NAVIGATING NIGERIA'S FUEL CRISIS: BUSINESS CONTINUITY INSIGHTS FROM SELECTED INDUSTRIES IN NIGERIA

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ABSTRACT

Nigeria, Africa's most prominent fuel-exporting nation, frequently experiences fuel crises that disrupt the seamless operation of regular economic activity. The nation possesses sufficient crude oil reserves but has limited refining capacity, exacerbated by unpredictable policies, outdated infrastructure, and economic challenges. This has culminated in a fuel crisis that hounds business undertakings that rely on fuel for transportation, machinery, and power in their production line. This paper assessed how the Nigerian fuel situation affects business operations using the transportation, manufacturing, and agricultural sectors as a case study in Lagos State. A self-developed structured questionnaire was administered to a sample of 1152 respondents from a balanced selection of businesses in these sectors, selected from a population of 3000 persons. With reference to Leslie Kish's formula, the sample size was established, and the respondents were selected using a random technique to enhance the generalizability of the study findings. The study's findings, derived from data analysis, provide insight into the overall effects of the crisis on operational vulnerability, indicating that fuel crisis, characterized by fuel price fluctuations, substandard fuel, and scarcity, adversely affects business continuity, with some businesses shutting down. Consequently, the findings offer significant advice for government, policymakers, and business experts seeking to mitigate the impact of the fuel crisis on business continuity. Therefore, the Nigerian government must establish a long-term fuel stock pipeline with reasonable and affordable pricing to ensure fuel reserve so businesses are not overstretched during scarcity or any other hardship due to fuel subsidy removal. Also, to eliminate the widespread use of subpar fuel—which has a negative impact on machinery, production prices, operations, and other corporate matters—the government should likewise guarantee high-quality delivery.

Keywords: *fuel crisis, fuel price fluctuations, substandard fuel, fuel scarcity, business continuity*

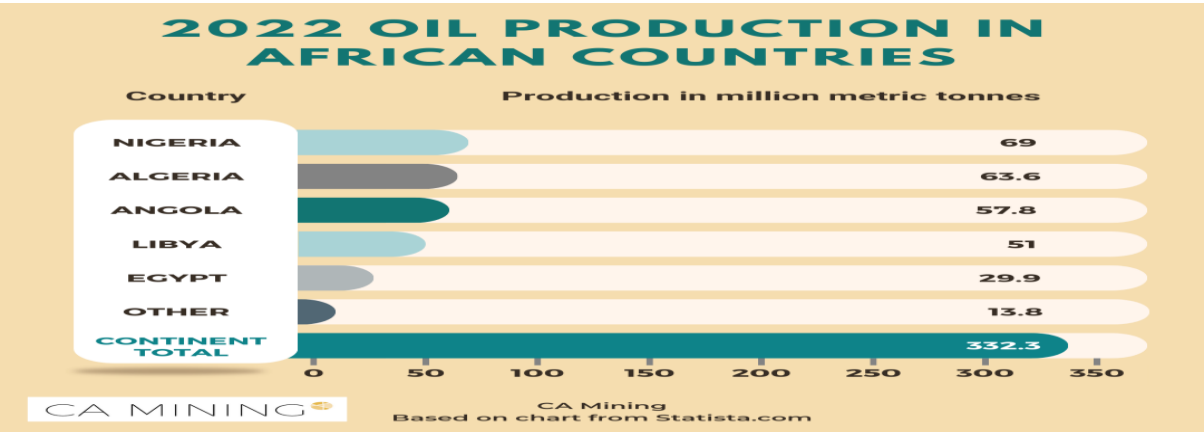
1.0 INTRODUCTION

Fuel is the lifeline crucial in supply chain networks; it plays a vital role in transportation; the transportation industry is one of the largest fuel consumers, with oil products like diesel and gasoline used to fuel vehicles that transport goods globally (Tietenberg & Lewis, 2021). Increasing fuel prices leads to an increase in the cost of transportation and, in turn, increases

the cost of goods and services, with the transport costs passed through the supply chain to the consumer (IEA, 2022). Fuel is also a key input and output commodity in industrial and manufacturing industries, both essential and productive. Natural gas, coal, and oil remain crucial in various manufacturing processes because they provide power for machinery, which is vital to standard production processes (Tverberg, 2018). Notably, companies in regions with expensive fuel are limited in competitiveness in the global market (World Bank, 2021).

