



# ENVIRONMENTAL STEWARDSHIP AND ORGANISATIONAL COMPETITIVENESS OF THE OIL AND GAS INDUSTRY IN NIGERIA

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## ABSTRACT

*Competitiveness has been known to improve several aspects of organizational life. However, it does not come that easy, as it takes a lot to be competitive in today's challenging business world. Only organizations that go beyond maximizing profit are the ones that could survive these challenging times. This study seeks to investigate whether environmental stewardship can induce competitiveness of organizations in the oil and gas industry in Nigeria. 92 managers, supervisors, and foremen in 10 oil and gas firms were surveyed. Relying on the census technique, the entire population (92) was sampled, and copies of the questionnaire were administered accordingly. Only 76 copies were retrieved and used for analysis. In conducting analysis for this study, Kendall\_tau Rank Correlation Coefficient statistical tool was used in analyzing copies of the questionnaire retrieved. The analysis for the study revealed the following: Resource conservation ignites the competitive capability of business organizations. Pollution prevention practices by an organization gives them a good public image; and occupational health and safety practices benefits all stakeholders especially the practicing organization, in terms of competitive edge. Environmental stewardship induces organizational competitiveness of firms in the oil and gas industry, and competitiveness improves several aspects of organizational life.*

**KEYWORDS:** *Environmental Stewardship, Resources Conservation, Pollution Prevention, Occupational Health and Safety, Organizational Competitiveness, and Oil and Gas Industry.*

## INTRODUCTION

Nigeria is perceived as the largest producer of oil and gas in Africa, and her oil exploration to have started since 1903 (Thomas, 1995). Fast-forward to today, the oil and gas industry in Nigeria have been forecasted to suffer a huge setback in the coming years. This prediction came across as an estimated decline of approximately 7.93% in crude oil production in the country, especially between 2018 - 2025 (Mordor Intelligence, 2020). However, increasing investments in the upstream and downstream sectors has been the major factors that has sustained the market for some time now. Thus, oil and gas production has seriously nose-dived due to oil theft, which has been the central factor responsible for the huge losses experienced by operating firms in Nigeria. Consequently, this line of

event has led to lack of infrastructure and/or infrastructural deficit which has hampered production capacity and process in the sector (Jeremiah, 2019). Other factors may include uncertainty in regulations and other security concerns which has made Nigeria, unfertilized her refining capability which has made the country a major importer of refined petroleum products.

As stated earlier, Nigeria is one of the oldest and largest oil producers in the continent of African, and its oil and gas sector is the principal sector that drives the economy as it accounts for over ninety percent (90%), and about eighty percent (80%) of the revenue of the economy. To buttress this point, it is pertinent to point out that as at 2017, the largest gas reserves in Africa was traced to Nigeria, with over thirty-seven (37) billion barrels of oil and 47.2 billion cubic meter



(BCM) of gas. Thus, Nigeria alone contributes approximately over twenty-four percent (24%) of the aggregate oil production in the continent, representing about one point nine million (1.9) barrels per day in the same period under view. Notwithstanding, the global commodity downsizing of 2014 was a serious blow to the Nigerian economy which resulted in a sharp decline in investments in the Nigerian upstream oil and gas sector at about thirteen percent (13%) per annum 2015 - 2017 respectively due to a decrease in the price of crude oil (Yusuf, *et al.*, 2016). This resulted in one of the greatest declines in government spending in the year 2016, with respect to militating disruptions on major oil fields across the country. Interestingly, oil production tends to recover to an estimated two million barrels from 2017 to 2018 (Jeremiah, 2019; International Energy Agency, 2019). No doubt, oil and gas and other drilling activities are raring up, and this is projected to maintain this level of growth and find as well as finance projects across board. Meanwhile, oil production is however not expected to rise in the coming years, due to the rapid drop in crude prices as a result of the novel COVID-19 pandemic and its negative consequences post the pandemic. Hence, to survive and thrive in this industry, organizations need to build her resources to compete favourably.

