrips, assemblies and other large gatherings such as physical education or choir classes or meals in cafeteria, increasing the space between desks, staggering arrival and dismissal times, limiting non essential visitors and using a separate health office location for children with flu-like symptoms

Most governments around the world temporarily closed educational institutions in an attempt to contain the spread of COVID-19 (UNESCO, 2020). As at 27 July 2020, approximately 1,725 billion learners are currently affected due to school closures in response to the pandemic. According to UNICEF monitoring, 106 countries are currently implementing nationwide closures and 55 are implementing local closures, impacting about 98.6% of the world's student population, 48 countries schools are currently open (UNESCO, 2020).

School closures impact not only students, teachers and families (Baw, Qu, Zhang, Hogan, 2020), but have far-reaching economic and societal consequences (UNESCO, 2020 & Lindzon, 2020). School closures in response to the pandemic have shed light on various social and economic issues including student debt (Jamerson and Mitchel, 2020), digital learning (UNESCO, 2020; Karp & McGowin, 2020), food insecurity (NPR.org, 2020) and homelessness (Sessoms, 2020 & Ngumbi, 2020), as well as access to childcare (Time, 2020), health care (Feuer, 2020), housing (Barrett, 2020), internet (Jordan, 2020) and disability services (NPR.org, 2020).

The impact was more severe for disadvantaged children and their families, causing interrupted learning, compounded nutrition, childcare problems and consequent economic cost to families who could not work (UNESCO, 2020). In response to school closures, UNESCO recommended the use of distance learning programmes and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education (UNESCO, 2020).

The impact on politics was loudable. A number of provincial-level administrators of the communist party of China (CPC) were dismissed over their handling of the quarantine efforts in central China, a sign of discontent with the political establishment response to the outbreak in those regions. Additionally, Hong Kong protesters in the special administrative region have strengthened due to fears of immigration from mainland China (CAN, 2020). According to Bostock (2020) this is a move to protect communist party general secretary XI Jinping from

people's anger over the corona virus pandemic. Some commentators like Yu (2020) suggested that the out cry over the disease could be a rare protest against the party of China (CPC). A number of countries used the outbreak to show their support to China example is the visit of Cambodia Prime Minister Hun Sen who made a special visit to China in fighting the out break of the epidemic (Tiezzi, 2020).

The president of United States of America Donard Trump was criticized for his response to the pandemic (Smith, 2020 and Collinson, 2020). Trump was accused of making several misleading or false claims of failing to provide adequate information and of down playing the pandemic significance (Burns, 2020). Trump was also criticized for having closed down the global health security unit of the US national council, which was founded to prepare government for potential pandemics.

In the Islamic Republic of Iran, Cunningham and Bennett (2020) reported that the government was heavily affected by the virus because two dozen members (approximately 20%) of the Iranian legislature were affected as well as 15 other current former government officials, including the vice president. Advisers to Ali Khamenei and Mohammad Javad Zarif died of the disease (Agencies of Iran, 2020). The spread of virus has raised questions about the future survival of the regime. In Nigeria also the adviser to the president Mohamadu Buhari died of the virus and that led to the closure of the government house for months.

The geo-economics and country risk- experts emphasized the potential erosion of political and economic sovereignty that may affect some already-enfeeble countries like Italy. For instance, Edward Luttwak in an interview with La 7 TV, called COVID-19 "the virus of truth" while M. Nicolai Firzili, director of world pensions council (WFC) and advisory board member at the world bank global infrastructure facility (GIF) refers to the pandemic as "the greater financial crises", that will "bring to the surface pent-up financial and geopolitical disfunctions. Many nutritional economics will suffer as a result, and the political sovereignty itself may be severely eroded (Weltman, 2020).

In civil and democracy, Iran, Jordan, Morocco, Oman and Yemen banned the printing and distribution of newspapers. Also the parliament of Hungary granted prime minister Viktor Orban the power to rule by decree for an indefinite period in march 30th, 2020.

In religion, corona virus affected it on various ways including the cancellation of the worship services of various faiths, the closure of Sunday services, Sunday schools as well as pilgrimages surrounding observances and festivals (Burke, 2020). Many churches, synagogues, mosques and temples offered worship through livestream amidst the pandemic (Park, 2020). In the United States, Trump designated 15th march, 2020 as national day of prayer for "God's healing hand to be placed on them" (Parke, 2020).

Psychologically, the impacts of COVID-19 pandemic have made a catastrophic future worldwide. On the 18th of march 2020, WHO issued a report related to mental health and psychosocial issues by addressing instructions and some social considerations due to COVID-19 outbreak. The pandemic caused every individual without exception to be lockdown and stay indoors for months thus, making people to keep social-distancing and self isolation. This

psychosocial effects frustrated the aged groups globally especially among the Africans that depends mainly on social relationships from their children and relations. Older people who needed special attention, due to the COVID-19 crisis lost their voices, opinions and concerns that are important in formulating responses. Countries with fewest older people in the world have the fewest health resources, limited experience caring for older patients, less institutional care for older persons and fewer NGO support structures for outbreak screening and community based care of older persons. Older persons who live alone therefore face barriers to obtaining accurate health information, food, medication and other essentials during the lockdown and therefore get frustrated and face death aggressively.

During the 1918-1919 influenza pandemic in the United States and in other parts of the world including Africa caused closure of human activities including public gatherings which was associated with lower total mortality rates (Frieden, 2020). Cities that implemented such interventions earlier had greater delays in reaching peak mortality rates (Markel, Lipman, Navarro, Sloan, and Michalsen, 2013 and Chin, Foley, Doto, Grarelle and Weston, 1960). Personal gatherings are banned due to experts advises and stay- at-home orders enforced to prevent gatherings of any size. Such gatherings therefore are replaced by teleconferencing or in some cases with unconventional attempts to maintain social distancing with activities such as a balcony sing- along for a concert (Ryan, 2020).

Many countries reported increase in domestic violence and intimate partner violence attributed to lockdown amid the COVID-19 pandemic (Johnson, 2000). Financial insecurity, stress and uncertainty led to increased aggression at home, with abuses able to control large amounts of their victims daily life. Low income persons die from the pandemic because they are disproportionally hit by the disease. Hypotheses for why this is so include that poorer families are more likely to live in crowded housing and work in the low skill jobs like supermarket, restaurants and elder care homes which are deemed essential due to the crises (Buchanan, Patel, Rosenthal and Singhvic 2020). In the United States report show that many low income workers lost their jobs, have become unemployed, and their jobs lost and have also lost their health insurance thereby becoming vulnerable to uninsured and under insured for medical services.

RECOMMENDATION

The paper recommends that humans should do what the WHO recommend to prevent the spread of COVID-19 infection and also show its transmission since there is no specific vaccines or treatments for the virus.

1. Wash your hands regularly with soap and water or clean them with alcohol – base sanitizer.
2. Maintain at least one meter distance between you and people coughing or sneezing
3. Avoid touching your face
4. Cover our mouth and nose when coughing or sneezing
5. Stay home if you feel unwell
6. Refrain from smoking and other activities that weaken the lungs
7. Practice physical distancing by avoiding unnecessary travel and staying away from larger groups of people.

CONCLUSION

Corona virus disease is a global health crisis that is killing people, spreading human suffering, frustrating and upending people's lives. It is an economic, human and social crisis which is attacking societies at their core. People without access to running water, refugees, migrants or displaced persons also stand to suffer disproportionately both from the pandemic and its aftermath. However, if COVID -19 is not properly addressed by policy, the social crisis created may also increase inequality, exclusion discrimination and global unemployment in the medium and long term.

COVID-19 affects all segments of the world population and particularly detrimental to members of those social groups in the most vulnerable situations, it continues to affect populations including people living in poverty situations, older persons with disabilities, youth and indigenous peoples. The health and economic impacts are being borne disproportionately by poor people like homeless persons because they may be unable to safely shelter in place and therefore highly exposed to danger of the virus and those people that have underlying illnesses.

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FLEXIBLE WORK PATTERNS: AN EMPIRICAL INQUIRY INTO SURVIVAL OF SMEs IN NIGERIA AMIDST COVID-19 PANDEMIC

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ABSTRACT

Small and medium scale businesses have been adjudged one of the corner stones of every thriving economy. The indispensable role SMEs play in developed, developing or underdeveloped economies have been well documented. As such, it is expedient to examine the internal and external factors that inhibits as well as fosters SMEs survival, especially in times of economic downturn. Hence the topic: Flexible Work Patterns: An Empirical Inquiry into Survival of SMEs in Nigeria amidst COVID-19 Pandemic. Given the restriction on movements and on the opening of non-essential businesses, an online survey method was employed for the study. Nine hundred and fifty-two (952) business owners participated in the online survey. Two null hypotheses were formulated and analysed through spearman rank order correlation coefficient at a 0.05 level of significance. The two null hypotheses were rejected and the alternate accepted; indicating a significant positive relationship between flexible work patterns and the survival of SMEs in Nigeria. The paper arrived at the conclusion that it is expedient for small businesses in Nigeria to embrace FWP as a veritable strategy to withstand and overcome the challenges posed by the COVID-19 pandemic. It was also noted that the adoption of flexible work arrangements will help this category of businesses survive, thrive and compete favourably with their counterparts in other more developed countries that appear to be ahead in its adoption. And adopting FWP is no longer a luxury or a thing of choice, because the entire business world is now a “virtual village;” as such, any business that is not able to catch up will most likely not survive. As a result, policy direction for business owners were suggested.

Keywords: *Flexi-time, Telework, Pay-flexibility, Task-flexibility, Survival, COVID-19*

INTRODUCTION

Small and medium scale businesses have been adjudged one of the corner stones of every thriving economy. The indispensable role SMEs play in developed, developing or underdeveloped economies have been well documented by several scholars (see John, 2015; Muhammad et al., 2015; Oshi et al., 2018:2019), hence the need to examine the internal and external factors that inhibits as well as fosters SMEs survival, especially in times of economic downturn. As with every other country of the world today, Nigeria and the businesses that operate within it, are having their fair share of the negative impact of the COVID-19 pandemic. Individuals and businesses now have to bear the brunt of increase in unemployment rate due to

job losses, supply chain disruptions, insolvency, etc., occasioned by the pandemic (KMPG, 2020; Ganaie et al., 2020).

While some corporate organizations may have the solvency to withstand this shock for a reasonably long time, small businesses appear to be most vulnerable and worst hit given their low capital base. Unfortunately, given the novel/peculiar nature of the virus, the suddenness, and the length of time it might take for an effective and generally accepted vaccine/cure to be developed, which will enable the world and businesses return to normalcy, the disturbances currently witnessed by businesses (especially SMEs) may linger for a while. This concern is corroborated by the KPMG business leaders' series on the business implication of COVID-19, that aver that though the threat/fear of the virus may gradually ease off as it has been the case with other life threatening viruses in the past, its socio-economic impact may not go away easily and anytime soon (KPMG, 2020). Consequently, business owners must strategize and re-strategize in a bid to better position their businesses to absorb the shock wave from this threat and from any other external threat in the future.

According to Gürel and Tat (2017), to respond to external threats, survive, thrive, exert control/influence and shape its future/destiny; organizations must be able to harness their strengths and weaknesses, and deploy same in identifying opportunities and handling threats. This implies that as an external factor, to find a way around the attendant challenges of COVID-19 and make the most out of it, small business owners must look inwards and identify areas of strength to leverage on for survival and success. Interestingly, dated and more recent studies offers insightful attempts at examining various individual and firm characteristics that determines/predicts small business survival and success such as: business owner's knowledge (Asikhia, 2010), focused differentiation (Box & Miller, 2011), strong motivation and need for achievement (Hansen et al., 2011), communication skills (Makhbul & Hasan, 2011), duration in operation (Islam et al., 2011), ability to develop business relations and networks (Abou-Moghli & Al-Kasasbeh, 2012), flexibility, rapid response and adaptability to consumers' changing tastes and preferences (Awuah & Reintert, 2012), managerial experience (Shehu et al., 2013), and entrepreneurial education (Amah & Hetty, 2018; Shehu et al., 2013; Wen-long et al., 2014).

However, while a handful of studies have been undertaken on flexible work patterns (FWP) and SMEs in other developed countries (e.g.: Dex & Scheibl, 2001; Kotey & Sharma, 2015; Maxwell et al., 2007; Terziovsk, 2010); there appears to be no attempt at determining whether the adoption of FWP could prove useful for SMEs survival and success during and post-COVID-19 pandemic in Nigeria.

Policies, practices (formal or informal) that allows employees vary when and where they work, describe FWP (Sharafizad et al., 2011). This type of work arrangement has gained prominence due to government protocols that include stay-at-home orders for businesses not in the essential services category. However, the challenge is that while most corporate organizations may have the capacity to allow for FWP, smaller businesses may not; because they are characterized by few job positions, limited man-power and resources, and the non-existence of a formal human resource management (HRM) system that can handle legal and administrative issues with regards to FWP (Kotey, 2017). More so, government protocols on COVID-19 has forced the hands of

business owner to resort to FWP if they must continue doing business. There is also the seeming difficulty of discontinuing any flexible working arrangement entered into after the pandemic. Lastly, it is widely acclaimed that FWP holds some benefits for businesses. Consequently, this study's objective is to empirically ascertain if FWP can predict SMEs survival in Nigeria.

LITERATURE REVIEW

Flexible Work Patterns

Flexible work patterns (FWP) are alternative work arrangements that deviate from the standard 8am – 4pm work schedule. It gives employees options on the when and where of work. FWP allows employees to work beyond the confines of their regular work space and at a malleable time schedule (Spreitzer et al., 2017). The basic characteristics of FWP are flexibility in time schedule, location and work length (Austin-Egole et al., 2020). The massive surge of businesses to the virtual space triggered by advancement in technology, further heightened by the COVID-19 barriers/restrictions, offers almost no other option for small businesses but to join the chase and go digital. The success of every organization is directly proportional to the performance of its workers. Workers tend to perform at their optimum when they are satisfied with their job (Hafeez & Akbar, 2015), and a key determinant of job satisfaction is when professional and personal life is balanced. Interestingly, businesses that adopt FWP improves workers' satisfaction which in turn motivates them to perform better, leading to survival and ultimately success.