A significant input of fuel is its use for agriculture, especially in mechanized farming, as tractors and irrigation systems require fuel for their efficient execution of tasks to ensure the smooth production and transportation of products across countries (Singh, Pant & Krishania, 2023). Fuel-based fertilizers originating from natural gas food production also contribute significantly to increasing the yield of crops, providing solutions to food security and global food pricing mechanisms (Smith, Rodriguez & Tien, 2019). Also, electricity generation is another facet closely linked to fuel, being the backbone of each contemporary company. A stable power supply is essential for business operations, and when fuel is scarce, it becomes a problem, affecting the business's efficiency and viability (Gupta, 2021). Therefore, fuel prices and accessibility define the costs of world trade, impacting economic growth. In their study, Nwachukwu and Tumba (2023) pointed out that transportation costs arising from variable fuel prices affect goods' prices and availability across the globe. However, for fuel-endowing countries, it provides economic stability and trade opportunities, but for the oil-importing economy, geopolitics and price fluctuation are always a problem (World Bank, 2021). Also, the fuel market plays a significant role in financial systems worldwide as the price of oil is one of the crucial economic variables that impact the value of currencies, stock exchanges, and investments (Sadorsky, 2019). Invariably, increases in fuel prices cause inflation around the globe, affecting the central banks' decisions to set interest rates for business growth and consumer expenditure. The need for fuel also propels scientific advancement, mainly by supplying energy resources for innovating companies and countries. Hence, fuel price volatility and environmental factors disrupt research and inventiveness, which may be geared toward solving National or worldwide challenges.

Fuel has a significant role in the Nigerian economy and business climate, affecting many industries, including transport, manufacturing, agriculture, and commerce.



Pic 1: The top 5 oil-producing countries in 2023
Source: CA Mining (2022)

Overtime, Nigeria is considered the largest oil producer in Africa, the industry plays a crucial role in its economy, contributing to approximately 93% of its export earnings and a substantial percentage of its GDP (CBN, 2023). This high reliance on fuel has facilitated economic growth and exposed the nation to vulnerability, as unstable oil prices directly impact national income, fiscal balance, and the ability to finance public services (AfDB, 2022). Additionally, transportation and manufacturing companies in Nigeria rely on fuel to run their businesses, and any disruption in fuel supply or fluctuation in its price impacts the operating costs of these companies and, therefore, their revenues. Since railway transportation is not well developed in the country, most cargo and human traffic is through road transport. Thus, fuel is needed for the trucks, buses, and transport vehicles that assist in transporting goods within the country to help feed the local market and ensure the producers get to the consumer. In the case of increases in fuel prices or shortages, transportation costs skyrocket, and as a result, the price of goods translates to less purchasing power, particularly among the impoverished. Increased transport costs can also raise inflation because businesses transfer additional expenses to consumers (Okon & Anene, 2021).

Notably, transportation is a key input in Nigeria's economy, especially for most citizens who rely on public transport; seasonal shortages or abnormal increases in fuel prices often lead to disruption of public transportation- a vital factor for both business and worker productivity (Olowogbon, Fakayode, & Luke, 2024). Such problems have consequences, including low productivity levels of employees and high expenses, especially among organizations in densely populated areas where traffic and fuel prices are through the roof (Ajayi, 2020). Nigeria's industrial sector also relies on fuel for production because almost every entity, including individuals and businesses in the country, owns generators; this is so because of the erratic power supply from the national grid.

Pic 2: Erratic electricity in Nigeria and household reliance on generators
Source: Pulse.ng, Punch Newspaper (2024)

According to Pulse.ng (2022), over 40% of Nigerian households own a generator set, spending over $14 on fuel yearly. Also, generator set usage is widespread amongst mega conglomerates and small-scale enterprises; the average Nigerian business uses almost 30% of its operating expenditure on fuel for generators to complement the electricity (Ogunbiyi, 2021). This dependence on fuel raises production costs and makes businesses less competitive. For instance, the goods imported from Nigeria to other countries enjoy cheaper power costs than those imported from Nigeria (World Bank, 2023). Therefore, high fuel prices are a brake on industrial development in Nigeria, as it is necessary to expand sectors of the economy other than oil exports. Several industries cannot expand or optimize their scale of production due to

unavailability and high costs associated with fuels; this, in the long run, hampers employment generation and economic diversification (Okon & Anene, 2021).