To out-compete others, organisations need to put all their resources to work. In this sense, competitiveness has two basic colourations, namely; national/global level and firm level. In essence, competition can be viewed from a matrix of two by two - external and internal, as well as national and firm/industry level. The latter is induced by a number of factors extraneous to the firm and those that are endogenous (Cole, 2010). At firm-wide/industry level competitiveness, the focus is on the capacity of an organisation to increase profit and grow on a sustainable basis; which is comprehensible owing to two explanations. First, effect of policy on industry and firm-based factors in competitiveness draws attention to the issues of trade policy, investment and business environment and government policies and their impact on competitiveness of the industry. Second, the need for sustainability underscores concern for competitive edge based on strategic values and a vision that enables a company to remain consistently more competitive than others especially, when inventory management strategies as well as cost control measures and/or cost leadership strategies are introduced (Cole, 2010).

An organization is said to have cost advantage when it produces and offers its products and services at a lower or cheaper rate as compared to other competing firms. This according to David (2013) shows they

produce higher quality products because they benefit from access to relatively low-cost raw materials, effective management of operational activities, adoption of an efficient technological process, and low sales/distribution cost. He noted that organizations can capitalize on low cost advantage by pegging the price of their goods and services a little lower than the price that competitors offer. David (2013) further explained that profit will still be made because the firms may want to sell at lower cost due the fact that they enjoy the privilege of buying raw materials at lower costs. It was further elucidated by Wisner, Tan and Leong (2012) that they can even lower the prices of their goods below that of the competitors with the aim of attracting more customers; thereby increasing their market share. They equally noted that the significant effect of technology on the business operations has prompted organizations to constantly improve its daily activities by the use of relevant technological devices. This is because, organizations that have technological advantages as compared to others achieve more in terms of efficiency in operation, communication, research capabilities, stewardship, and so on.

Interestingly, being or having characteristics that portrays one as a steward to the environment requires a lot. This because it encompasses going out of ones' way to make moves that could help in fostering environmental sustainability for as long as possible. Some of such moves could come in form of initiating and/or volunteering in environmental programmes, minimizing the carbon emission or other negative impacts on the environment in general, and on consumables in particular, participating in environmentally charged public events, employing dynamic ways in the mode of transportation, staying informed and giving complete support for various environmental-friendly policies (Rinkesh, 2019). Essentially, stewardship of the environment entails protecting the environment through recycling, conservation, regeneration, restoration, and reuse (Rozzi, *et al.*, 2012). Practically, there are several benefits of implementing a stewardship programme for the environment. Some of these benefits come in different dimensions such as; economic benefits, human health benefits, protection and conservation benefits of the environment (Welchman, 2012), just to mention but a few.

Established by the points buttressed above, organizations that operate within the oil and gas economy in Nigeria may wish to consider practical steps that could give them competitive edge over their rivals and increase the possibility of having an enhance survival ratio within this context. Thus, one of the ways



in which these organizations could enhance their activities and boost the visibility of their presence is by being environmentally responsible. Based on the strength of this argument, this research work is designed to ascertain whether environmental stewardship could influence organisational competitiveness of the oil and gas industry in Rivers State, Nigeria. Hence, this study was prompted by the lack of sufficient studies on organisational competitiveness and environmental stewardship respectively, as well as activities of organizations in the oil and gas sector of the economy.

## REVIEW OF RELATED LITERATURE

Within the context of this study, the review of related study captures other scholars and researchers with regards to environmental stewardship, organisational competitiveness, their proxies, as well as an undergirded theory and review of other empirical studies.

### Meaning of Environmental Stewardship

Environmental stewardship represents activities of an individual, organization, or other entities with respect to protecting the environment through recycling, conservation, regenerates and restoration, while taking responsibility for their choices and the environment (Jha, 2015). Thus, environmental stewardship is canvassing support for the “Green” concept. The Green concepts are designed to ensure that the activities of the organization should consider the triple bottom line; profit, people, planet”. The triple bottom line, otherwise known as 3BL or TBL is a framework that has three components; profit-financial, people-social, and planet-environmental (Elkington, 2018). The framework is adopted by some organizations to put in check their and in a wider perspective with the aim to create higher business value. The aim of environmental stewardship is to achieve recycling, resources, life cycle costing, green building, green procurement, green office, green building, etc. Bennett, *et al.*, (2018) noted that this thinking towards green activities are conceptualized as; (1) using non-toxic, recycled, and environmentally friendly supplies and products (ecological). (2) using as little energy and other resources as possible with minimal amount of waste (3) Will regulate the visual, noise, and physical pollution as possible. The core principles/dimensions are; (1) resource conservation, (2) pollution preventives, (3) occupational health and safety.