Flexi-time and Survival of SMEs

To survive in a highly complex, dynamic and volatile environment, small business owners must be capable of providing a fit between their internal structures, practices, policies and modus operandi, and the demands/pressures from the external environment (Oshi et al., 2019). Adopting working time flexibility could be one of the internal mechanism to handle external pressures. While some scholars have expressed reservation on the positive influence of FWP on small business outcomes (de Menezes & Kelliher, 2011; Reeve et al., 2012); others have recently suggested that if SMEs provide FWP, it could lead to some benefits such as employee satisfaction, availability of a pool of talent to select from, enhanced productivity and profitability, etc. (Karim, 2018; Kotey, 2017). Consequently, we hypothesize that:

H₀₁: Flexi-time does not have any relationship with the survival of SMEs in Nigeria

Telework and Survival of SMEs

Telework, teleworking or telecommuting has to do with working from home or any remote place of choice, while interacting with the office via phone and/or email (Kamarulzaman, 2020). Also, this type of work pattern has become a byword in the business world today due to restrictions of businesses categorised under non-essentials, as it affords businesses in this category the possibility of continuity and survival. Furthermore, an inventory of responses by several countries to foster SME resilience and survival provided by OECD (2020), showed that small businesses that digitized their processes especially through teleworking, reported significant percentage increase in sales and they have been surviving amidst the pandemic. Based on this, we hypothesize that:

H₀₂: There is no association between telework and survival of SMEs in Nigeria

Theoretical framework

The Resource Dependence Theory (RDT), which was first conceptualized by Jeffrey Pfeffer and Gerald Salancik in their book – The External Control of Organizations – in 1978; undergirds this study. The theory holds that occurrences in organizations are a function of the actions and inactions of management, largely affected by external and internal forces in control of resources. Furthermore, the theory assumes every organization is an open system. That is, businesses are like systems that receive from the environment (input), process the inputs received (throughput) and then give back to the environment (output). The process is said to be repeated via a feedback mechanism designed to ascertain the effectiveness of outputs to the environment. Given the irrefutable influence of the environment on organizations; this cycle of input, throughput, output and feedback between an organization and its environment is adjudged essential for organizational survival (Bastedo, 2004).

The symbiotic relationship between businesses and the environment was further reiterated by Scott's (2002) assertion that businesses that operates in volatile, uncertain, complex and ambiguous environment must maintain regular interaction with its environment to sustain dynamic balance (i.e. homeostasis). According to Cutlip et al (2006), open organizations receives both valuable information (positive and negative) from the environment, which helps the organizations to take the needed action(s) that will ensure survival and growth. The information obtained from the environment also gives businesses and their owners an insight into the skills/capabilities required to absorb disturbances and keep the organization within the space of acceptable state.

METHODOLOGY

Given the restriction on movements and on the opening of non-essential businesses, an online survey method was employed for the study. The target population was all small business owners in Nigeria, however the accessible population consisted of nine hundred and fifty-two (952) business owners who participated in the online survey. Respondents were required to provide information on flexible work patterns and the survival of their businesses on a 5 point Likert-like scale (e.g. strongly disagree =5, to strongly agree = 1). The study instrument met face and content validity, as well as the Cronbach alpha reliability threshold of 0.70 (Hair et al., 2010). The Spearman Rank Order Correlation Coefficient was employed to test the stated hypotheses at a 0.05 level of significance.

RESULTS AND DISCUSSIONS

Test of Hypotheses

This section is concerned with testing hypotheses stated earlier in chapter one; using Spearman's rank order correlation coefficient statistical tool and the p-values obtained.

Table 1: Spearman Correlation Coefficient (Spearman's rho): Test of relationship between the variables

Correlations					
			Flexi-time	Telework	Survival
Spearman's rho	Flexi-time	Correlation Coefficient	1.000	.734**	.802**
		Sig. (2-tailed)	.	.000	.000
		N	952	952	952
	Telework	Correlation Coefficient	.734**	1.000	.734**
		Sig. (2-tailed)	.000	.	.000
		N	952	952	952
	Survival	Correlation Coefficient	.802**	.734**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	1552	1552	1552
**.Correlation is significant at the 0.01 level (2-tailed).					

SPSS Output Version 20

The Spearman rank correlation table above measures the strength of association between the variables as follows: the result reported a strong positive correlation between flexi-time and survival ($\rho = .734^{**}$, $n = 952$, $p < 0.01$), also a strong positive correlation value was reported between telework and survival ($\rho = .802^{**}$, $n = 952$, $p < 0.01$).

Discussion of Findings

The results from the analysis indicated a significant positive nexus between FWP and survival of small businesses in Nigeria. Precisely, the study found a significant positive association amid flexi-time and survival, as well as telework and survival. This result further corroborates the stance from other similar studies. An industry body known as Group Risk Development (GRID) and several other scholars have suggested that small businesses that adopt FWP will have a more satisfied workforce, enhanced productivity, increase in sales, reduced rates of turnover, reduction in unemployment rate, and absenteeism and the availability of a pool of quality individuals to select from (Bean, 2018; Karim, 2018; Kotey, 2017; OECD, 2020). Furthermore, an OECD (2020) compendium on SMEs resilience and survival in some European countries and the US amidst the COVID-19 pandemic, revealed that digitising work processes using telework results in increased sales, business continuity and survival. This therefore encourages small business owners in developing countries like Nigeria (specifically, Rivers State) to adopt flexi-time and teleworking as a flexible work strategy in order to survive the harsh realities of the pandemic. To this end, this study empirically upholds the existence of a substantial positive correlation between FWP and survival of SMEs in Rivers State.

Conclusion and Policy Direction

Given the findings of this paper and the discussion therefrom, it is apparent and even expedient that small businesses in Rivers State embrace FWP as a veritable strategy to withstand and overcome the challenges posed by the COVID-19 pandemic. The adoption of flexible work arrangements will help this category of business survive, thrive and compete favourably with their counterparts in other more developed countries that appear to be ahead in its adoption. Interestingly, the adoption of FWP is no longer a luxury or a thing of choice, because the entire business world is now a “virtual village.” As such, any business that is not able to catch up will most likely not survive.

To this end, small business owners are advised to adopt and leverage on the latest technologies available for businesses. A myriad of applications, software and platforms are now available to help businesses operate seamlessly even when workers are far apart from each other. This technologies affords small businesses the opportunity to take a giant step into the global virtual space and reach out to larger pool of talent and consumers.

Also, business owners should ensure the training and retraining of their workers on how to work flexibly, and how to make effective and efficient use of the various cloud-based systems and collaborative software outside their physical work space. This is important, because for developing nations like Nigeria, most workers are not very tech-savvy. Therefore, training is required to acquaint workers with new technologies, how they function and how best they can be deployed to carry out their task effectively.

Lastly, business owners must keep workers engaged through regular virtual/online interactions. Such daily or weekly briefings and communication will give workers a sense of connection with their workers and work itself even when they are not physically present at work.

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THE IMPACT OF COVID-19 PANDEMIC ON LOGISTICS PRACTICES OF CLEARING AND FORWARDING COMPANIES

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ABSTRACT

This study aimed at investigating the impact of COVID-19 pandemic on logistics in clearing and forwarding companies in Rivers State of Nigeria. A conceptual framework was used to illustrate a diagrammatic relationship between dependent and independent variable. The study adopted descriptive research design. The target population was 55 staff members of clearing and forwarding companies in Port Harcourt. The study used simple random sampling technique to select respondents. The sample size was taken to be 275. A pilot study was carried out to refine the instrument. The quality and consistency of the survey was further assessed using Cronbach's alpha. Data analysis was performed on a computer using Statistical Package for Social Science (SPSS Version 22) for Windows. Analysis was done using regression analysis and analysis of variance. The study revealed that COVID-19 pandemic negatively impact on logistics practices. The study therefore concludes that, there is a negative impact of COVID-19 pandemic on logistics operations of clearing and forwarding companies in Rivers State of Nigeria, and recommends amongst others that governments and management of clearing and forwarding companies should take steps to sustain this crucial sector during the period of Covid-19 pandemic, to ensure they remain in a position to perform transportation, warehousing and inventory management activities in the future.

Key Words: Clearing and forwarding companies, Covid-19 pandemic, Logistics practices, Rivers State.

INTRODUCTION

The modern world has been confronted by unparalleled infection epidemic (Lin *et al.* 2020; Nigmatulina & Larson 2009; Chew *et al.* 2004), by way of significant unenthusiastically consequence on the society as a sum total, but also on the competence of operations and supply chain management business models. Such disruptive impacts habitually capitulates the swell effects (Ivanov 2020; Ivanov *et al.*, 2018; Pavlov *et al.*, 2019). While supply chains crosswise the world have been previously going through epidemics and pandemic, they have freshly been critically smacked by an unmatched, far-reaching disruptive pandemic eruption, specifically COVID-19 (Boccaletti *et al.*, 2020), which is well thought-out as a latest type of tremendously

transmittable coronavirus, with vicious force (Choi 2020; Ivanov 2020; Ivanov & Dolgui 2020). The rigorous current effects from this challenge require diverse approach and measures. The impact of COVID-19 pandemic was earliest experienced in China owing to the role it plays in worldwide manufacturing, with Wuhan, the epicenter of the deadly disease, playing a predominantly momentous role. Major industries around the world, including automotive, electronics, pharmaceuticals, medical equipment and supplies, as well as consumer goods, were affected. The pandemic stretched to the rest of the world, leading to lockdowns and border closures that constrained the movement of goods. Additional protocols (such as social distancing at warehouses) pioneered to guarantee the protection of workforce contributed to restricted access for shipment. The impacts on shipment aptitude were visible in three key worldwide transportation fragments: ocean, land, and air.

Governmental restrictions wishing to unhurried down the stretch of epidemic and pandemic outburst show the way to mutilations for trade and industry processes, which impact on logistics operations. Ensuing panic buying and mounting home consumption had multipurpose impacts on transportation, warehousing and inventory management in Rivers State.

Due to the lack of prior empirical investigations on the impact of COVID-19 Pandemic on logistics practices, as well as consequential inference, this article desires to shed radiance on the observable fact of shifting volume and capacity dynamics in logistics operations, by investigating the impact of COVID-19 Pandemic on logistics practices of clearing and forwarding companies in Rivers State.

LITERATURE REVIEW AND HYPOTHESES

COVID-19 Pandemic

The COVID-19 pandemic was initially reported in Wuhan, Hubei province, China, in the late 2019. As illustrated by the Johns Hopkins University in May, 2020, the figure of authenticated cases accounted for around the globe has been progressively growing, approaching 5.69 millions with 355,575 deaths (Johns Hopkins University & Medicine 2020). As a result of this extremely rapid increase intensification, the COVID-19 pandemic was confirmed a global epidemic by the World Health Organization (2020). The impacts of the COVID-19 on logistics operations have already gained attention of scholars (Ikegwuru & Harcourt, 2020; Acee-Eke & Ikegwuru, 2020; Choi 2020; Govindan, 2020; Ivanov 2020; Lin *et al.*, 2020; Sarkis *et al.*, 2020) and business professionals (Business Insider 2020; Deloitte 2020; Forbes 2020; Fortune 2020). The COVID-19 pandemic is already impacting the logistics OSCM at a hefty degree (Lin *et al.*, 2020).

Fortune (2020) designated that 94% of the businesses scheduled in the Fortune 1000 list were experiencing supply chain disruptions owing to the COVID-19 pandemic. Deloitte (2020) underscores that the entire impact of the epidemic on supply chain hang about uncultivated. In a perspective where relentless disruptions (e.g., manufacturers closed or partially closed, airports operating with harsh restrictions, shortages of medical equipment and supplies) are confirmed in the global supply chains (Ivanov 2020; McKinsey & Company 2020; World Economic Forum, 2020), a superior number of businesses (automotive, electronics, medical equipment, consumer goods, etc.) as well face undulated impacts (Dolgui *et al.*, 2018; Ivanov 2020).

Logistics Operations

Logistics is the main components of supply chain. The Specialty Council of Supply Chain Management deduces logistics as a branch of supply chain responsible for planning, implementation, and control of commodity flow and information amid production and consumption to realize customer requirements (Green *et al.*, 2008). The logistics chain is delineated as a group of three or more businesses linked in a straight line through an upstream or downstream series of products, services, finance and information from a starting place to a consumer (Mentzer *et al.*, 2001).

Furthermore, logistics is a division of the supply chain together with reverse flow of money and goods, services, money and information (Armistead & Mapes, 1993). It as well takes account of all transportation management, inventory, service and distribution procedure, the third party logistics and logistics flow of activities (Maber & Venkatara, 1998). It incorporates the whole lot from the movement of a product or a service to be specified by the management of raw inward bound materials, production, storage, delivery to customers and relationship management after sales service (Pollitt, 1998). It is the handling of fine points of a process (Merriam-Webster, 1995). Precisely, logistics embraces all information and the flow of materials in the organization, together with the whole lot from the movement of a product in the organization of raw material entry, manufacturing, warehousing of goods, distributing them to consumers and after-sales services (Narasimhan & Jayaram, 1998).

Several businesses have commenced to identify logistics operations as the input to structuring maintainable competitive advantage for their products and services to convene increasing market requirements (Van Hoek, 1998; Jones, 1998). McGinnins and Kohn (1990) pigeonholed logistics operations into quite a few stage: transportation from abroad, transport between companies, internal transport, and storage for produced goods, order processing, finished goods in inventory management and raw material / work in progress on management inventory.

Transportation is the foremost logistics activities delineated as one of the activities concerning the repositioning of refined goods or products from the supplier to a definite center. Warehouse has been described by Stephen (2011) as sales center; Merriam-Webster (1995) characterizes a warehouse as a configuration or room for storage of goods. Kenyon and Meixell (2011) identify it as storage warehousing apparatus, raw goods and finished goods, Kotler and Keller (2012) defined packaging as one of the most imperative activities of the distribution arrangement and supply chain; Inventory management was branded by Hoda and Sala (2011) as an accumulation or storage of goods. Jakupi and Osmani (2012) considered inventory management as a worktable of the whole lot desirable to make a business successful.

The pace of change and the uncertainty about how markets evolve has made it increasingly important for companies to be aware of the supply chains they participate in and to understand the roles that they play. Those companies that learn how to build and participate in strong supply chains will have a substantial competitive advantage in their markets. This is because to compete successfully in today's dynamic market place, companies and their management must erect a sound logistics process as a source of long-term and sustainable competitive advantage.

The Impact of COVID-19 Pandemic on Logistics Practices

A sturdy cut short in the demand and supply for logistics services will accordingly be in a straight line accountable for a rigorous turn down in the demand for essential products used by the logistics sector, since they entail an alteration of the obtainable supply alternatives as well as the consumer preferences touching transport modal shares.

The COVID-provoked lockdowns and supply chain disruptions are already affecting logistics companies. Operational restrictions are projected to guide to delivery impediments, overcrowding, and advanced shipment tariff. The vagueness will wield descending strain on revenues. This may result in a general swell in freight transport demand. It is nevertheless the catastrophe brought about by this global cut short of business supply chains that will possibly bring to bear the prevalent impact on worldwide transport requirement, with enormous impacts on the internationalized trade and industry arrangement. Logistics firms, which are concerned with the movement, storage, and flow of goods, have been directly affected by the COVID-19 virulent disease. As a fundamental component of value chains, both within and across global borders, logistics firms assist trade and commerce and aid businesses move their products to customers. Supply chain disruptions to the sector emanating from the Bubonic plague possibly will, therefore, impact logistics practices of clearing and forwarding companies.

Empirical Review

Ikegwuru and Harcourt Horsfall (2020) investigated coronavirus containment measures and rapid-fire changes in purchase behaviour in Rivers State of Nigeria by means of cross-sectional survey design. A convenient sample (non-probability sampling method) was used to select 320 consumers from the senatorial districts of Rivers State, and a total of 296 copies of questionnaire were received from respondents, giving a 92.5% response rate. Analysis was carried out by means reliability analysis, descriptive statistics and regression analysis. The outcome disclosed that the stay at home, locking up of shops/markets and curfew/restriction of movement orders by government have a positive and significant effect on rapid-fire changes in purchase behaviour in Rivers State of Nigeria. The study therefore, concludes that coronavirus containment measures significantly and positively influence rapid-fire changes in purchase behaviour of consumers in Rivers State of Nigeria.