Pic 3: Nigerian businesses run on generator
Sources: Bloomberg (2024)

Fuel is also essential in the public transportation used by many Nigerians for traveling; shortages and high fuel costs often lead to interruptions in public transport, thereby hindering business activities and workers' efficiency. These problems have several consequent impacts, including decreased workforce productivity and heightened operating expenses, especially for companies operating in large urban cities with high fuel costs (Ajayi, 2020). Individuals and businesses require cheap and readily available goods; thus, Nigeria's advancement is still behind.

The recent removal of fuel subsidies in Nigeria has unveiled several challenges, including hikes in fuel prices, price instability, scarcity, and fuel quality issues; these issues are creating new problems in many fields of the Nigerian economy (Al Jazeera, 2024). This policy change is affecting businesses in the most devastating ways, as it cuts the net profits of many companies, makes operational capacity low, and closes most businesses down. Data shows that nationwide fuel consumption in Nigeria has drastically declined due to escalating prices, prompting oil marketers to voice apprehensions regarding business losses, with over 10,000 oil dealers on the verge of business closure (Punch News, 2024). Data from the Petroleum Regulatory Authority reveal that petrol usage decreased to 4.5 million liters per day in August 2024, a significant reduction from 60 million liters per day in May 2023, representing an unexpected 92 percent decline as petrol prices escalated by over 488 percent (from N175 to over N1,000) in October 2024. The economic consequences of this fuel crisis include diminishing economic stability since businesses cannot shoulder the increasing operations costs; thus, they experience significant financial pressures and business shutdowns (Ameh, 2024). According to Abdulraheem, Onwuka, and Ogungbo (2024), the absence of regulators regarding pricing also increases fuel price fluctuations, affecting many businesspersons' planning and budgeting regimes (Central Bank of Nigeria [CBN], 2023).

Notably, fuel quality has raised operational concerns as business owners incur extra expenses for equipment or replacement because of substandard fuel usage, which causes damage to equipment. The prevalence of scarcity, which continues to restrict fuel availability and has the added effect of raising its prices, worsens this situation (Ogundipe & Ola-David, 2022). The worst affected are the manufacturing sector, logistics, agriculture, and retail, which rely heavily on transportation and electricity produced from fuel. For instance, because Nigeria relies on fuel-powered generators due to erratic electricity supply, businesses are suffering

greatly due to these changes in fuel policy (Isah, Olabomi, & Malumfashi, 2024). Many businesses, including manufacturing firms, have been compelled to reduce their production or even close down due to high operating costs occasioned by scarce or expensive fuels; even large firms in telecommunications and food processing companies have continued to record increased cases of operating losses because of the soaring price of fuel. For instance, transport companies, couriers, and logistics services are not making enough profits; some are shutting down because of skyrocketing fuel costs, impacting employment rates and tax revenues and destabilizing the Nigerian economy. These situations cause businesses to exit or downsize, increasing the number of out-of-job people, decreasing household earnings, and demand impedes growth.

Furthermore, this fuel crisis has prevented the development of a non-oil economy in Nigeria because most sectors, including agriculture and manufacturing, cannot transform their operations and expand under the current conditions (World Bank, 2023). Consequently, the reason for the present research is to evaluate the impact of Nigeria's fuel crisis on business continuity. In particular, it examines how fluctuations in fuel prices, high fuel prices, and poor-quality affect businesses. The knowledge of the study between fuel policy volatility and business experiences is crucial for policymakers as it unveils the necessity of the supporting factors that can eliminate these difficulties and promote stabilization of the business sphere. Therefore, the broad research objective is to assess the effect of the fuel crisis on business continuity in Nigeria; the sub-research objectives are to:

1. Ascertain the effect of fuel price fluctuation on business continuity in Nigeria
2. Evaluate the effect of substandard fuel on business continuity in Nigeria
3. Determine the effect of fuel scarcity on business continuity in Nigeria