**Resource Conservation:** Resource conservation represents the ethical application and protection of resources valuable to the organization, and society as

well as protection of the environment. Resources in this context represents minerals, plants and/or trees, wildlife, water (rivers, streams, lakes, creeks, valleys, and so on), and others. The central focus is in maintaining the ecological world in order to protect the main sources of natural resources, which is turn is a source of other firms of resources (Raymond, *et al.*, 2010). In essence, it is a process of maximal and optimal use or application available resources while ensuring the management and preservation of natural environment with all its resources. To further buttress this point, resource conservation helps in the reduction of the amount of solid waste generated and other resources of the organization in this sense. The need to support the preservation of natural resources cannot be overrated. Some of the reasons why resource conservation is necessary are as follows: (1). To ensure the sustenance and survival of the human race, (2). To ensure the continuous existence of biodiversity, (3). To minimize use of non-renewable resources, (4). To reuse and recycle non-renewable resources, (5). On the other hand, the general objectives of resource conservation are to; (1). To reduce or stop work processes that are against nature, (2). To interfere with non-human species only to meet basic needs, (3). To minimize resource wastages, (4). To protect environment from degradation, (5). To ensure their operations are in congruence with nature (Raymond, *et al.*, 2010).

**Pollution Prevention:** Pollution prevention is an approach or method adopted with the sole aim of waste reduction, especially wastes that are released or introduced into the environment, which causes a huge (sometime lasting) damage to the environment. These wastes are known to be released into the environment by stakeholders such as individuals, institutions, or other organizations. These wastes could be organic, solid, liquid, recyclable, hazardous, and so on (Chittock & Hughay, 2011). Pollution prevention is more like an action plan with the aim of reducing contaminants that has been released into the environment by any of the stakeholders/individuals or the sustainability of the environment, which is what has led to legislative bodies enacting measures to prevent pollution of the environment by the introduction of environmental laws namely; clear Air Act Amendment of 1990, and the pollution prevention Act of 1990 by the congress of the united states. This is a significant more to ensure the implementation of my such processes that is designed toward reducing the amount hazardous waste that the environment is exposed to. In essence, pollution prevention approach tends to water-down the amount of pollution related issues by individuals, organizations



and industries (Environmental Protection Agency, 2014). Pollution prevention approaches are expected to manage and control pollution and its related issues with the aim of salvaging the environment and reduce its impact on the environment. The central focus is to ensure the activities of individuals, organizations, and industries does not jeopardize the environment so that the unborn generation could have something to inherit and use. Nevertheless, pollution prevention is used interchangeably with pollution control, pollution reduction, pollution minimization, pollution elimination, and so on.

### **Occupational Health and Safety:**

Occupational Health and Safety is also known as occupational safety and health, occupational safety, occupational health, and so on. This is a multi-dimensional construct that is designed to foster the growth of safety measures in work organizations. Thus, occupational health tends to address all facet of health and safety issues in work organizations, with strong emphasis of the prevention of hazards in the workplace (Golovkova et al., 2018). It is pertinent to imply here that the health and safety of workers in any work organization in key to attaining the goal of the organization. Researchers and practitioners have advocated for practical safety measures to be introduced to help the workers, this is because several factors find to serve as a determining factor on the health and safety of employees some of these issues are risk factors that could result in cancerous illuminant, musculoskeletal diseases, accidents, respiratory disease, circulatory disease, hearing loss, and other stress related illuminates (John, 2019). On the other hand, employment conditions, working conditions, and labour laws accepts other determinants that fosters the growth of health and safety within the organizations. These measures may include; salary, working hours, maternity leave, health promotion, etc. accordingly, a day was set aside to observe health and safety measures global consumption. That day is April, 28 and it is organized by the international labour organization, as a “World Day for safety and health” (Golovkova et al., 2018; John, 2019).