Acee-Eke and Ikegwuru (2020) examined the association between coronavirus containment measures and patronage of supermarkets in Rivers State of Nigeria, using locking of shops/markets, and closure of borders as dimensions on patronage. The population of the study constitutes 50 supermarkets in the area of Port Harcourt, Rivers State of Nigeria. A convenient sample (non-probability sampling method) of 250 consumers was gathered for the study. Out of the total of 250 questionnaires distributed, 200(80%) questionnaires were returned and utilizable. The Pearson Product Moment Correlation (PPMC) and Analysis of Variance (ANOVA) were used as statistical tests to decide the extent of relationship between the variables in the study, and the difference in mean responses. The chief findings of the study established a general strong, positive and significant association of coronavirus containment measures with patronage of supermarkets in Rivers State of Nigeria. The study recommends that, the management of supermarkets should exploit this phase of shop/markets lock up and border closure to be down to

business in the supply of indispensable products that will alleviate the consumers' interests and hence enhance their patronage.

Ivanov (2020) explored epidemic outbursts are a unique case of supply chain (SC) risks which is uniquely differentiated by a long-standing disruption existence, disruption propagations (i.e., the ripple effect), and high uncertainty. The study used the results of a simulation study that unbolts some novel research apprehensions on the impact of COVID-19 (SARS-CoV-2) on the global supply chains, by First, we communicating the precise attributes that enclose pandemic eruptions as a exclusive type of SC disruption risks, exhibits how simulation-based methodology can be utilized to scrutinize and envisage the impacts of epidemic outbreaks on the SC performance by means of the example of coronavirus and anyLogistix simulation and optimization software. The most important observation from the simulation experiments is that the timing of the closing and opening of the amenities at different heights might develop into a key factor that determines the epidemic outburst impact on the SC performance rather than an upstream disruption interval or the speed of pandemic promulgation. Other significant factors are lead-time, speed of epidemic promulgation, and the upstream and downstream disruption intervals in the SC.

Based on the review of literature, the following research model was developed:

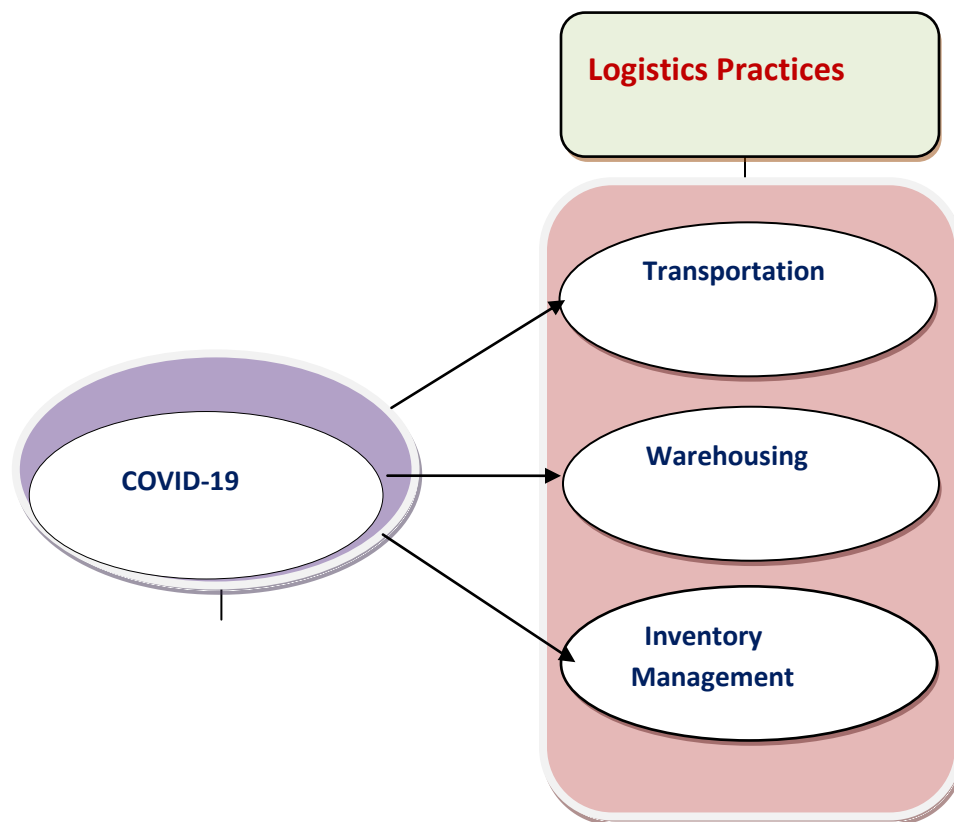


Figure 1: Research Model of Impact of COVID-19 Pandemic on Logistics Practices

Source: Adopted from McGinnis, M.A. & Kohn, J.W. (1990). A factor analytic study of logistics strategy. *Journal of Business Logistics*, 11 (2), 41-63.

Based on the research model the following hypothesis was formulated:

H₀₁: COVID-19 pandemic does not negatively impact on logistics practices of clearing and forwarding companies in Rivers State.

METHODOLOGY

The researchers used descriptive research design. The simple random sampling technique was employed in this study. The population of the study consists of 55 clearing and forwarding companies in Rivers State who engaged in carriage accomplished through single mode or multimodal transport methods. The sample size was arrived at by assessing four personnel from each of the 55 clearing and forwarding companies studied. The sample size was 275. The number of completed and usable response is 269 out of 275 responses, with a response rate of 97.8%. The researchers used regression analysis to show the effect of the independent variable on the dependent variable. The regression equation was as follows; $Y = \alpha + \beta_1 X_1 + \epsilon$

α = Constant β_1 = Partial regression coefficient

Y = Logistics Practices

X₁ = COVID-19 pandemic

ϵ = error term

RESULTS

Coefficient of determination

Table 1 showed that the coefficient of determination was 0.858. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (Logistics Practices) that is explained by the independent variable. From the findings this meant that 85.8% of logistics practices attributed to the independent factor investigated in this study.

Table 1: Coefficient of determination (R²)

Model R R Square Adjusted R Square Std. Error of the Estimate

1	.926a	.858.	786	75.919
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a. Predictor: (Constant), COVID-19 pandemic

This means that 85.8% of the relationship is explained by the identified factor namely COVID-19 pandemic. The rest 58.5% is explained by other factors in the industry not studied in this research. In summary the factor studied namely, COVID-19 pandemic explains or determines 85.8% of the relationship while the rest 14.2% is explained or determined by other factors.

Analysis of Variance (ANOVA)

The study used ANOVA to establish the significance of the regression model. In testing the significance level, the statistical significance was considered significant if the p-value was less or

equal to 0.05. The significance of the regression model was as per Table 2 below with P-value of 0.00 which is less than 0.05. This indicates that the regression model is statistically significant in predicting impact of COVID-19 pandemic on logistics practices of clearing and forwarding companies in Rivers State of Nigeria. Basing the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall ANOVA results indicates that the model was significant at $F = 14.406$, $p = 0.000$.

Table 2: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	69449.11285	1	69449.11285	12.04915	.000b
Residual	11527.63715	268	5763.81857		
Total	184471.75	269			

a. Dependent Variable: Non-Performance of Logistics Responsibilities

b. Predictors: (Constant): COVID-19 pandemic.

Discussion

This research provides an empirical justification for a framework that explores the impact of COVID-19 pandemic on logistics practices of clearing and forwarding companies in Rivers State of Nigeria. The hypothesis tested depicts that the sample of Nigerian clearing and forwarding companies evidently exhibits that COVID-19 pandemic explained a high percentage of the variance 85.8% (R^2 adj) in logistics practices and has a strong, positive and significant impact on logistics practices of clearing and forwarding firms in Rivers State. This finding is not totally surprising; since some earlier studies reported similarities which are related to the effect of COVID-19 pandemic (Deloitte, 2020; Chen, 2020; Boccaletti *et al.*, 2020; Govindan, 2020). The significant findings of the research based on the regression analysis methods can be highlighted that COVID-19 pandemic contribution to explaining the variance in logistics practices in clearing and forwarding companies in Rivers State, was as a result of the disruptive impact of the bubonic plague that affected trade industry, and other spheres of human endeavours. Through this study, the researchers offered empirical data on the impact of COVID-19 on logistics practices.

The study revealed that the impact of COVID-19 on logistics practices of clearing and forwarding companies in Rivers State was at a high level, the companies studied experienced transports obstacles, delays in obtaining products to match expectations of consumers, etc. At the same time, problems in transportation of products convey and degenerating efficiency in running logistics procedures were visible. This results is consistent with previous studies such as (Ikegwuru & Harcourt, 2020; Acee-Eke & Ikegwuru, 2020; Ivanov, 2020), who found strong, positive and significant influence of COVID-19 on rapid-fire purchase behaviour, patronage of supermarkets and global supply chains respectively.

CONCLUSION AND RECOMMENDATIONS

The COVID-19 pandemic outbreak shows that pandemics and epidemics can sincerely inflict mayhem on performance of logistics responsibilities. In this study, the researchers presented a systematic analysis of the impacts of epidemic outbreaks on non-logistics responsibilities guided by a structured literature review. The research revealed that, Nigerian clearing and forwarding companies face decision making situations that borders on the successful performance of logistics responsibilities in distribution of products and services in the market. Thus, COVID-19 pandemic is unimportant for the success of logistics practices, due to the high level of its impact amongst all supply chain partners and the apprehension that cost cutting and differentiations in value delivery are responses to existing problems. The study therefore concludes that, there is a strong, positive and significant impact of COVID-19 pandemic on logistics practices of clearing and forwarding companies in Rivers State of Nigeria. The therefore, study recommends that:

Governments and management of clearing and forwarding companies should take steps to sustain this crucial sector during the period of Covid-19 pandemic, to ensure they remain in a position to perform logistic practices in the future.

Management of clearing and forwarding companies should programme the impact of COVID-19 pandemic to enhance a competitive edge and keep hold of transportation from abroad, transportation between companies and internal transport, thus positively enhancing performance of logistics responsibilities.

The outcomes of this research should be used by decision-makers in clearing and forwarding companies to predict the operative and long-term impacts of epidemic outbreaks on logistics companies and build up endemic logistics strategies.

The impact of COVID-19 pandemic should be considered by clearing and forwarding companies as an experience that would always recall the enabling of logistics practices. .

LIMITATIONS AND CONTRIBUTIONS

Even though the recent study makes inputs in the spheres of theory and practice, it however has limitations. First, our survey was restricted to 55 clearing and forwarding companies in Rivers State of Nigeria, indicating a deficient sample and we cannot extrapolate or generalize the study's findings further than these companies that got involved in the investigation illustrated at this point.

In spite of this prospective limitation, this study effectively incorporated methodical theories to examine the significance of impact of COVID-19 pandemic in logistics companies; one would look ahead to the substance of the theme dealt with herein to amplify with the passage of time. Second, our study provides a productive underpinning for all-encompassing quantitative inquiries that can observe unambiguous dynamics that assist businesses in harmonizing the need for flourishing performance of logistics responsibilities amid the threatening COVID-19 pandemic.

FUTURE RESEARCH

As a result of the study's limitations and discussion, the researchers suggest the following future research directions:

1. Expanding this current study to other types of companies and countries.
2. A study on fine points of different aspects of logistics practices by industries, and considering firms' existing logistics practices potentials in the midst of COVID-19 pandemic, by means of different methods of analysis to confirm the results of our findings.

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COVID – 19 PANDEMIC AND INFORMATION TECHNOLOGY

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ABSTRACT

The study examined the roles of information technology in COVID-19 pandemic. The researcher was faced with the problem of controlling COVID-19 disease by the third world and developing countries. The objectives of the study are to find out the roles of information technology in COVID-19 pandemic and to find out the risks of information technology in COVID-19 pandemic. Two research questions were posed to guide the study. The area of study is two social media Apps – WhatsApp and FacebookApp. A 10 – item questionnaire was used to collect data from the respondents. Ten – item likert type instrument was validated and CronbachAlpha reliability Coefficient of .96 was yielded. The study attempted to answer two research questions using descriptive statistics. The result indicated that information technology can be used to track COVID – 19 disease activity in real-time, screen individuals and populations for COVID-19 disease, implement quarantine, diagnose infected persons, provide telemedicine and virtual care. Findings further revealed that if risks of IT in COVID-19 such as breach of privacy, high costs, requirements of management, regulation and validation of IT systems, violation of civic liberties, unable to diagnose patients accurately are tackled, IT could help eradicate COVID-19 disease. Based on the findings, recommendations were made among others that to effectively implement information technology globally, intervention should be tailored to the target regions and broadband access requires federal and private sectors investment in technology and infrastructures.

Keywords: COVID-19, IT, Roles, Risks.

INTRODUCTION

COVID-19, an infectious disease caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS – CoV – 2) is a global pandemic. Pandemic is a disease or problem that affects everybody over a very wide area (BBC English Dictionary, 1992). Over the past two decades, the current emergence of COVID-19 is the third CoV outbreak in humans (Munster, Koopmans, vanDoremalen, vanRiel & dewit, 2020). It is no coincidence that Fan, Zhae, Shi & Zhou (2019) predict potential SARS – or MERS (Middle East Respiratory Syndromes) like CoV outbreaks in China following pathogen transmission from bats. The COVID-19 that emerged in China spread rapidly throughout the country and subsequently to other countries.

Due to the severity of this outbreak and the potential of spreading on an international scale, the WHO (World Health Organization) declared a “global health emergency” on January 31st, 2020. Subsequently, on March 11th, 2020, a pandemic situation was declared. At present, neither approved vaccines nor specific antiviral drugs for treating human CoV infections are available (Lu, 2020). Most nations are currently making efforts to prevent further spreading of this potentially deadly virus by implementing preventive and control strategies.

Information technology with its varied systems has helped a lot in the creative awareness of the outbreak of the disease globally and strategies that should be adopted to maintain low COVID-19 per-capital mortality rate. According to Owuamanam (2011, p.38), information technology “is the acquisition, processing, storing and dissemination of vocal, pictorial, textual and numeric information by a micro-electronic based combination of computers and telecommunication”. Similarly, Osuagwu (2004, p. 102) sees information technology as “the scientific technological and engineering uses in information handling, processing and their application; computers and their interaction with man, machines, associated socio-economic and cultural matters”.

Information technology can facilitate COVID-19 pandemic strategy and response in ways that are difficult to achieve manually. Information technology with its powerful systems can be the fastest and easiest means to disseminate all information concerning COVID-19 pandemic.

However, several information technology health interventions, particularly those that track individuals and enforce quarantine can infringe on privacy, while increasing risk among individuals with mental illness and restrict access to food and essential services. In spite of the view above, information technology tools – WhatsApp video call, Zoom and Microsoft Teams help the people who are in quarantine to stay in touch with their family members as well as have conference meetings and work at the same time (Marketdataforecast, 2020). Hence, the thrust of this study is on the roles of information technology in COVID-19 pandemic.

Statement of the Problem

The immediate control over the ongoing COVID-19 outbreak appears a mammoth task especially for the third world and developing countries due to their inability to allocate quarantine stations that could screen infected individuals’ movement and the adoption of strategic preventive and control measures. These inability by the third world and developing countries could be as a result of poor information technology systems available in these countries.