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Fuel Price Fluctuation

Sun, Jing, Wang, Cai, Ye, and Wang (2023) describe fuel price fluctuation as unanticipated or anticipated changes in pricing, which may be due to various economic, political, and environmental factors. Three factors—changes in exchange rates, the global oil market, and domestic policies that may result in a higher or lower fuel price—determine this fluctuation (Ihendinihu, 2019; Ogundipe & Ola-David, 2022). For instance, the price of fuel can be affected by factors such as fluctuations in the global oil market due to political instabilities and any change in production by oil-producing countries or increased demand in the growing economies (Long, Liu & Peng, 2023), Nag, 2023). Ihendinihu (2019) noted that Nigeria, one of the world's largest crude oil producers, still imports much fuel. Hence, any change in the international oil price influences the fuel price in Nigeria. The value of local currency relative to the US dollar, the dominant currency exchange means in the oil industry, also impacts domestic fuel prices (Pasion, Roxas, & Suin, 2023). This situation complicates the existence of individuals, families, and various enterprises because it is often impossible to predict the price volatility in the fuel market (Harmon & Cowan, 2009). Ajayi (2020) opines that businesses centered on transportation and manufacturing are some of the most affected by changes in fuel prices due to its implications on operational costs, which, in a way, dampens the profit level and competitiveness.

2.1.2 Substandard Fuel

According to Sazzad, Rahman, Hassan, Al Rifat, Al Mamun, Adib, and Ahmed (2024), substandard fuel does not meet the industry safety, performance, and purity requirements. This may result from impurities or irregular processing of the raw materials used in refining. It may contain contaminants that negatively impact fuel efficiency and threaten the engines and machines in the process (Ajayi & Oladipo, 2021). Low-quality fuel results from negligence during the refining process, lack of strict quality control, or outright dilution with other substances to contain the fuel price. National Bureau of Statistics (2022) states that Nigeria has continuously been faced with poor quality fuel for several reasons, including the absence of local refining facilities, inadequate checks and regulations, and reliance on the importation of refined fuel. Contaminated fuel, which includes impurities such as sulfur or silt, damage vehicles and machinery engines, reduces work efficiency, and leads to higher maintenance costs (Borecki, Geca, Zan, Prus & Korwin-Pawlowski, 2024).

2.1.3 Fuel Scarcity

Fuel scarcity means there is little or no fuel in a specific region, affecting fuel prices and, invariably, society and the economy. It leads to work disruption in several sectors, such as transportation, agriculture, and manufacturing, among others, due to a shortage of fuel as demand outstrips supply (Martínez, Kreuz, Ridens, Rahman, Sumathi, Ross & Smith, 2025). In addition, the logistics questions, poor distribution networks, and getting supplies through imports push fuel scarcity into an endearing issue in Nigeria. Despite possessing large oil reserves, the country is vulnerable to shifts in the indented global market price and supply chain distortions since it relies on imported refined fuel because it has limited refining facilities. Yunusa, Yakubu, Emeje, Ibrahim, Stephen and Egbunu (2023) note that the scarcity of fuel leads to high operating costs, productivity costs, as well as the shortage of most family's essential services. Long queues at the fuel stations and high transport costs affect day-to-day mobility, access to service delivery, social life, and even the economy (Al Mubarak, Rezaee & Wood, 2024). This scarcity poses a significant threat to the Nigerian economy as it often results in low growth rates, low spending capacity from the people, high inflation rates, etc.

2.1.4 Business Continuity

Business continuity is the ability of businesses to sustain normal operations in the event of disruption or threat. As a concept that aims to ensure continuity in corporate operations to minimize disruption in the event of a disaster, an attack, or a downturn, this concept entails creating, organizing, and implementing the plans to forge ahead in its dealings (Herbane, 2019). As Steen, Haug, and Patriarca (2024) noted, business continuity ensures timely planning, protection of business assets, optimization of employees' productivity, and minimizing potential losses in case of unexpected interruptions. Therefore, it is safe to say that business continuity involves defining essential business functions, assessing risk factors, and selecting response techniques that are appropriate to the various threats. Disasters pose substantial risks to businesses, employees, and infrastructure; business continuity creates avenues and ways to manage these risks (Watters & Dobson, 2020). Therefore, unexpected occurrences such as fuel crises have underscored that business continuance is crucial for long-term operation, indicating the importance of readiness more than ever before.