### **Meaning of Organisational Competitiveness**

A deep and profound peep into literature have demonstrated that organisational competitiveness is multidimensional, multifaceted, and multilayered. This seemingly implies that, its components and outcomes changes with industry and periods. Competitiveness within organisational life has been perceived to have encompass divergent philosophies, theories, and approaches (Cole, 2010). One of such classical theories

is the theory of mercantilism. Mercantilism tends to connote the idea of rivalry at every level. Such rivalry could be introduced into a business relationship owing to seemingly competitive, absolute, and/or comparative advantages. What this means is that, an organization may for instance, be technologically feat more than another, while the one which is deficient in terms of technology may have access to more raw materials at a cheaper rate that could change everything about their production and distribution cost. This may translate to cheaper products and services (Cole, 2010). In a more logical sense, organisational competitiveness tends to represent the economic strength of an entity as compared to other entities in the same line of business or industry. In specific terms, factors such as efficiency, innovation, sophistication, and availability of both human, and material resources. Others are, total output or productivity, market share, profitability, finance and investments, ability to export, good corporate governance practice, favourable business environment, sustainability, and entrepreneurial approach, low prices, high product quality, cost leadership ability, and ability to harness resources and turn same into output optimally (David, 2013; Roman, 2012). In the end, strategizing a way to compete favourably with a rival is key to winning the war of business.

### **THEORETICAL FRAMEWORK**

The theoretical framework permits the researcher to adopt and apply relevant theories to the study by dissecting and discussing relevant theories that are tailored towards the concepts under review. In the light of this, stewardship and game theory were adopted to serve as undergirded theories for the study, and would be held constant throughout the study.

**Stewardship Theory:** It is widely believed that, stewardship theory was put forward by Theodore Roosevelt Jr., an American statesman, politician, and writer. it has been argued that the discuss regarding stewardship is linked to his article. The idea he sold on the subject matter was that, managers if unsupervised will naturally act in a responsible manner in demonstrating stewardship even when resources are put in their care and control (Contrafatto, 2014). In the light of this, stewardship theory tends to assume pro-organisational and self-serving behaviours are available to a steward (manager, in this case). Nevertheless, a steward will place higher premium or value on doing that which will in all be more beneficial to the organization than that which will be beneficial to himself. He insisted that, stewards are assumed to be trustworthy, pro-organisational, and collectivists



(Contrafatto, 2014). An example of stewardship in this sense could be painted in a picture in which elected government official(s) would do anything within their reach, means, and/or whatever necessary to ensure the protection of lives and property for the national good, especially when that duty and responsibility is within the purview of the constitution, instead of engaging in activities that could be perceived to be in their own best interest.

**Game Theory:** Game theory is believed to be a scientific model relating to a strategic interaction between conflict and corporation of rational, practical, and logical decision-makers (Watson, 2013). Although, game theory was extensively enhanced in the 1950s by several scholars (Watson, 2013). In reality, game theory is applicable to a wide range of behaviours or social interaction and science. Instructively, modern game theory began with the notion of mixed-strategy balances between two persons. In the light of this, game theory is linked to the ability of managers to devise a means of strategizing and competing with rivals in the same line of business or the same theory. Meaning, organizations are advised to devise a means using a game thinking that may allow them compete favourably with their competitor and seemingly beat them at their game. In this vein, the game theory is directly connected to organisational competitiveness as it is designed to explain the ways in which organizations may outsmart their competitors with little or no much efforts. Tende and Ekanem (2018) citing Gintis noted that this thinking has been applied to ascertain, predict, and explain competitive behaviours of consumers, organizations, markets, and humans on a general note with regards to a broad spectrum of decision and a higher concern for understanding competitiveness scientifically.

### **Link between Environmental Stewardship and Organisational Competitiveness**

Competition being an involvement in business rivalry for the bigger market share or customer tend to paint a picture in which an organization attempts to outperform other market players to incorporate value-creation strategy through delivering superior value for customers (Varanavicius & Navikaite, 2016). In this sense, it can be stated that organizations can stimulate the creation of organisational competitiveness and superior value to customers by identifying new means to conduct the activities in the value chain. Meaning organizations dominant role and their activities on the planet, have a major impact on the social and natural environment. So, nowadays understanding the

sustainable environment actions have the same importance as following competitors" financial situation, marketing and development actions. Varanavicius and Navikaite, (2016) explained that organizations are no longer being valued only on financial earnings achieved for shareholders but they are also being assessed on the contributions they make to stakeholders and society. Therefore, organizations' management are analyzing the environment actions of competitors as this has become necessary conditions to improving green consumption and behaviour. Hence, implementing the environmental sustainability could translate to hug profit and that would naturally put the organization in a more favourable position than its counterparts.