The Objectives of the Study

The objectives of the study are as follows:

1. To find out the roles of information technology in COVID-19 pandemic.
2. To find out the risks of information technology in COVID-19 pandemic

Research Questions

Two research questions were posed to guide the study:

1. What are the roles of information technology in COVID-19 pandemic?
2. What are the risks of information technology in COVID-19 pandemic?

LITERATURE REVIEW

Theoretical Framework

The theoretical base of this study stems from Bandura’s social cognitive theory. Bandura (1986, p.18) social cognitive theory postulates that “learning is a cognitive process that is place in a social context and occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement”. In addition to the observation of behaviour,

learning also occurs through the observation of rewards and punishments, a process known as vicarious reinforcement (Dembo, 1994).

Social learning theory integrated behavioural and cognitive theories of learning in order to provide a comprehensive model that could account for the wide range of learning experiences that occur in the real-world. Key tenets of social learning theory are as follows:

- Learning is not purely behavioural, rather it is a cognitive process that takes place in social context.
- Learning can occur by observing a behaviour and by observing the consequences of the behaviour (vicarious reinforcement).
- Learning involves observations, extraction of information from those observations and making decisions about the performance of the behaviour (observational learning or modeling). Thus, learning occurs without an observable change in behaviour.
- Reinforcement plays a role in learning but is not entirely responsible for learning.
- The learner is not a passive recipient of information. Cognition, environment and behaviour all mutually influence each other (reciprocal determinism).

Social learning theory draws heavily on the concept of modeling or learning by observing a behaviour. Bandura (1986) outlines three types of modeling stimuli:

- Live model in which an actual person is demonstrating the desired behaviour.
- Verbal instruction in which an individual describes the desired behaviour in details and instructs the participants on how to engage in the behaviour.
- Symbolic in which modeling occurs by means of the media, including movies, television, internet, literature and radio. Stimuli can be either real or fictional characters.

An important factor in social learning theory is the concept of reciprocal determinism. This notion states that just as an individual's behaviour is influenced by the environment, the environment is also influenced by the individual's behaviour. In other words, a person's behaviour, environment and personal qualities all reciprocally influence each other (Bandura, 1986).

The present study relates to the social learning theory in that the three types of modeling stimuli outlined by Bandura lend themselves better to information technology. For instance, information technology acts as a live model to human beings by demonstrating the process of transmission, spread and emergence of COVID-19. Information technology also provides verbal instruction to people about COVID-19 by teaching them the symptoms, prevention, control and management of COVID-19. Finally, information technology showcases COVID-19 in its entirety to the world through its resources, including migration maps such as mobile phones, mobile payment applications, social media, coronavirus dashboard, web-based platforms Health Map, television and radio.

COVID-19

COVID-19, an infectious disease caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS – CoV-2) is a global pandemic. The recently emerging SARS – CoV-2 has

caused havoc in China and pandemic situation to the worldwide population, leading to current disease outbreaks that have not been controlled to date though high efforts are being put in to counter this virus. COVID-19 was first identified in Wuhan city, Hubei Province, China on December 12th, 2019. On February 11th, 2020 the World Health Organization (WHO) announced the official designation for this current CoV associated disease to be “COVID-19” caused by the SARS – CoV-2 (Rodriguez-Morales, Bonilla-Aldana, Balbin-Ramon, Rabaan, Sah, Paniz-Modolfi, Pagliano & Esposito, 2020).

The primary cluster of patients was found to be connected with the Huanan South China Seafood Market in Wuhan (Gralinski & Menachery, 2020). CoVs belong to the family of coronaviridae (subfamily coronavirinae), the members of which infect a broad range of hosts, producing symptoms and diseases ranging from a common cold to severe and ultimately fatal illness such as SARS, MERS and as of present COVID-19.

The SARS – CoV-2 (formerly 2019-nCoV) is considered as one of the seven members of the CoV family that infect humans and it belongs to the same lineage of CoVs that causes SARS. However, this novel virus is genetically distinct. Until 2020, six CoVs known to infect humans include HCoV-229E, HCoV-NL63, HCoV-OC43, HCoV-HKUI, SARS-CoV and MERS-CoV (Zhu, Zhang, Wang, Li, Yang, Song, Zhao, Huang, Shi, Lu, Niu, Zhan, Ma, Wang, Xu, Wu, Gao & Tan, 2020). Though SARS-CoV and MERS-CoV have resulted in outbreaks with high mortality, others remain associated with mild upper respiratory track illnesses (Wei, Li & Cui, 2020).

Newly evolved CoVs are thus posing a significant threat to global public health. Over the past two decades, the current emergence of COVID-19 is the third CoV outbreak in humans (Munster, et al., 2020). It is no coincidence that Fan et al. (2019) predict potential SARS – or MERS – like CoV outbreaks in China following pathogen transmission from bats. The COVID-19 that emerged in China spread rapidly throughout the country and subsequently to other countries. Due to the severity of this outbreak and the potential of spreading on an international scale, the WHO declared a “global health emergency” on January 31st, 2020.

Subsequently, on March 11th, 2020, a pandemic situation was declared. At present neither approved vaccines nor specific antiviral drugs for the treatment of human COVID-19 infections are available (Pillaiyar, Meenakshisundaram & Manickam, 2020). Most nations are currently making efforts to prevent further spreading of this potentially deadly virus by implementing preventive and control strategies.

In domestic animals, infections with CoVs are associated with a broad spectrum of pathological conditions. Apart from infectious bronchitis virus, canine respiratory CoV and mouse hepatitis virus and all other CoVs are predominantly associated with gastrointestinal diseases. The emergence of novel CoVs may have become possible because of multiple CoVs being maintained in their natural host which could have favoured the probability of genetic recombination. High genetic diversity and the ability to infect multiple host species are a result of high-frequency mutations in CoVs which occur due to instability of RNA- dependent and RNA polymerases along with higher rates of homologous RNA recombination (Su, Wong, Shi, Liu, Lai, Zhou, Liu, Bi & Gao, 2016).

The most common symptoms associated with COVID-19 were fever, cough, dyspnea, expectoration, headache and myalgia or fatigue. In contrast, less common signs at the time of hospital admission included diarrhea, hemoptysis and shortness of breath. Recently, individuals with asymptomatic infections were also suspected of potentially transmitting infections which further add to the complexity of disease transmission dynamics in COVID-19 infections. The COVID-19 is associated with afflictions of lungs in all cases and generated characteristic chest computer – to mography finding such as the presence of multiple lesions in lung lobes that appear as dense ground-glass opaque structures and occasionally co-exist with consolidation shadows (Rodriguez – Morales et al., 2020).

COVID-19 Transmission, Spread and Emergence

The novel coronavirus was identified within one month (28 days) of the outbreak. Immediately after the confirmation of viral etiology, the Chinese virologists rapidly released the genomic sequence of SARS – CoV-2 to the public. This bold move will play a crucial role in controlling the spread of this newly emerged novel coronavirus to other parts of the world (Gralinski et al., 2020). It is opined that the common SARS – CoV-2 exposure history at the Wuhan seafood market might have originated from the human – to – human transmission rather than animal – to – human transmission. Meanwhile, pointing out the zoonotic spillover in COVID-19 is too early to fully endorse (Rodriguez – Morales et al., 2020).

After passing of struggling last four months from December 2019 to March 2020 now as COVID-19 conditions seem to be under control in China, again wet animal markets have been started and people are enthusiastically buying bats, dogs, cats, birds, scorpions, rabbits, snapping turtles, ducks and other animals available there but without optimizing any standard food safety and sanitation practices (Yang, 2020). Advanced studies using Bayesian phylogeographic reconstruction identified that the most probable origin of the SARS – CoV-2 is from the Bat SARS – like coronavirus, circulating in the *Rhinolophus* bat family.

Phylogenetic analysis of 10 whole – genome sequences of SARS – CoV-2 showed that they are related to two CoVs of bat origin, namely bat – SL - CoV2C45 and bat – SL – CoV2XC21 which were reported during 2018 in China. It was reported that SARS – CoV-2 had been confirmed to use ACE-2 (Angiotensin – Converting Enzyme – 2) as an entry receptor while exhibiting similar RBD (Receptor – Binding Domain) with SARS – CoV (Xu, Wu, Jiang, Xu, Ying, Ma, Li, Wang, Zhang, Gao, Sheng, Cai, Qiu & Li, 2020). The occurrence of super – spreading events in the COVID-19 outbreak cannot be ruled out until its possibility is evaluated. Similar to SARS and MERS, the COVID-19 can also infect the lower respiratory track with milder symptoms. The basic reproduction number of COVID-19 was found to be in the range of 2.8 – 3.3 based on real-time reports and 3.2 – 3.9 based on predicted infected cases (Xu et al., 2020).

COVID-19 Prevention, Control and Management

Even though complete lockdown was declared following the COVID-19 outbreak in Wuhan, large – scale movement of people have resulted in a radiating spread of infections in the surrounding provinces as well as to several other countries. The current scenario warrants the need for implementing robust preventive and control measures due to the potential of COVID-19 for nosocomial infections (Repici, Maselli, Colombo, Gabbiadini, Spadaccini, Anderloni, Carrara, Fugazza, Dileo, Galtieri, Pellegatta, Ferrara, Azzolini & Lagioia, 2020).

A follow-up of infected patients by telephone on day seven and fourteen are advised to avoid any further unintentional spread or nonocomial transmission. The availability of public datasets provided by independent analytical teams will act as robust evidence that would guide us in designing interventions against the COVID-19 outbreak. The newspaper reports and social media can be used to analyze and reconstruct the progression of an outbreak. They can help us to obtain detailed patient – level data in the early stages of an outbreak. The immediate travel restrictions imposed by several countries might have contributed significantly to prevent the spread of SARS – CoV-2 globally (Repici et al., 2020).

Following the outbreak, a temporary ban was imposed on the wild life trade, keeping in mind the possible role played by wild animal species in the origin of SARS – CoV-2/COVID-19. Taking a permanent and bold decision on the trade of wild animal species is necessary to prevent the possibility of the virus spread and initiation of an outbreak due to zoonotic spillover (Rodriguez – Morales, et al., 2020).

Personal protective equipment (PPE) like face masks will help to prevent the spread of respiratory infections like COVID-19. Face masks not only protects from infections aerosols but also prevent the transmission of disease to other susceptible individuals while traveling through public transport systems (Liu & Zhang, 2020). Another critical practice that can reduce the transmission of respiratory diseases is the maintenance of hand hygiene.

However, the efficacy of this practice in reducing transmission of respiratory viruses like SARS – CoV-2 is much dependent upon the size of droplets produced. Hence, it is better not to overemphasize that hand hygiene will prevent transmission of SARS – CoV-2 since it may produce a false sense of safety among the general public that further contribute to the transmission of COVID-19. Even though airborne spread has not been reported in SARS – CoV-2 infection, transmission can occur through droplets and fomites, especially between the infected and susceptible individuals. Hence, hand hygiene is equally important as the use of appropriate PPE like face masks to break the transmission cycle of the virus – both hand and face masking help to reduce the risk of COVID-19 transmission (Lai, Tang, Fung & Li, 2020).

Medical staffs come under the riskiest group of individuals that can get the COVID-19 infection. This is because they are exposed directly to the frontline of infected patients. Hence, proper training must be given to all the hospital staff on methods of prevention and protection so that they become competent enough to protect themselves and others from this deadly disease. As a preventive measure, health care workers caring for infected patients should take extreme precautions against both contact and airborne transmission. They should use PPE such as face masks (N95 or FFP3), eye protection (goggles), gowns and gloves to nullify the risk of infection (Chu, Yang, Wei, Yue, Zhang, Zhao, He, Sheng, Chen, Li, Wu, Zhang, Zhang, Wang, Miao, Li, Liu & Zhang, 2020).

There is a need for strengthening the regulatory mechanism for wild animal trade. Deploying efficient public health interventions might help to cut the spread of this virus globally. Instead of entirely relying on lockdown protocols, countries should focus mainly on the alternative intervention strategies such as large – scale testing, contract tracing and localized quarantine of suspected cases for limiting the spread of this pandemic virus. Such intervention strategies will

be useful either at the beginning of the pandemic or after lockdown relaxation. Lockdown should be imposed only to slow down the disease progression among the population so that the health – care system is not overloaded. Still, to prevent further spread of disease, mass gatherings should stop, functions remain canceled in the affected cities and persons also should be asked to work from home. It is a relief that the current outbreak of COVID-19 infection can be brought under control with the adoption of strategic preventive and control measures along with the early isolation of subsequent cases in the coming days.

Information Technology

The term “information technology” will be better understood if the words are explained fully. According to Owuamanam (2011, p.37), information “is knowledge derived from data. Data, in turn is recorded as facts or figures”. Buttressing, Owuamanam (2011) identifies three qualities of good information thus:

- a. Information must be pertinent: The information statements must relate to the business at hand and to the matters that are important to the person who has requested the information. Information should help the person deal, in some way with the issues in his or her world.
- b. Information must be accurate.
- c. Information must be timely. It must be available when needed.
- d. Information must reduce uncertainty. In short, good information involves differences that make a difference.

Technology on the other hand is man’s answer to a great deal of his cosmic and environment limitations. According to Okafor (1988, p.2), technology connotes “the practical arts ranging from hunting to animal husbandry, from agriculture, transportation and communication mechanism to production of military hardware”. When information is combined with technology the result is “information technology”. Information technology is concerned with the management techniques used in information handling and processing. Information technology is a set of tools for working with information and the process of improving knowledge by acquiring information (Adiele, 2005).

According to Adiele (2005, p.35), information technology “is the acquisition, processing, storing and dissemination of vocal, pictorial, textual and numeric information by a micro-electronic based combination of computers and telecommunication”. However, Osuagwa (2004, p.101) sees information technology as “the scientific technological and engineering uses in information handling, processing and their application; computers and their interaction with man and machines and associated socio-economic and cultural matters. Information technology has opened up such tremendous vista for modern societies that tiny failure to master it would mean a life of permanent sub-ordination, for information technology is more than a form of power, it is a power system. The technology which it involves is not just one form of technology among others but an ability to make use of other techniques to give or to refuse access to a whole range of scientific data and knowledge and thus to design new models of development (Osuagwu, 2004).

Similarly, information technology is the use of computers to store, retrieve, transmit and manipulate data or information (Daintith, 2009). An information technology system is generally

an information system, a communications system or more specifically speaking a computer system – including all hardware, software and peripheral equipment – operated by a limited group of users (Wikipedia, 2020). Leavitt & Whisler (as cited in Wikipedia, 2020) state that information technology consists of three categories:

- a. Techniques for processing,
- b. The application of statistical and mathematical methods to decision-making,
- c. The stimulation of higher – order thinking through computer programmes.

Information technology is commonly used as a synonym for computers and computer networks and it also encompasses other information distribution technologies such as television and telephones. Several products or services within an economy are associated with information technology, including computer hardware, software, electronics, semiconductors, internet, telecommunication equipment and e-commerce (Chandler & Munday, 2011).