### **Empirical Insight**

Kpurubu (2019) studied effect of environmental regulations on adoption of green innovation by small and medium agro-enterprises in Rivers State. 35 copies of the questionnaire instruments administered to agro-enterprise owners/operators was drawn from a population estimated slightly above 80 small and medium agro-enterprise that are into production processing marketing and distribution in Rivers State using the purposive and snowball sampling techniques. The analysis was conducted using descriptive statistics, Tobit regression, Ordinary Least Square Regression, and Analysis of Variance was used to analyze the data collected, with the aid of the EView 9 Econometric Package. The result revealed that Enterprise Age, (Z-Stat = -3.200,  $p < 0.01$ ), Pollution Abatement Cost and Expenditure (Z-stat= -2.508,  $p < 0.05$ ) and Number of Branches of agro-enterprise (Z-stat= -3.051,  $p < 0.01$ ) negatively affected the adoption of green innovation. While awareness of existing environmental regulations (Z-Stat = 3.140,  $p < 0.01$ ) positively influence green innovation. Kpurubu (2019) recommended that with higher level of awareness of environmental regulations, environmental subsidies being provided by government and knowledge of the economic and environmental benefits of green innovation, adoption of this practice will be enhanced. That, there should be effective policy coordination between government departments in charge of innovations, agricultural sector development and the environmental management agency, to integrate innovation policies with environmental policies. Whereas, Urban and Govender (2012) conducted a study on empirical evidence on environmental management practices in south Africa. They noted that the aim of the paper was to enable the understanding of individuals, organizations and industries in this subject matter generate empirical data on the activities of firms



in environmental management issues, especially within the industrial coating industry using supply chain primarily. They surveyed 84 respondents and had 64% response rate. After using descriptive Statistics in analyzing the data, they found out that, some of the organizations already incorporate environmental management into strategic process of the organization, and concluded that a significant portion of the organizations under review tend to show commitment to advancing environmental sustainability.

Romm, *et al.*, (2012) reviewed about 486 articles with regards to organisational competitiveness and some factors that relate to it, consequently, they came to the conclusion that several organisational factors have the tendency to influence competitiveness at the organisational level. These factors may include the following; human capital, reliability, strategic alliances Knowledge, flexibility, cost, cultural factors, innovation, quality, customer relations, speed, control system, social responsibility, production techniques, and information communication technology. While, Krishnamoorthy and D'Lima (2014) attempted to review benchmarking as a component of competitiveness, according to them; benchmarking in the recent times occupies a prominent place, helping quality up gradation. Benchmarking is imperative for performance and the study highlights the diverse crucial aspects of benchmarking process, which proves essential for successful implementation. This study demonstrates benchmarking as a basis of competitive positioning and shares valuable information from managerial personnel on benchmarking. In this paper, the authors have reviewed benchmarking literature and sought responses from managerial personnel to facilitate researchers and academicians to take a closer look at the expansion, progression and application of benchmarking.

## HYPOTHESES

The following testable null hypotheses were formulated:

**HO<sub>1</sub>** There is no significant relationship between resource conservation and organisational competitiveness of the oil and gas industry in Rivers State.

**HO<sub>2</sub>** There is no significant relationship between pollution prevention and organisational competitiveness of the oil and gas industry in Rivers State.

**HO<sub>3</sub>** There is no significant relationship between occupational health and safety and organisational competitiveness of the oil and gas industry in Rivers State.

## METHODOLOGY

We adopt the quasi-experimental research design, specifically, the cross-sectional research design. This research design is suitable because it is descriptive in nature and the researcher does not have control over the respondents. The cross-sectional survey design is also suitable for the study because data was collected from different locations and the analysis carried out at the same time. Nevertheless, the target population for this study consist of managers, supervisors, foremen of oil and gas firms in Rivers State. Record from the human resources desk of the various firms showed a total of 92 managers, supervisors, foremen among the 10 oil and gas firms. One of the criteria of selecting these firms is that they must have been in operation for a minimum of 10 years, and the quality of service they offer, as well as how highly trained their staff is. In determining the sample size, we adopted the census technique. The census technique has to do with adopting the population (92) as the sample size, and copies of the questionnaire are administered accordingly. Only 76 copies were retrieved and used for analysis. This is because the population is within the control of the researcher. The study further adopted the convenience sampling technique which is a non-probability sampling technique. This sampling technique was chosen because of the level of accessibility and availability of the size of the population.

Again, the sources of data for the study was primary and secondary sources. The primary source of data for the study will include information from personal interviews and the administration of questionnaire. While, the secondary data for the study will include information from publications such as: periodicals, journals articles and the internet. The instrument will consist of multiple-choice questions with responses of descriptive answers. The instrument was divided into three sections which will consist of section A; containing seven (7) questions specifying the demographic characteristics of the respondents. Section B will comprise of eight (8) items describing environmental stewardship. Section C will also comprise of eight (8) statement items on organisational competitiveness of oil and gas firms in Rivers State. Furthermore, both face and content validity were observed. The Cronbach alpha reliability was applied in this study; according to Nunnally and Bernstein (1994)



the acceptable requirement for Cronbach coefficient should be greater than 0.70. Lastly, data for the study was collected and analyzed by means of the Spearman's Rank Order Correlation Coefficient (Rho), a non-parametric statistical test, and considered appropriate because the data is ordinal.

**Test of Hypotheses**

The hypotheses formulated were tested as follows:

**Ho<sub>1</sub>** There is no significant relationship between resource conservation and organisational competitiveness of the oil and gas industry in Rivers State.

**Table 1: Correlations between Resource Conservation and Organisational competitiveness**

		Resource Conservation	Organisational Competitiveness
Kendall's tau_b	Resource Conservation	1.000	.628**
	Correlation Coefficient	.	.000
	Sig. (2-tailed)	76	76
	N	.628**	1.000
	Organisational Competitiveness	.000	.
	Correlation Coefficient	76	76

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 1 shows the correlation between resource conservation and organisational competitiveness. The result reveals that there is positive and significant relationship between the two variables (tau\_b = .628; n = 76; p > 0.05). From the outcome the null hypothesis which states that, there is no significant relationship between Resource Conservation and organisational

competitiveness was rejected. Thus, the alternative was accepted.

**Ho<sub>2</sub>** There is no significant relationship between pollution prevention and organisational competitiveness of the oil and gas industry in Rivers State.

**Table 2: Correlations between pollution prevention and organisational competitiveness**

		Pollution Prevention	Organisational Competitiveness
Kendall's tau_b	Pollution Prevention	1.000	.722**
	Correlation Coefficient	.	.000
	Sig. (2-tailed)	76	76
	N	.722**	1.000
	Organisational Competitiveness	.000	.
	Correlation Coefficient	76	76

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows the correlation between Pollution Prevention and organisational competitiveness. The result reveals that there is positive and significant relationship between the two variables (tau\_b = .722; n = 76; p > 0.05). From the outcome the null hypothesis which states that, there is no significant relationship between Pollution Prevention and organisational competitiveness was rejected. Thus, the alternative was accepted.

**Ho<sub>3</sub>** There is no significant relationship between occupational health and safety and organisational competitiveness of the oil and gas industry in Rivers State.



**Table 3: Correlations between occupational health and safety and organisational competitiveness**

		Occupational health and safety	Organisational Competitiveness
Kendall's tau_b	Occupational health and safety	Correlation Coefficient	1.000
		Sig. (2-tailed)	.543**
		N	.000
	Organisational Competitiveness	Correlation Coefficient	.543**
		Sig. (2-tailed)	.000
		N	.000
		N	76
		N	76

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows the association between occupational health and safety and organisational competitiveness. The result reveals that there is positive and significant relationship between the two variables (tau\_b = .543; n = 76; p > 0.05). From the outcome the null hypothesis which states that, there is no significant relationship between occupational health and safety and organisational competitiveness was rejected. Thus, the alternative was supported.

**DISCUSSION ON FINDINGS**

In conducting analysis for this study, Kendall\_tau Rank Correlation Coefficient statistical tool was used in analyzing copies of the questionnaire retrieved. The said analysis was conducted using Statistical Package of Social Sciences (SPSS) version 21.