Functions of Information Technology

There are many functions of information technology. However, five functions stand out as particularly crucial:

- The Function of Communication

Communication has always been an important aspect of organization, even long before information technology came along. However, with the rise of computers and the internet, communication has been defined. Communication is not just the given of information, it is the given of understanding information and receiving and understanding the message and this is what makes the output of information technology available to people (Daramola, 2005). Communication has now become possible to contact anyone no matter what part of the world they are in. The IT department allows the organization to achieve communication at very high speeds through multiple channels:

- Email: You can easily send your employees an email when you need to communicate something without having to see them in person. Email is also a great channel for sending official communication to clients and leaves a clean ‘virtual’ paper trail which allows you to keep a steady record of correspondence.
- Video conferencing: Video conferencing is a great way to communicate with a far away team and being able to see them at the same time. It is easier to have remote meetings and even collaborate on a project together. With video conferencing, you might as well be in the same room.
- Collaboration Software: Collaboration software allows teams to work together on projects in a manner that is both efficient and fast. With the right collaboration software, you can do away with needless meetings since everything can be done in a virtual meeting room.
- Social Media: Social media not only allows your employees to keep up to date with the latest organization information but also presents a fun way to wind down and socialize.

- The Function of Data Management

This is another function that makes information technology indispensable. With the increasing complexity of the world of business comes an increasing amount of data that

businesses have to deal with. This data comes in multiple dimensions such as text data, audio data and video data among others. In order to control this data, an organization will need to run something called a database. The database will allow the organization to do three things:

- **Store Data:** By putting the data in a storable format, a database allows you to store vast amounts of data in a small space. Long gone are the days when data had to be stored on paper and other bulky mediums. In an age where information is power, it helps to be able to hold a lot of it conveniently.
- **Manage Data:** Data is not very useful in its original form known as raw data. It needs to be sorted into a meaningful form that can be meaningfully deciphered and used to make decisions in the organization. The IT provides the tools with which this data can be managed including analyzing it and drawing conclusions from it.
- **Access Data:** No matter what kind of data your organization needs to store, that data is valuable and needs to be controlled so that only the right people can have access to it. IT provides the security measures that will safeguard that data and prevent unauthorized access to it.
- **Transmit Data:** Data transmission has three aspects: transmission, propagation and reception. It can be broadly categorized as broadcasting in which information is transmitted unidirectionally downstream or telecommunications with bidirectional upstream and downstream channels.

- **The Function of Marketing**

Marketing has been a core aspect of business for as long as businesses have been around. With the rise of computers and the internet, marketing campaigns are becoming increasingly digital. IT can help with the marketing function of business in numerous ways:

- a. **Content Creation:** You can create advertising and sales copy and a computer using word processing software. You can also create beautiful graphical ads using powerful computers with graphics capabilities.
- b. **Online Advertising:** Social media is becoming increasingly important to advertising and since it lives on the internet, what better department to help you with your efforts than the IT department? By launching social media marketing campaigns, IT can improve sales and increase revenue. It can also launch marketing campaigns for the business organization on other platforms such as Google AdWords.
- c. **E-commerce:** With more and more business going online, the use of computers has become invaluable to how you conduct your business and sell your products and services. IT would be instrumental in the processing of orders made on your online store.
- d. **Marketing Research:** With the rise of search engines, it is now possible to conduct research online about consumer trends and the most profitable opportunities. IT can also be instrumental in this.

- **The Function of Process Improvement**

It can prove to be quite important in the improvement of processes and efficiency in order to save the organization money. A small business could save on printing and copying costs by relying purely on paperless communication. Collaboration software and video conferencing would save on logistics expenses which would have been incurred every time different teams needed to meet and work together. It would also save on time as not much time would be wasted on transit.

- **The Function of Enterprise Resource Planning**

Enterprise resource planning is all about linking the different functions of an organization such as accounting, human resources, manufacturing and sales using software systems. These systems can help in operations as well as strategic decision making. For a small business, the reduced complexity means these systems can be installed one module at a time and can be scaled as the need arises (Nicky, 2018).

The Roles of Information Technology in COVID-19 Pandemic

With computers and computer networks, people have been able to achieve in the span of a few decades what would otherwise have taken us many centuries to achieve. People have democratized the internet, vastly improved communication, increased our ability to design and invent by multiples and made life easier overall. Information technology roles in COVID-19 are enormous.

Tools such as migration maps which use mobile phones, mobile payment applications and social media to collect real-time data on the location of people, allowed Chinese authorities to track the movement of people who had visited the Wuhan market the pandemic epicenter. With these data, machine learning models were developed to forecast the regional transmission dynamics of SARS – CoV-2 and guide border checks and surveillance (Wu, Leung & Leung, 2020).

China are using drones attached with thermal sensors to identify the symptoms for coronavirus and get immediate medical help. In Australia, the government had launched a chat-bot to keep the citizens up to date with the situation and answer their questions so that they will be able to decrease the spread of misleading information and stop the panic that could be created in public. In South Korea, the local government has launched a smartphone app that keeps the self-quarantine employees in touch with their co-workers to keep the updates to the work process and to ask any questions. In January, in China, the telecom AHS designed a 5G powered system to enable the consultations and diagnoses of people affected by the virus by connecting the physicians at West China Hospital to 27 other hospitals in the area to treat the illness affected people. This not only helps doctors to communicate faster and come up with a diagnosis but also helps to keep track of the emergency patients who need immediate medical help and if a hospital is not able to provide that the patient could immediately be shifted to the nearest equipped hospital for assistance (Marketdataforecast, 2020).

Using information technology such as artificial intelligence, digital thermometers, mobile phone applications, thermal cameras and web-based toolkits, individuals and populations are being screened for infection of COVID-19. These information technology resources provide information on COVID-19 disease prevalence and pathology, identifies individuals for testing, contact tracing and isolation. For example, in Singapore, people have their temperature measured at the entries of workplaces, schools and public transport. The data from the thermometers is tracked and used to identify emerging hot spots and clusters of infection where testing could be initiated (NewsNational, 2020). Also, using mobile technology, Iceland collects data on patient-reported symptoms and combines these data with other datasets such as clinical and genomic sequencing data to reveal information about the pathology and spread of the virus (UnitedStatesToday, 2020).

Information technology has helped in the identification and tracking of individuals who might have come into contact with an infected person. For example, South Korea has implemented tools for aggressive contact tracing using security camera footage, facial recognition technology, bank card records and global positioning system (GPS) data from vehicles and mobile phones to provide real-time data and detailed timelines of people's travel. By identifying and isolating infections early, South Korea has maintained among the lowest per-capita mortality rates in the world (TheNewYorkTimes, 2020). Singapore launched a mobile phone application that exchanges short distance Bluetooth signals when individuals are in proximity to each other. The application records these encounters and stores them in their respective mobile phones for 21 days. If an individual is diagnosed with COVID-19, Singapore's Ministry of Health accesses the data to identify contacts of the infected person (News National, 2020). Also, Germany launched a smartwatch application that collects pulse, temperature and sleep pattern data to screen for signs of viral illness. Data from the application are presented on an online, interactive map in which authorities can assess the likelihood of COVID-19 incidence across the nation. With widespread testing and digital health interventions, Germany has maintained a low per-capital mortality rate, relative to other countries despite a high prevalence of cases (Thomas, 2020).

Information technology identifies and tracks infected individuals and implements quarantine. With information technology, quarantine can be implemented in individuals who have been exposed to or infected with the virus with less strict restrictions imposed on other citizens. China's quick response (QR) code system in which individual are required to fill out a symptom survey and record their temperature allows authorities to monitor health and control movement (Liu, 2020). In Taiwan electronic monitoring of home quarantined individuals is facilitated through government – issued mobile phones tracked by Global Positioning Systems (GPS); in the event of a breach in quarantine, this so-called information technology resource triggers messages to the individual and levies fines (Wang, Ng & Brook, 2020). In South Korea, individuals in self-isolation are instructed to download a mobile phone application that alerts authorities if they leave their place of isolation (TheNewYorkTimes, 2020). In Hong Kong, people in self-isolation are required to wear a wristband linked through cloud technology to a database that alerts authorities if quarantine is breached (Liu, 2020).

Information technology diagnoses infected individuals, monitors clinical status, predicts clinical outcomes, provides capacity for telemedicine services and virtual care. Artificial intelligence (AI) can facilitate rapid diagnosis and risk prediction of COVID-19. COVID-Net, an open-source deep convolutional neural network design available to clinicians across the globe can quickly detect COVID-19 cases from other lung diseases on chest X-rays (Li, Qin & Xu, 2020). Machine learning algorithms developed in China can predict the likelihood of developing acute respiratory distress syndrome and critical illness among infected patients (Li et al., 2020). Virtual care platforms using video conferencing and digital monitoring have been used worldwide to deliver remote health care to patients as a means of reducing their exposure to SARS – CoV-2 in health-care institutions. All these teleconferencing tools – WhatsApp video call, Zoom and Microsoft Teams help the people who are in quarantine to stay in touch with their family members as well as have conference meetings and work at the same time (Marketdataforecast, 2020).

Risk of Information Technology in COVID-19 Pandemic

The following are the risks of information technology in COvid-19 pandemic:

- Digital health initiatives can amplify socio-economic inequalities and contribute to health care disparities. Information typically involves the use of the internet and the mobile phones. Although 4 billion people used the internet world wide in 2019, usage was disproportionately higher in high-income areas than low income and middle-income areas (82% Europe VS 28% in Africa) (Whitelaw Mamas, Tropol and Vanspall, 2020). Even within high-income countries, susceptible groups such as those low-income neighborhoods or remote regions might not have access to broad-brand signals, smartphones or wearable technology such as smart watches.
- Several information technology resources' health interventions, particularly those that track individuals and enforce quarantine infringe on privacy, while increasing risk among individuals with mental illness and restricted access to food or water (whitelaw et al., 2020).
- Information technology involves high costs and requires management and regulation.
- It can fail to detect asymptomatic individuals if based on self-reported symptoms or monitoring of vital signs and also requires validation of screening tools.
- It could fail to detect individuals who are exposed if the application is deactivated, the mobile device is absent or wi-fi or cell connectivity is inadequate.
- It could fail to accurately diagnose patients and equipment may malfunction.

METHODOLOGY

Design: The research design is a descriptive survey. It is a descriptive survey because the study described a sample of the roles and the risks of information technology in the COVID-19 pandemic.

Participants: The population comprises of all group of friends in two (2) social media Apps- Whatsapp and Facebook App. A total of 50 and 50 friends from whatsapp and Facebook app were randomly selected, given a sample size of 100.

Instrument: The instrument was structured on a 4-point likert scale type questionnaire on which the respondents acted on. It consists of ten (10) close ended items that targeted the roles and risks of information technology in COVID-19 pandemic. The items in the questionnaire were weighted as follows: Strongly agree (SA) – 4 points, Agree (A) – 3 points, Disagree (D) – 2 points and Strongly disagree (SD) – 1 point. Respondents were required to tick their various options as regards the roles and risks of information technology in COVID-19 pandemic. The Cronbach Alpha Reliability Coefficient of the instruments was .96. The value was adjudged suitable for use of the instrument for the study.

Analysis: The data collected were analyzed using mean scores. Any item with a rating of 2.50 and above was accepted value while item with a mean rating below 2.50 was rejected.

RESULTS

The results of the data from the study are presented in tables 1 and 2 according to the research questions.

Research Question One

What are the roles of information technology in COVID-19pandemic?

Table 1

Roles of Information Technology in COVID-19Pandemic

S/N	Items	SA	A	D	SD	Mean	Decision
1	Information technology resources were used to track COVID-19disease activity in real-time.	160	90	40	10	3.00	Accepted
2	IT resources were used for screening individuals and populations for COVID-19 disease.	120	90	40	20	2.70	Accepted
3	IT identifies and tracks infected individuals and monitors who might have come into contact with an infected person.	80	120	70	05	2.75	Accepted
4	IT identifies and tracks infected individuals and implements quarantine.	160	90	40	10	3.00	Accepted
5	Information technology tools were used to diagnose infected individuals, monitor clinical status, predicts clinical outcomes, provides capacity for telemedicine services and virtual care.	80	120	70	05	2.75	Accepted
Grand Mean				2.84			

Data presented above in table 1 shows that the respondents agreed that all these items are the roles of information technology in COVID-19Pandemic. All the items have mean scores above 2.50 which is the criterion mean of acceptance. The grand mean is 2.84.

Research Question Two

What are the risks of information technology in COVID-19pandemic?

Table 2

Risks of information Technology in COVID-19pandemic

S/N	items	SA	A	D	SD	Mean	Decision
6	IT could breach privacy, involves high costs and require management and regulations.	160	90	40	10	3.00	Accepted
7	IT could fail to detect a symptomatic individuals if based on self-reported symptoms or monitoring of vital signs and also requires validation of screening tools.	40	135	60	15	2.50	Accepted
8	IT could fail to detect individuals who are exposed if the application is deactivated, the mobile device is absent or Wi-Fi or cell connectivity is inadequate.	160	90	40	10	3.00	Accepted
9	IT violates civil liberties; restrict access to food and essential services and fails to detect individuals who leave quarantine without devices.	40	200	50	15	3.05	Accepted
10	IT could fail to accurately diagnose patients and equipment may malfunction.	160	90	40	10	3.00	Accepted
Grand mean		2.91					

Table 2 revealed that all the respondents agreed that all the above are the risks of information technology in COVID-19pandemic. Hence, the grand mean of 2.91 is greater than the criterion means of 2.50.

Discussion

The findings of this study on the roles of information technology in COVID-19pandemic revealed that: Information technology resources were used to track COVID-19disease activity in real-time, IT resources were used for screening individuals and populations for COVID-19disease, IT identifies and tracks infected individuals and monitors who might have come into

contact with an infected person, IT identifies and tracks infected individuals and implements quarantine and IT tools were used to diagnose infected individuals, monitor clinical outcomes, provides capacity for telemedicine services and virtual care. The roles of information technology in COVID-19 pandemic was articulated by Wu et al. (2020), thus, tools such as migration maps which use mobile phones, mobile payment applications and social media to collect real-time data on the location of people, allowed Chinese authorities to track the movement of people who had visited the Wuhan market the pandemic epicenter. With these data, machine learning models were developed to forecast the regional transmission dynamics of SARS-COV-2 and guide border checks and surveillance. Similarly, Li et al. (2020) observed that IT diagnoses infected individuals, monitors clinical status, predicts clinical outcomes and virtual care. The risks include breach of privacy, high costs, requirement of management and regulation, violation of civic liberties, requirement of validation of screening tools and unable to diagnose patients accurately. The risks of IT in COVID-19 were examined by Whitelaw et al. (2020) thus, several information technology resources health interventions, particularly those that track individuals and enforce quarantine can infringe on privacy, while increasing risk among individuals with mental illness or restricted access to food or water. Finally, from the findings of this study, if the risks of the use of information technology are tackled, IT could help eradicate COVID-19 disease.

CONCLUSION

The role of information technology in COVID-19 pandemic is a welcome development. This is because information technology systems can be used to track COVID-19 disease activity in real-times, screen individuals and populations for COVID-19 disease, monitor who might have come into contact with infected person, implement quarantine, diagnose infected persons, predicts clinical outcomes, provide capacity for telemedicine and virtual care. In spite of these laudable roles of information technology in COVID-19, the study established some risks of IT in COVID-19 pandemic like breach of privacy, high costs, requirement of management and regulation, violation of civic liberties, requirement of validation of screening tools and unable to diagnose patients accurately. Finally, the study concludes that if the risks of information technology are tackled, IT could help eradicate COVID-19 disease.

RECOMMENDATION

Based on the findings, the following recommendations are made:

1. To effectively implement information technology globally, interventions should be tailored to the target regions; broadband access requires federal and private sector investment in technology and infrastructure.
2. At a regional level, subsidized mobile phone plans, loaner devices, free WiFi hotspots and training programmes could provide temporary solutions to these disparities.
3. In regions without information technology resources or insufficient funds to support cellular and data coverage, automated applications and devices that do not require continuous network access, should be considered.

4. To balance the need for contact tracing and privacy, European authorities have proposed that data be retained for only 14 days, the period of possible viral transmission and that non-essential information technology measures be lifted once the pandemic ends.

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FINANCIAL IMPACT OF COVID 19 PANDEMIC ON NIGERIA'S OIL AND GAS INDUSTRY

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ABSTRACT

In the study, a research question with 8 multiple choice items was formulated and administered to 50 financial experts in oil and gas industry to elicit responses through a questionnaire. The questionnaire was constructed using Likert Four-Point Scale Response Alternative and analysed using weighted mean. The study also sourced for information through secondary means from very reliable sources. The data collected from both primary and secondary sources were analyzed using Pearson's Product Moment Correlation Coefficient. Thereafter, six hypotheses were tested using correlation coefficient table for critical values of hypothesis. The level of significance was 5%. The study found out that there is negative financial impact of COVID-19 pandemic on Nigeria's oil and gas industry. It also found out that there is no significant relationship between number of COVID-19 confirmed cases and prices of locally consumed petroleum products. Thus, the researchers among others recommend that oil and gas industry in Nigeria should fully open for business with adequate measures taken to prevent the COVID-19. It also recommends that subsidy on petroleum products should be removed so that forces of demand and supply can detect market prices.

Keywords: COVID-19 pandemic, financial impact, oil and gas industry, petroleum products

INTRODUCTION

World Health Organization, WHO (2020) defines COVID-19 as the infectious disease caused by the most recently discovered coronavirus and that the outbreak began in Wuhan, China, in December 2019. She stated that COVID-19 is now a pandemic affecting many countries globally. In Nigeria, the Index case of COVID-19 was announced on 27th February, 2020. From the index case, the total number of confirmed cases of COVID 19 Pandemic in Nigeria as at 13th August, 2020 was 48,116 spread across the 36 states and FCT Abuja in varying proportion. From these confirmed cases, 34309 cases have been discharged while 966 deaths have been recorded in the country (Nigeria Centre for Disease Control, NCDC, 2020).

As at the time of index case in Nigeria, the price of crude oil in international market as reported by Central Bank of Nigeria, CBN (2020) was \$58.45 per barrel. CBN (2020) also reported that domestic production of crude oil then was 2.07million barrels per day while crude oil export was

1.62million barrels per day. However, the focus of the study is on finance. Thus, it is worthy to note that as at 13th August, 2020, the price of crude oil was \$44.34 per barrel (Countryeconomy.com, 2020).

The number of new infections and deaths continues to rise in Nigeria and, as yet, there are no signs of the pandemic being brought under control. Whilst the vast majority of infections have thus far occurred Lagos State, concern is rising across Nigeria due to the global pandemic. Like most sectors of the economy, oil and gas businesses in Nigeria have also been affected due to lockdown that followed thereafter. Companies that heavily relied on petroleum products have closed down their offices directing staff to work from home while some are providing skeletal services. The outbreak of the COVID-19 is a serious health pandemic that the world is battling. In addition to the human impact, there is also significant financial impact being felt in Nigeria's oil and gas industry. As viruses know no borders, the impact has continued to spread. In fact, businesses in Nigeria have been impacted and are already seeing COVID-19 disruptions. Travel revenues, manufacturing sectors, general trade, commerce and industry which largely depend on petroleum products such Premium Motor Spirit (PMS), Liquefied Petroleum Gas (LPG), Dual Purpose Kerosene (DPK), Automotive Gas Oil (AGO), etc. have been financially affected because government issued directives for total or partial lockdown exempting only essential service providers. Flights are being cancelled. Most private business organizations reduced their workforce, some slashed the salaries of their workers while some applied no work no pay policy. In all these, the oil and gas industry were not left out. The World Bank Group (2020) stated that the collapse in oil prices coupled with the COVID-19 pandemic is expected to plunge the Nigerian economy into a severe economic recession that has not been experienced by the country since three decades, according to the latest World Bank Nigeria Development Update (NDU). It noted that oil represents more than 80% of Nigeria's exports; and that with the drop in oil prices, government revenues are expected to fall from an already low 8% of GDP in 2019 to a projected 5% in 2020. It is a common knowledge that most employees in oil and gas industry are bread winners of their various families. Thus, settling of family bills and managing other home affairs have not be easy. More so, prices of goods and services have skyrocketed in response to forces of demand and supply in the oil and gas industry. With low demand for petroleum products across the globe, price of crude oil also dropped. This also affected the price of equities in the oil and gas sector of the Nigerian Stock Exchange (NSE). It also led to reduction in monthly allocations to the three tiers of government in Nigeria since the economy of the country is largely dependent on oil and gas.

Given the above, the study seeks to address the following null hypotheses:

- H1₀: There is no significant relationship between the price of crude oil in the international market and number of confirmed cases of COVID 19 Pandemic in Nigeria.
- H2₀: There is no significant relationship between the price of locally consumed petroleum products and number of confirmed cases of COVID 19 Pandemic in Nigeria.
- H3₀: There is negative financial impact of COVID 19 Pandemic on the oil and gas industry.

REVIEW OF RELATED LITERATURE

Oil and Gas Sector in Nigeria

The oil and gas industry is one of the largest sectors in the world in terms of monetary value and it is very important to economic framework across the globe. McClay (2020) stated that oil and gas industry generates an estimated \$3.3 trillion in revenue annually across the globe. Lioudis (2020) observed that prices of crude oil collapsed in the Spring of 2020 as a result of COVID-19 pandemic and its associated economic slowdown; and that Organization of Petroleum Exporting Countries (OPEC) and its allies agreed to cut the production of oil so to stabilize its prices in the international market. He further stated that the cut in the production oil by OPEC led to historic drop last witnessed in 20 years.

It is a common knowledge that Nigeria is a key player in the oil and gas business in the international market. Her economy is largely dependent on oil. Mordor Intelligence (2020) stated that Nigeria is one of the largest and oldest oil producers in Africa and her oil and gas sector is one of the most important sectors in the country's economy; accounting for more than 90% of the country's exports and 80% of the Federal Government's revenue. She also stated that as at 2018, Nigeria has the largest oil and gas reserves in the African region, with around 37 billion barrels of oil and 47.2 billion cubic meter (bcm) of gas. With a production of 2.05 million barrels per day in 2018, which is approximately more than 20% of the total production in Africa, Nigeria continues to dominate African oil production. The 5 major players in the Nigeria's oil and sector are Nigerian National Petroleum Corporation (NNPC), Royal Dutch Shell Plc., Total SA, Chevron Corporation and Exxon Mobil Corporation.

Financial Impact of COVID-19 Pandemic on Oil and Gas Industry in Nigeria

Mitchell-Marais, Odukoya & Akinboboye (2020) identify financial impact of COVID-19 Pandemic on oil and gas industry as impact of load-shedding, inability to work-from-home which will lead to operational shutdown and fall in oil price and resultant impact on commodity prices. Ayoade (2020) noted that Nigeria's economy is facing collapse as it largely depends on oil exports. According to her, the oil markets have been on a downward trend as COVID-19 has crippled demand; stressing that fuel prices fell and recorded 18-year low trading at less than 22 dollars per barrel and expected to go lower. Lenon (2020) stated that just like any other economies around the world, Nigeria is not exempted from the fiscal challenges of COVID-19 pandemic. She noted that the country's path to recovery from recession is being slow paced as a result of COVID-19 pandemic. Dr Andrew S. Nevin in Lenon (2020) explains that the current crash in oil prices is adding to the COVID-19 lockdown effect Nigeria's economy that is still dependent on oil. In the words of Nevin, *"The Nigerian government is projecting revenue flow from oil to decline from 5.5 trillion Naira in 2020 to 1.1 trillion Naira, so we have a sudden fiscal crisis in Nigeria presenting some pretty immense economic challenges."* The position Nevin was corroborated by Muiyiwa Oni in Lenon (2020) when he stated that the impact of COVID-19 pandemic in oil and gas industry will be felt across all sectors. He identified reversal of fuel subsidy policy as a major impact of COVID-19 pandemic in the oil and gas industry. He was of the opinion that fuel subsidy has cost Nigeria a lot of money and has not been very effective in helping the masses.

On his part, Lioudis (2020) stated that amid COVID-19 pandemic, the Producer Price Index (PPI) has a greater correlation with crude oil compared to the Consumer Price Index (CPI). He also stated that as oil prices move up, inflation follows in the same higher direction. The education sector is not also spared in the financial impact of COVID-19 in Nigeria's oil and gas industry because institutes where oil workers are trained are also affected. This was opined by Obiakor (2020) who stated that COVID-19 and falling oil prices are a threat to education in Nigeria. She stated that Federal and state budgets for education are already insufficient and likely to decline further. She maintained that between the effects of the pandemic and crashing oil prices, the fiscal space to fund basic education is going to shrink significantly. According to her Nigeria's budget of N10.59 trillion has reduced by 15%; stressing that the country's oil and gas exports which is about 76.10% of the total exports are being revised downward to N924 billion from N2.64 trillion. Her analysis was based on previous positions of the present government each time there was a drop in oil price.

Corroborating the fact that all is not well with the oil and gas industry in Nigeria as a result of COVID-19 pandemic, KPMG (2020) identified global and local crude oil production cuts, reduction of the budget benchmark price of crude oil, reduced crude oil demand and unsold cargoes, impact on proposed oil licensing and marginal field bid rounds, amendment of the Petroleum (Drilling and Production) Regulations as the effects of COVID-19 pandemic in Nigeria's oil and gas industry. He noted that in a Circular issued on 29 March 2020, the DPR directed operators, contractors and service providers to reduce the workforce on offshore platforms. A careful study of Adesoji (2020) shows that the latest GDP number of Nigeria's oil and sector recorded 6.63% (year-on-year) contraction in Q2 2020, indicating a decrease of – 13.80% points relative to the rate recorded in the corresponding quarter of 2019. Adesoji (2020) noted that the Oil sector contributed a meagre 8.93% to total real GDP in Q2 2020, down from figures recorded in the corresponding period of 2019 (8.98%) and the preceding quarter (9.50%); and that in the second quarter of 2020, an average daily oil production of 1.81 million barrels per day (mbpd) was recorded. This was -0.21mbpd lower than the daily average production of 2.02mbpd recorded in the same quarter of 2019, and -0.26mbpd lower than the first quarter 2020 production volume of 2.07mbpd

RESEARCH METHODOLOGY

A survey research was adopted for the study. Questionnaire comprising one research questions with 8 multiple choice items was administered to 50 financial experts in the oil and gas industry in Nigeria. The questionnaire was administered by the researchers who also collected them back on completion. This ensured 100% return of questionnaires administered. The questionnaire was constructed using Likert Four-Point Scale Response Alternative and analysed using weighted mean. The formula for calculating the Weighted Mean is shown below:

$$\bar{X} = \sum FX / N$$

Where: \bar{X} = Weighted Mean, \sum = Summation, F = Frequency, X = Nominal Value of Options and N = Number of Respondents.

Nominal values were assigned to six scaling items as follows:

Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, Strongly Disagree (SD) = 1 and Void (unfilled options) = 0.

The Mean of each cluster was also calculated using the formula below:

$$\bar{X} = \sum X / N$$

Where: \bar{X} = Cluster Mean, \sum = Summation, X = Nominal Value of Mean of Each Option in a Cluster and N = Number of Cluster.

To determine the Mean cut-off point of the study, the nominal values were added up and the Mean calculated as shown below:

$$\text{Mean} = (4+3+2+1+0)/4$$

$$= 10/4$$

$$= 2.50$$

An interval scale of 10% was added to the Mean of the nominal value. Thus:

$$2.50 + 10\% \times 2.50 = 2.75$$

Thus, the decision rule of acceptability was 2.75 points and above while points below 2.75 were rejected. The study also adopted an illustrative research design. The illustrative research design used the method of investigating published prices of crude oil in the international market, and confirmed cases of COVID-19 pandemic in Nigeria as reported by Nigerian Centre for Disease Control, NCDC, (2020) from February, 2020 to July, 2020. The study also used the monthly average prices of Liquefied Petroleum Gas (Cooking Gas – 12kg), Automotive Gas Oil (Diesel – Litre), Dual Purpose Kerosene (DPK/Litre), Premium Motor Spirit (Petrol – Litre) as captured by National Bureau of Statistics, NBS (2020) and Bonny Light Crude Oil in the international market as captured by Oilprice.com (2020). It should be noted that Bonny Light is Nigeria's type of crude oil. The confirmed cases COVID-19 Pandemic served as independent variables (X_i) while other secondary data were used as dependent variables (Y_i). For the analysis of the collected secondary data, correlation coefficient (Pearson's Product Moment Correlation Coefficient) was used. The formula used is stated below:

$$r = \sum XY / (\sum x^2 \sum y^2)^{1/2}$$

Where r = correlation coefficient, X and Y are the variables while x and y are the deviations. The hypotheses were tested using correlation coefficient table for critical values of hypothesis. The level of significance is 5% while the degree of freedom is given as:

$$df = n_1 + n_2 - 2$$

PRESENTATION OF RESULTS

This section deals with the presentation of the data obtained from the study and results. It also reveals the summary of the information obtained from the respondents to whom questionnaires were administered. The data are presented in tables based on the research questions.

Table 1: Testing of Hypothesis One (H_{10}): There is no significant relationship between the price of crude oil in the international market and number of confirmed cases of COVID 19 Pandemic in Nigeria.

The Worksheet Table							
Months in Year 2020	No. of Confirmed Cases (X)	Prices of Crude Oil (Bonny Light) /Barrel in \$ (Y)	x = (X-M)	y = (Y-M)	(xy)	(x) ²	(y) ²
February	1	50.48	-7190.84	15.51	-111529.93	51708179.91	240.56
March	138	21.23	-7053.84	-13.74	96919.77	49756658.75	188.788
April	1793	18.96	-5398.84	-16.01	86435.43	29147473.35	256.32
May	8230	34.61	1038.16	-0.36	-373.74	1077776.186	0.1296
June	15532	41.62	8340.16	6.65	55462.07	69558268.83	44.2225
July	17457	42.92	10265.16	7.95	81608.03	105373509.8	63.2025
Σ	43151	209.82			208521.63	306621866.8	793.222
Mean (M)	7191.84	34.97					
$r = \Sigma XY / (\Sigma x^2 \Sigma y^2)^{1/2}$ 0.42							

Table 1b: Critical Values of Pearson Correlation of the price of crude oil in the international market and number of confirmed cases of COVID 19 Pandemic in Nigeria.