The analysis for the study revealed the following findings:

**HO<sub>1</sub>** Resource conservation ignites the competitive capability of business organizations.

Based on this outcome, it was clear that resource conservation sparks competitive capability. This outcome is in line with the findings of Surya, *et al.* (2020), in which they revealed that, conservation of natural resources is positively correlated to increasing the productivity of community economic enterprises.

**HO<sub>2</sub>** Pollution prevention practices by an organization gives them a good public image. This is in itself a competitive edge.

Based on this outcome, it is easy to imply that pollution prevention practices induce organizational competitiveness. This outcome is supported by the findings of Landrigan, *et al.* (2018), where it was stated

that successful pollution prevention strategies brings about collaborations among relevant stakeholders.

**HO<sub>3</sub>** Occupational health and safety practices benefits all stakeholders especially the practicing organization in terms of competitive edge.

Based on this outcome, it is safe to say that religiously sticking to occupational health and safety practices brings about organizational competitiveness. This outcome is reinforced by the findings of Ncube and Kanda (2018). In this research piece, they found out that, occupational health and safety is a legal framework which requires reformation and harmonization for the collective benefit to employees, employers, and regulatory authorities.

**CONCLUSION AND IMPLICATIONS**

In reality, the activities of organizations in the oil and gas industry has impacted negatively on the environment. These activities which ranges from exploration to production, shipping, trucking, and storing of raw materials, pipeline transmission, and converting the raw material into petroleum products such as; gasoline, jet fuel, heating oil, asphalt, and premium motto spirit, are components of upstream, midstream, and downstream sub-sectors that has made life uneasy and unbearable to some oil producing localities across the world. Indeed, being a steward of the environment operating in this sector gives such an organization an edge as it is helpful in terms of resource conservation, pollution prevention, and occupational health and safety. Hence, resource conservation is known to reduce soil erosion, improves water quality and availability, and increases organic matter. While, pollution prevention reduces cost of operation, improves operational efficiency, and reduces the burden of environmental regulation on relevant authorities.



Whereas, strictly observing occupational health and safety reduces cost related to accidents and incidents, improves business efficiency, and improves compliance to environmental regulations. Owing to these submissions, environmental stewardship induces organizational competitiveness of firms in the oil and gas industry, and competitiveness improves several aspects of organizational life.