T-Calculated	Table Value	Degree of Freedom	Decision
0.42	0.497	10	Accept

Since t-calculated is between the range of -0.497 and 0.497 of the table value, the null hypothesis is accepted and can be used to make prediction. Thus, it is acceptable that there is no significant relationship between the price of crude oil in the international market and number of confirmed cases of COVID 19 Pandemic in Nigeria.

Table 2a: Testing of Hypothesis Two (H_{20a}): There is no significant relationship between the price of locally consumed petroleum products (cooking gas) and number of confirmed cases of COVID 19 Pandemic in Nigeria.

The Worksheet Table							
Months in Year 2020	No. of Confirmed Cases (X)	Prices of LPG (Cooking Gas)/12kg (Y)	x = (X-M)	y = (Y-M)	(xy)	(x) ²	(y) ²
February	1	4,180.57	-7190.84	26.2	-188400.01	51708179.91	686.44
March	138	4,181.22	-7053.84	26.85	-189395.61	49756658.75	720.923
April	1793	4,161.54	-5398.84	7.17	-38709.69	29147473.35	51.4089
May	8230	4,136.87	1038.16	-17.5	-18167.8	1077776.186	306.25

June	15532	4,139.18	8340.16	-15.19	-126687.04	69558268.83	230.736
July	17457	4,126.82	10265.16	-27.55	-282805.16	105373509.80	759.003
Σ	43151	24,926.20	-0.04	-0.02	-844165.31	306621866.80	2754.76
Mean (M)	7191.84	4,154.37					
$r = \sum XY / (\sum x^2 \sum y^2)^{1/2}$ -0.92							

Table 2b: Testing of Hypothesis Two (H2_{0b}): There is no significant relationship between the price of locally consumed petroleum products (diesel) and number of confirmed cases of COVID 19 Pandemic in Nigeria.

The Worksheet Table							
Months in Year 2020	No. of Confirmed Cases (X)	Prices of AGO (Diesel) (Y)	x = (X-M)	y = (Y-M)	(xy)	(x) ²	(y) ²
February	1	226.25	-7190.84	2.07	-14885.04	51708179.91	4.2849
March	138	226.78	-7053.84	2.6	-18339.99	49756658.75	6.76
April	1793	224.11	-5398.84	-0.07	377.92	29147473.35	0.0049
May	8230	219.13	1038.16	-5.05	-5242.71	1077776.186	25.5025
June	15532	224.37	8340.16	0.19	1584.64	69558268.83	0.0361
July	17457	224.43	10265.16	0.25	2566.3	105373509.8	0.0625
Σ	43151	1,345.07			- 33,938.88	306,621,866.83	36.65
Mean (M)	7191.84	224.18					
$r = \sum XY / (\sum x^2 \sum y^2)^{1/2}$ -0.32							

Table 2c: Testing of Hypothesis Two (H2_{0c}): There is no significant relationship between the price of locally consumed petroleum products (kerosene) and number of confirmed cases of COVID 19 Pandemic in Nigeria.

The Worksheet Table							
Months in Year 2020	No. of Confirmed Cases (X)	Prices of Household Kerosene/L (Y)	x = (X-M)	y = (Y-M)	(xy)	(x) ²	(y) ²
February	1	326.93	-7190.84	-7.48	53787.49	51708179.91	55.9504
March	138	334.16	-7053.84	-0.25	1763.46	49756658.75	0.0625
April	1793	342.33	-5398.84	7.92	-42758.82	29147473.35	62.7264
May	8230	333.39	1038.16	-1.02	-1058.93	1077776.186	1.0404
June	15532	334.08	8340.16	-0.33	-2752.26	69558268.83	0.1089
July	17457	335.54	10265.16	1.13	11599.64	105373509.8	1.2769
Σ	43151	2,006.43	-0.04	-0.03	20580.58	306621866.8	121.166
Mean (M)	7191.84	334.41					
$r = \sum XY / (\sum x^2 \sum y^2)^{1/2}$ 0.11							

Table 2d: Testing of Hypothesis Two (H_{20d}): There is no significant relationship between the price of locally consumed petroleum products (petrol) and number of confirmed cases of COVID 19 Pandemic in Nigeria.

The Worksheet Table							
Months in Year 2020	No. of Confirmed Cases (X)	Prices of Premium Motor Spirit (Petrol)/L (Y)	x = (X-M)	y = (Y-M)	(xy)	(x) ²	(y) ²
February	1	145.41	-7190.84	8.10	-58245.81	51708179.91	65.61
March	138	145.40	-7053.84	8.09	-57065.57	49756658.75	65.4481
April	1793	130.84	-5398.84	-6.47	34930.5	29147473.35	41.8609
May	8230	129.67	1038.16	-7.64	-7931.55	1077776.186	58.3696
June	15532	128.88	8340.16	-8.43	-70307.55	69558268.83	71.0649
July	17457	143.63	10265.16	6.32	64875.82	105373509.8	39.9424
Σ	43151	823.83			-93744.16	306621866.8	342.296
Mean (M)	7191.84	137.31					
$r = \sum XY / (\sum x^2 \sum y^2)^{1/2}$ -0.29							

Table 2e: Average Correlation Coefficient of Locally Consumed Petroleum Products

S/NO.	Local Petroleum Product	Correlations
1	Liquefied Petroleum Gas	-0.92
2	Automotive Gas Oil	-0.32
3	Dual Purpose Kerosene	0.11
4	Premium Motor Spirit	-0.29
	Σ	-1.42
	Mean (M)	-0.36

Table 2f: Critical Values of Pearson Correlation of Locally Consumed Petroleum Products

T-Calculated	Table Value	Degree of Freedom	Decision
-0.36	0.497	10	Accept

Since t-calculated is between -0.497 and 0.497 of the table value, the null hypothesis is accepted and can be used to make prediction. Therefore, from the study it is acceptable that there is no significant relationship between the price of locally consumed petroleum products and number of confirmed cases of COVID 19 Pandemic in Nigeria.

Research Question: What are the negative financial impacts of COVID-19 Pandemic in Nigeria's oil and gas industry?

S/N	Description	SA	A	D	SD	Total	Mean	Remarks
1.	Adverse changes of FOREX demography in the oil and gas industry	76	63	16	2	157	3.14	Accept
		19	21	8	2	50		

2.	Adverse changes in legislations affecting oil and gas industry	44	57	12	14	127	2.54	Reject
		11	19	6	14	50		
3.	Sustenance of subsidy	76	66	10	4	156	3.12	Accept
		19	22	5	4	50		
4.	Unfavourable balance of payment in international trading of crude oil	40	60	24	8	132	2.64	Reject
		10	20	12	8	50		
5.	Increased cost in the management of oil and gas industry	80	60	16	2	158	3.16	Accept
		20	20	8	2	50		
6.	Increase in oil theft	40	39	28	13	120	2.40	Reject
		10	13	14	13	50		
7.	Non diversification of Nigeria's economy	68	66	20	1	155	3.10	Accept
		17	22	10	1	50		
8.	Reduction in investment in oil and gas industry	52	72	16	5	145	2.90	Accept
		13	24	8	5	50		
Grand Mean							2.88	Accept

Testing of Hypothesis Three (H₃₀): There is negative financial impact of COVID 19 Pandemic on the oil and gas industry

S/N	Sector	Remarks		X	Y	XY	X ²	Y ²
		X (Agree)	Y (Disagree)	X - M	Y - M	(X-M) (Y-M)	(X-M) ²	(Y-M) ²
1	Adverse changes of FOREX demography in the oil and gas industry	139	79	19.12	0.87	10981	19321	6241
2	Adverse changes in legislations affecting oil and gas industry	101	69	-18.88	-9.13	6969	10201	4761
3	Sustenance of subsidy	142	76	22.12	-2.13	10792	20164	5776
4	Unfavourable balance of payment in international trading of crude oil	100	84	-19.88	5.87	8400	10000	7056
5	Increased cost in the management of oil and gas industry	140	76	20.12	-2.13	10640	19600	5778
6	Increase in oil theft	79	67	-40.88	- 11.13	5293	6241	4489
7	Non diversification of Nigeria's economy	134	86	14.12	7.87	11524	17956	7396

8	Reduction in investment in oil and gas industry	124	88	4.12	9.87	10912	15376	7744
Σ		959	625			59578	93018	38974
Mean (M)		119.88	78.13					
$r = \Sigma XY / (\Sigma X^2 \Sigma Y^2)^{1/2}$								
0.01								

Table 3c: Critical Values of Pearson Correlation of the financial impacts of COVID-19 Pandemic in Nigeria's oil and gas industry?

T-Calculated	Table Value	Degree of Freedom	Decision
-0.01	0.426	14	Accept

Since t-calculated is between -0.426 and 0.426 of the table value, the null hypothesis is accepted and can be used to make prediction. Therefore, from the study it is acceptable that there is negative financial impact of COVID 19 Pandemic on the oil and gas industry in Nigeria.

DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

Discussion

From the responses obtained from research question and tested hypotheses, one can deduce the study is in tandem with most of the related literatures reviewed. The study accepted that there negative financial impacts of COVID-19 Pandemic in Nigeria's oil and gas industry. This is in line with the position of Ayoade (2020) who noted that Nigeria's economy is facing collapse as it largely depends on oil exports. It also corroborate the assertion of Lenon (2020) who stated that just like any other economies around the world, Nigeria is not exempted from the fiscal challenges of COVID-19 pandemic. A similar position was also held by Muiyiwa Oni in Lenon (2020) when he stated that the impact of COVID-19 pandemic in oil and gas industry will be felt across all sectors.

However, the tested hypotheses accepted that there is no adverse financial implications on the prices of locally consumed petroleum products as a result of COVID-19 pandemic. It also accepted that there is no significant relationship between the price of crude oil in the international market and number of confirmed cases of COVID 19 Pandemic in Nigeria.

Conclusion

As the number of confirmed cases of COVID-19 infections continue to rise in Nigeria, one thing is certain – the end is not near. It is very clear that COVID-19 pandemic affected oil and gas industry in Nigeria. Nigeria's dependent oil exposes her to danger occasioned by decline in oil revenue. This also affected her fiscal revenues, foreign exchange inflows, debt management and inadequate funds for capital projects.

Recommendations

Based on the findings, the researchers made the following recommendations:

1. Oil and gas industry in Nigeria should fully open for business with adequate measures taken to prevent the COVID-19. In others words, all medical protocols as they COVID-19 should be observed.
2. Subsidy on petroleum products should be removed so that forces of demand and supply can detect market prices.
3. The oil and gas industry should be proactive in tackling disruptions against her finances. This means that the industry should have stipulated consolidation funds of not less than 5 Billion Naira deposited with Central Bank of Nigeria via Bank of Industry.
4. The industry should source for additional capital on time and when successful, adequate measures should be put in place for sustainability.
5. Government should provide interventions to boost the oil and gas sector and allied industries. These interventions could be grants, soft loans, tax reliefs and the like.

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THE QUEST TO RE-STRATEGIZE MARKETING MIX STRATEGIZES: MITIGATING THE EFFECT OF COVID-19 PANDEMIC ON CONSUMERS IN NIGERIA

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ABSTRACT

This paper addressed the quest to re-strategize marketing mix strategizes in this period of the COVID-19 pandemic. The significance of this study is on how to mitigate the effect of the COVID-19 pandemic on consumers in Nigeria. The paper highlights the challenges facing the consumers in this period of COVID-19 crisis, the disruption of the consumer habits of buying as well as shopping. It argued that the core function of marketing is customers (consumers) want satisfaction. Therefore, marketers should be able to create this much-needed customer satisfaction at any given point in time – whether boom or recession. The script paid attention to the fundamental 4Ps of marketing, re-inventing of the 4Ps into 4Cs, the SAVE model, and the 4Es framework. The methodology emanated from personal observations of the contemporary happenings in Nigeria and its economy as well as secondary data. The study concludes that marketing managers should contend with how to re-organize their marketing efforts considering the challenges facing the consumers in Nigeria. The study provides a recommendation on how to mitigate the impact of the COVID-19 pandemic on consumers in Nigeria.

Keywords: Nigeria, COVID-19, consumer satisfaction, marketing mix, strategies, marketing

1. INTRODUCTION

Nigeria is the most populous country with a population of about 200 million people and the biggest economy in Africa. Nigeria, the so-called giant of Africa. According to Human Rights Watch (2020), Nigeria is the largest economy in Africa, with a gross domestic product per capita of \$2,028 in 2018. However, despite being Africa's largest economy, Nigeria seems to be a country with the highest number of people living in poverty in the world today. Proshare (2006) Leonidas Tezapsidis said: Nigeria is ranked the third country with the highest number of poor people in the world. In the same vein, Kazeem (2018) averred that Nigeria had become the poverty capital of the world. Despite this ugly scenario, the recent outbreak of coronavirus disease known as "COVID-19" has wreaked more havoc on the Nigerian economy. It has ushered in a stunning economic recession, abject poverty, and with thousands of death tolls unlike anything since the Nigerian civil war in 1967.

The COVID-19 outbreak has affected all sectors of the Nigerian economy, no doubt, placing an extra strain on an already fragile economy with a terrible effect on livelihood, individuals and households. The economic and marketing activities that were once the hub of the Nigerian economy are shrinking drastically, and some firms, institutions, and organizations are shutting down result losses of workforce and productivity. It has heightened the level of unemployment and poverty that people no longer have the right to food, shelter, and other

necessities of life. Even in this miserable situation, according to Onyirioha (2020), FG increased the petrol price to N143.8 per liter. Nurudeen (2020) stated that CBN devalued naira amid COVID-19 economic challenges. Amid these woes, some state government suspends payment of minimum wage and slashes salaries of workers.

We must accept the fact that COVID-19 is here with us, a terrible crisis like no other. The COVID-19 crisis has adverse effects foisted on consumers financially and psychologically. According to KPMG (2020), the COVID-19 pandemic has impacted the purchasing power of consumers in the short and mid-term. Presently, consumers' spending is low with no buying motivations, hike in prices of essential goods and services. In a situation like this, according to Kolter and Armstrong (2013), consumers are now spending less and more wisely. Thus, the COVID-19 crisis has changed consumer buying patterns and spending behavior in recent times. Some firms are responding to the downturn of the economy by adapting their marketing strategy to the changing consumer behavior. According to Omowunmi & Idowu (2020), every organization small or medium scale needs to re-strategize and re-do all marketing plans to ensure their businesses can thrive during and after the pandemic. Years of empirical research in marketing have shown that recessionary periods provide an opportunity for marketers to grow their brand's market share, especially if they prepared to think long term (Vafainia, 2020).

Honestly, the Nigerian consumers are suffering today like never before, and they are battling with the COVID-19 pandemic that they do not know when it will come to an end – it seems to be a war without end. In the face of this devastating COVID-19 crisis, many had lost their jobs – no sources of income, hunger, and penury lingering. Consumers are only grappling for survival and do not enjoy shopping any longer. Demand for many goods and services has fallen drastically while the increased demand for essential goods has resulted in a price spike. Presently, the real threat to consumers' lives is not the virus but the inability to survive the trend. It is on this premise that this conceptual paper addresses the quest to re-strategize marketing mix strategies, mitigating the effect of the COVID-19 pandemic on consumers in Nigeria with a focus on the fundamental marketing mix strategies and the redevising of the 4Ps.