## REFERENCES

1. Bennett, N.J. Whitty, T.S., Finkbeiner, E., Pittman, J., Bassett, H., Gelcich, S. & Allison, E.H. (2018). *Environmental stewardship: A conceptual review and analytical framework*. *Environmental Management*, 61, 597 – 614. <https://doi.org/10.1007/s00267-017-0993-2>
2. Chittock, D.G. & Hughay, K.F.D. (2011). A review of international practice in the design of voluntary pollution prevention programs. *Journal of Cleaner Production*, 19(5), 542 – 551. doi:10.1016/j.jclepro.2010.03.015
3. Cole, E.M.S. (2010). *Strategies for competitive advantage*. Western Extension Marketing Committee: Western Centre for Risk Management Education
4. Contrafatto, M. (2014). *Stewardship theory: Approaches and perspectives*. *Advances in Public Interest Accounting*, 17, 177-196. <https://doi.org/10.1108/S1041-706020140000017007>
5. David, F.R. (2013). *Strategic management concepts and cases: A competitive advantage approach*. (14th ed.). New Jersey: Pearson Education Inc.
6. Elkington, J. (2018). 25 years ago, I coined the phrase “triple bottom line”: Here’s why it’s time to rethink it. *Harvard Business Review*.
7. Environmental Protection Agency, (2014). *Pollution prevention law and policies*. Environmental Protection Agency [EPA].
8. Golovkova N.P., Chebotaryov A.G., Leskina L.M., Kotova N.I., Nikolaev S.P., Khelkovsky-Sergeev N.A. (2018). Development and scientific justification of occupational health risk of workers in the main sector of the economy. In Buhtjarov I.V. (ed.). *Actual problems of the prevention of occupational diseases*. Institute proceedings (in Russian). Saratov: Izmerov Research Institute of Occupational Health & LLC "Amirit". pp. 311–318.
9. International Energy Agency (2019). *Oil and gas: Our exploration and production operations*. *Explore and Produce*.
10. Jha, I. (2015). *What is resource conservation?* Next Education.
11. Jeremiah, K. (2019). Nigeria’s crude oil production to witness eight percent decline. *Business News, The Guardian*.
12. John, N. (2019). *Workplace health and safety programs to benefit from AI*. *Safetysure Health and Safety Consultants*.
13. Kpurubu, H. B. (2019). *Effect of environmental regulations on adoption of green innovation by small and medium agro-enterprises in Rivers State*. (Submitted to The Postgraduate School, Of Rivers State University in Partial Fulfillment of The Requirements for the Award of Master of Science Degree (MSc.) in Environmental Economics and Policy). Unpublished.
14. Krishnamoorthy, B. & D’Lima, C. (2014). *Benchmarking as a measure of competitiveness*. *International Journal of Process Management and Benchmarking*, 20(1), 1-3. doi: 10.1504/IJPMB.2014.063240.
15. Landrigan, P.J., Fuller, R., Hu, H., Caravanos, J., Cropper, M.L., Hanrahan, D., Sandilya, K., Chiles, T.C., Kumar, P. & Suk, W.A. (2018). *Pollution and global health: An agenda for prevention*. *Environmental Health Perspective*, 126(8), 1-18. doi:10.1289/EHP3141
16. Mordor Intelligence (2020). *Nigeria oil and gas market: Growth, trends, and forecast 2020 - 2025*. Mordor Intelligence, India.
17. Ncube, F. & Kanda, A. (2018). *Current status and future of occupational safety and health legislation in low – and middle – income countries*. *Safety and Health at Work*, 9(4), 365- 371. <https://doi.org/10.1016/j.shaw.2018.01.007>
18. Raymond, C.M., Fazey, I., Reed, M.S., Stringer, L.C., Robinson, G.M., & Evely, A.C. (2010). *Integrating local and scientific knowledge for environmental management*. *Journal of Environment. Management*, 91(8), 1766–77. doi:10.1016/j.jenvman.2010.03.023
19. Rinkesh, B. (2019). *10 Ways to be a better environmental steward in 2019*. *Conserve Future Energy*
20. Roman, D., Piana, J., de Melb, N. & Evidmann, R.H. (2012). *organisational competitiveness factors*. *Brazilian Business Review*, 9(1), 25-24
21. Rozzi, R., Armesto, J.J., Gutiérrez, J., Massardo, F., Likens, G., Anderson, C., Poole, A. Moses, K., Hargrove, E., Mansilla, A., Kennedy, J.H., Willson, M., Jax, K., Jones, C., Callicott, J.B., Kalin, M.T. (2012). *Integrating ecology and environmental ethics: Earth stewardship in the southern end of the Americas*. *BioScience* 62(3), 226-236
22. Surya, B., Syafri, S., Sahban, H. & Sakti, H.H. (2020). *Natural resource conservation based on community economic empowerment: Perspectives on watershed management and slum settlements in Makassar City, South Sulawesi, Indonesia*. *Land*, 9(104), 1-31. doi:10.3390/land9040104
23. Tende, F.B. & Ekanem, I.S. (2018). *Strategic agility: An intervention prescription to competitive advantage of small businesses in Nigeria*. *European Academic Research*, 6(4), 2286 - 4822



24. Thomas, D. (1995). *Niger Delta oil production, reserves, field sizes assessed: Industry briefs. Oil and Gas Journal* 85, 13 -25.
25. Urban, B. & Govender, D.P (2012). *Empirical evidence on environmental management practices. Inzinerine Ekonomika-Engineering Economics*, 23(2), 209-215. <http://dx.doi.org/10.1080/16487153.2012.71549>
26. Varanavicius, V. & Navikaite, A. (2016). *The link between competitive advantage and environmental sustainability. Journal of Economics and Finance*, 7(6) 2321-5925. doi: 10.9790/5933-0706024347
27. Watson, J. (2013). *Strategy: An introduction to game theory (3rd eds.)*. Norton and Co.
28. Welchman, J. (2012). *A defiance of environmental stewardship. environmental Values*, 21(3), 297 - 316
29. Wisner, J.T., Tan, K., Keong, L. & Stanley, G. (2012). *Demand forecasting and inventory management*. Cengage Learning, Mason.
30. Yusuf, M., Omisakin, O., Nwani, V., & Omezi-Michael, S. (2016). *Nigeria: Looking beyond oil*. PwC