2. CONCEPTUAL REVIEW

2.1 *The Essences of Marketing*

Marketing is all about creating customers (consumers) want satisfaction – customers who buy goods and services either for personal or non-personal consumption. What is marketing? Marketing has been defined in various ways by different scholars in different times. According to Lamb, Hair & McDaniel (2012), marketing is a philosophy, an attitude, a perspective, or a management orientation that stresses customer satisfaction. However, marketing professionals, going by the above definition, should be able to create customer satisfaction at any given point in time – whether boom or recession. For this paper, emphasis will be on the definition by Kevin et al. 2004 as cited by Olannye (2006) that marketing is the process of developing, pricing, promoting, and distributing goods, services, and ideas to satisfy the needs of consumers. This definition emphasizes the 4Ps of marketing.

Recently, the marketing environment has rapidly changed, and the troubled economy due to the pandemic has threatened the livelihoods of millions. If there has ever been a time for a change in marketing, this is it (Carter, 2015). Marketing managers should be abreast of the fact that consumers are changing their behavior in real-time in the COVID-19 pandemic period. Thus,

understanding the contemporary situation as well as the customer needs and wants is important in creating much-needed customer satisfaction. According to (KPMG, 2020), manufacturers need to be more agile, local, and responsive to consumer needs.

2.2 *Marketing Mix Strategies*

One of the best-known models since 1960 in the field of marketing that is so fundamental is the 4Ps of marketing – the marketing mix by Jeromy McCarthy. Kotler et al. (2013) stated that marketing mix is a set of tactical marketing tools – product, price, place, and promotion – that the firm blends to produce the response it wants in the target market. Olannye (2013) sees the marketing mix as the combination of decisions on controllable variables (product, price, place, promotion) that spell out the marketer's strategies. While Agbonifoh, Ogwo & Nnolim (1998) define the marketing mix as that combination of product, price, promotion, and distribution utilized by a marketer or company to address a target market during a given period.

The marketing mix often tells us that products or services need to be made available in the right place, offered at the right price, and supported by the right kind of promotion (Odo, 2003). The marketing mix is simply an ingredient a firm puts together in their proportion to achieve the marketing goal of satisfying the consumer's needs and wants. It can be used to achieve both the short and long-term strategic goals of an organization. Agile organizations that can meet the needs of their consumers by localizing their supply chains, offering a high degree of convenience, and communicating clearly with their target market, will better ride through the crisis, (KPMG, 2020). However, according to Ikechi, Emeh & Okorie (2017), the marketing mix is not a scientific theory, but a conceptual framework that highlights the main decisions that the marketing manager makes in configuring their offerings to suit customers' needs.

2.3 *Marketing Mix a Controllable Variables*

The entire marketing environment consists of dynamic factors and forces that affect a firm's ability to build and maintain a successful relationship with customers (consumers). The marketing mix variables are flexible and not rigid. It forms a part of the microenvironment of the entire marketing environment that can be adjusted to satisfy customers in any challenging situation. According to Lamb et al. (2012), the marketing manager can control each part of the marketing mix, the strategies for the four components must be blended to achieve an optimal result. The marketing mix variables, according to Ogbemi & Ekenimoh (2014), are interrelated because a decision in one area affects decisions in other areas. Therefore, by manipulating each of the elements of the marketing mix, marketing managers can fine-tune the customers' offering and achieve success in mitigating the effect of the COVID-19 pandemic on consumers in Nigeria. Marketers, according to Nwokoye (2000), has to make creative adjustments of his strategies to the prevailing situation. The marketer must keep aligning and adjusting the marketing mix variables where necessary until his customers' satisfaction is achieved.

With the current realities that the marketplace has dramatically changed from what it used to be. Re-strategizing the traditional marketing mix strategies could be a solution-oriented approach in this period to cushion the effect of the pandemic on consumers. Satisfying your customers in this era of an economic recession is very important. Hence, combining, blending, or mixing the marketing mix ingredients in their right proportion considering the nature of the present economy is paramount. According to Ikechi et al. (2017), James Culliton described the role of a

marketing manager as a "mixer of ingredients, one who sometimes follows recipes prepared by others, sometimes prepares his recipe as he goes along, sometimes adapts recipe from immediately available ingredients, and at other times invents new ingredients no one else has tried."

Marketers, therefore, according to Raymond (2020), are daily driven to understand and adjust to customers' needs and pain points, find creative solutions to address their needs, and meet them where they are with messages that show "we know what you are going through and we are here to help". Marketing during these hard times requires understanding what is going on in consumers' lives and the flexibility to keep up with immediate changes. The marketing managers should be creative and innovative, think ahead of the pandemic, and adjust their core marketing efforts to agree with the needs of their customers which changes with the recession.

2.4 An Outline of the 4Ps of Marketing

2.4.1 Product Mix Strategy

The heart of the marketing mix, the starting point, is the product offering and product strategy. It is hard to design a place strategy, decide on a promotion campaign, or set a price without knowing the product to be marketed (Lamb et al., 2012). The product mix consists of the tangible and intangible attributes of a product – the color, packaging, size, quality, warranty, after-sale service, brand name, etc. These attributes are controllable by the marketer to suit the consumers at any given point in time. How is a product defined? One of the simplex definition is by Jobber, 2000 cited in Okorie (2019) that a product is anything capable of satisfying customers' needs. Many believe that a product is only referred to as tangible goods. However, services, events, places, and ideas are seen as a product. Despite product classification – be it business or consumer product – a product remains a product. A product could be consumed directly or indirectly provided it satisfies customers' needs and wants.

In this COVID-19 era, the majority of the people are not concerned with ostentatious products – their passion is on how to survive the trend with essential goods and services. Over the years, firms change product mix to take advantage of the changes in the environment. They may adjust product mix strategies by modification (quality, function, and style modification) or repositioning (changing consumers' perception). According to Hooley et al., 2008 as cited in Essays, UK. (November 2018) considering marketing, a recession is an opportunity to develop new products to meet the demands of their customer. It implies that marketers should seek new product ideas when there is an economic recession. Thus, consumers can be satisfied by the re-making of a good marketing strategy concerning a product.

2.4.2 Price Mix Strategy

Price means one thing to the consumer (cost of something) and another thing to the seller (revenue). However, price is what the consumer must give up to obtain a product for self-satisfaction. Nwokoye (2000) defined price as the amount of money needed to acquire a given quantity of goods or services. According to Lamb et al., (2012), it is often the most flexible of the four Ps – the quickest elements to change. Marketers can raise or lower prices more frequently than they can change other marketing mix variables. Marketers, however, are at liberty to manipulate different pricing policies to actualize their marketing objectives. Marketers need to proceed with caution and empathy in pricing their products.

What could be the marketing objective(s) of businesses in this period of Covid-19? Profit maximization, customer satisfaction, or both. According to Nwokoye (2000), some big organizations are interested in making as much money as possible, and this is their chief pricing objective. But when prices are too high, it can also reduce revenue as it may prevent consumers from purchasing the product, perhaps in their desired quantities. In economics, the law of the market says that demand and price are counter proportional (price increase leads to demand decrease and vice versa). Businesses can provide incentives such as price discounts to spur demand. According to Vafainia (2020), temporary price reductions (TPR) is a very effective tool to retain market share during the economic recession. Leong & Kotler, (2000) cited in Essays, UK. (November 2018) that during down-turn costumer restrict their expenditure and switch to cheaper products. It's obvious that in this COVID-19 crisis, consumers tend to be more price-sensitive.

2.4.3 Place Mix Strategy:

Goods are manufactured to be sold to consumers either for personal or non-personal consumption. Place mix strategy also known as distribution is concerned with making products available when and where customers want them. In this case, two important factors are to be considered.

- **Physical distribution:** This is concerned with the efficient movement of goods from the manufacturer to the end-users or final consumers.
- **Distribution channel:** This is concerned with the combination of sets of institutions (intermediaries) through which a seller markets his goods to the end-users or final consumers.

The basic attributes of place mix strategy are channel members, channel types, channel management, location, market coverage, salesforce, etc. Marketing managers must recognize the importance of channel strategies as it affects not only the internal process but also external relationships as well. The marketer can decide whether to sell directly to the retailer or through the wholesalers or sell directly to the final consumers. The marketer can adapt to intensive, selective, or exclusive distribution strategy. They can as well adopt either pull or push strategies to sell and distribute their products or services. According to KPMG (2020), there is the need to seek partnerships with local suppliers and distributors on innovative supply and distribution models and channels that will ensure the availability of products and services to customers.

2.4.4 Promotion Mix Strategy:

These are integrated marketing communication activities. Promotion mix strategies include personal selling, advertising, public relation, sales promotion, etc. The role of promotion in the marketing mix is to inform, educate, persuade, and remind customers of the benefits of a product. According to Lamb et al., (2012), a promotional strategy is a plan for the optimal use of the elements of promotion. Using these promotional strategies in determining the firm's goals, marketers must be conscious of cost-effectiveness as it becomes an integral part of the overall marketing strategy in satisfying the customers. According to Nwokoye (1996), decisions that are made in this area must, therefore, be consistent with decisions about the product, the price, and distribution.

2.5 *The 4Ps of Marketing in a New Dimension of 4Cs Framework*

The customer is the king of the market and all the marketing efforts are to get the king satisfied. According to Kotler, Bowen, and Makens (2010), this title is bestowed not because of heredity rights but because customers can enhance your career through the purchase choice they make. In 1990, Robert Lauterborn proposed an alternative to the 4Ps Marketing Mix, known as the 4Cs of marketing (Smalley, 2017). The 4Cs are Consumer solution, Cost, Communication, and Convenience. This new dimension is a more consumer-oriented version of the 4Ps that tries to address core consumers' satisfaction.

The 4Cs Concept

The 4Cs concept applies to solve consumers' problems with pertinent questions.

- What values are you offering the consumer? **The product turns into a Consumer solution.** It is more effective to consider the customer needs and wants and satisfying them with a product they want.
- What cost does the consumer incur as he obtains, uses, and disposes of your product? **Price turns into customer Cost.** Many marketers mistakenly believe that the main motivation for purchasing a product is the price. Positioning is far more important, as it directly influences perceived value (Smalley, 2017).
- Are you getting the desired feedback as you communicate with the consumer? **Promotion turns into Communication.** Instead of promotion marketing managers should focus on two-way communication with consumers.
- How convenient is it for consumers to use your product? **Place turns into Convenience.** A customer is not bound to buying your product or service from a physical location. Convenience focuses on the ease of buying the product (Smalley, 2017).

Lauterborn's 4Cs model is a customer-centric framework. The 4Cs definitely, would spur marketers to design marketing programs that will ensure the satisfaction of the ultimate consumer (Ikechi et al., 2017), even in the face of the havoc-wreaking Covid-19 pandemic.

2.6 *The 4Ps of Marketing in a New Dimension of SAVE Model*

The SAVE model is one of the recent evolutions in the field of marketing. According to Ettenson, Crurado & Knowles (2013), the SAVE model focuses on solutions instead of product, access instead of place, value instead of price, and education instead of promotion. The model seems to be a better choice widening the focus and scope to include the needs of the consumers more comprehensively. It serves as a compass for marketers to rethink the marketing thoughts surrounding the prevailing situation of the present-day by a way of shifting from the 4Ps thinking to SAVE. While applying the SAVE model in solving or creating customer satisfaction, according to Ettenson et al., (2013), it is advised not to abandon the 4Ps altogether.

The SAVE Concept

- **Product turn into Solution:** Customers do not care about the product, what they care more about is having their problems solved.
- **Place turn into Access:** Presently, people can access businesses anywhere in the world provided they have internet access through digital technologies. With a website, your

customers can find out about your products even if your office is closed. The internet has fundamentally changed customers' orientation concerning convenience, speed, price, product information, and service. Access requires marketers to use their online presence strategically to reach the right customers at a much lower cost than traditional marketing methods. In Nigeria, many restaurants are offering online orders and home deliveries (KPMG, 2020).

- **Price turn into Value:** A customer's perception of value is far more significant than the actual price of the product or service when it comes to decision-making to buy. The SAVE model suggests going beyond price by emphasizing the real value your product will bring to your customers' lives. Once you have established the problems your product solves, it is easy to determine what benefits to highlight.
- **Promotion turn into Education:** The SAVE model urges companies to move from a promotional mindset to an educational mindset, permitting you to tackle your marketing goals: identifying, anticipating, and satisfying the needs and wants of the informed consumers.

2.7 *The 4Ps of Marketing in a New Dimension of 4Es Framework*

There has been so much debate about the changing face of marketing in recent academic literature. There has been an evolution from the traditional 4Ps of marketing to 4Cs framework, to SAVE model and now the 4Es of marketing. According to Petersen (2017), Brian Fetherstonhaugh from Ogilvy & Mather introduced the new 4Es framework. The new 4Es framework was introduced to take care of the consumers in a much better way, changing from:

Product to EXPERIENCE

Price to EXCHANGE

Place to EVERYPLACE

Promotion to EVANGELISM

According to Petersen (2017):

- **Experience** – The sum of the customer's experience is the new "product".
- **Exchange** – The customer doesn't just want a catalog of products at a price, they want an exchange of ideas, information, and value beyond price.
- **Everyplace** – Stores have been replaced by "everywhere" ... and communication must now be everywhere as well.
- **Evangelism** – Promotion is not enough, and customers are tired of being bombarded with deals. Evangelism translates to "engagement" that is personalized on the customer's terms, lifestyle, and values.

The 4Es framework is centered not only on value and emotion but on why you should sell, when you should sell, how you should sell, and who you should sell to. According to Ikechi et al. (2017), the era of making the best mousetrap, and seeing the consumer beat their way to the producer's place is gone.

3. METHODOLOGY

This paper aimed to address the quest to re-strategize marketing mix strategies, mitigating the effect of the COVID-19 pandemic on consumers in Nigeria. This paper is strictly conceptual. The researcher mainly relied on personal observations of the current happenings in the Nigerian economy, as well as secondary data. The secondary data were collected from published articles, research papers, academic books, and sources through related websites, e.t.c.

4. CONCLUSION AND RECOMMENDATION

There is a threat before the Nigerian consumers with a boomerang effect if businesses fail to take strategic action in the face of this dreadful COVID-19 pandemic. If people who are business customers are dying today of hunger, the business firm will be affected. It is the customer that determines what a business is. As the pandemic continues to rear its ugly head and while the Nigerian government with visionless leaders foot-dragging in developing people-oriented plan to deliver social and economic assistance to the tens of millions of people who are faced with the terrific effects of the COVID-19 pandemic, marketing managers should be frantic, flexible and create customers' satisfaction in this hard-hitting time. However, the paper concludes that marketing managers should contend with how to re-organize their marketing efforts.

The paper recommends that marketing managers of various business firms should adopt and adapt to the four fundamental Ps (product, price, place, and promotion), the 4Es (experience, everywhere, exchange and evangelism), the 4Cs (consumer solution, cost, communication, and convenience) and the SAVE model (solution, access, value, and education) of marketing to create and streamline their marketing efforts to mitigate the effect of COVID-19 pandemic on consumers in Nigeria.

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