2.2 Empirical Review

Despite the lack of extensive empirical research on the fuel crisis, particularly in Nigeria, a few researchers have made valuable contributions. Ocheni (2015) employed a survey-based methodology to assess the impact of fuel price increases on the Nigerian economy. The study population consisted of civil servants, market vendors, and employees in the commercial sector involved in petroleum and gas activities. A random sample of 120 individuals was chosen, and the Pearson product-moment correlation coefficient was employed to validate the hypotheses. The investigation indicated a substantial correlation between rising fuel prices and economic growth in Nigeria. The authors noted that the Nigerian economy is stagnating due to the impact of rising fuel prices on consumer spending, as the findings indicate a significant correlation between increased fuel prices and food security.

Nnabuife, Orogbu, Onyeizugbe, and Onyilofor (2016) examined the impact of petrol scarcity on company growth, specifically on the profitability of SMEs in Nigeria, based on the 'Demand and Supply Theory. The research employed an ex post facto structure, utilizing regression for data analysis. The study indicated that fuel scarcity does not have a significant beneficial association with the profitability of SMEs in Nigeria. Consequently, it concluded that various reasons contribute to fuel shortages in Nigeria, including stockpiling, pipe vandalism, suboptimal capacity utilization of existing petroleum refineries, and fluctuations in the foreign exchange rate. The inference was that unless they are resolved, the country will persist in facing the threat. Sanni (2014) conducted a study examining the effects of price fluctuations on the availability of fuel. A questionnaire was employed to gather from ten wards within a local government jurisdiction in Abuja, Nigeria. The study's results indicate a statistically significant impact of price fluctuations on fuel products, demonstrating that these price changes substantially affect the availability and shipment of petrol. Therefore, the price rises of PMS significantly contribute to the rising distribution costs of other goods, including farm produce and resources, while fostering the emergence of long lineups at filling stations around Nigeria.

Ayakwah and Mohammed (2014) assessed the impact of gasoline price variations on the growth of SMEs. The research employed a questionnaire-based methodology and interviews with an overall sample size of 204. The study's results indicated that rises in gasoline prices, stemming from fuel price adjustments, lead to heightened costs for transportation, raw material expenditures, capital expenditures, and other expenses while negatively impacting household actual earnings. The findings from the interviews indicated that around 75% of SMEs in the examined region express dissatisfaction when fuel prices increase, as this typically leads to a reduction in output and deceleration of business operations and productivity. As a result of rising gasoline prices, numerous enterprises terminate employees, while those unable to adapt to these circumstances cease operations.

3.0 METHODOLOGY

The study utilised a quantitative survey research design to establish the effect of the fuel crisis on business continuity in three principal business sectors, namely, transport business, manufacturing business, and agricultural business in Lagos State, Nigeria. This approach put the researchers in a position to secure primary data on the pertinent variables that impact these industries with structured questionnaires, which offered the current position of the various sectors selected in this study. This is because the method of administering the questionnaire was simple, and the type of data produced could be easily quantified. The population for this study was 3000 respondents from 10 businesses in the transportation sector, 10 in the

manufacturing sector, and 10 in the agricultural industry. Using Leslie Kish's formula, the number derived for an adequate and representative sample size was 1152. The random sampling method was utilised, whereby each participant of the population had an equal opportunity of being chosen, reducing selection bias and increasing the external validity or generalisability of the study.

Furthermore, the internal consistency of the research instrument was also tested using SPSS to obtain its Cronbach Alpha value, and a coefficient value of 0.878 was found; this was favourable in affirming the instrument's reliability in ascertaining the construct of interest. Validity was achieved through the review of the literature and the opinion of experts (mainstream and downstream sectors of the oil and gas industry) to ensure that the questionnaire captured all the right aspects of the impact of the fuel crisis on business continuity in Nigeria. Data was collected and analysed using quantitative research, specifically regression analysis.

4.0 RESULTS AND DISCUSSION

Regression Analysis

H0: There is no significant positive relationship between fuel price fluctuation, substandard fuel quality and fuel scarcity and business continuity.

Model Summary[b]

Model	R	R Square	Adjusted R Square
1	.773[a]	.839	.830

a. Predictors: (Constant), Fuel Price Fluctuations, Fuel Scarcity, Substandard Fuel
b. Dependent Variable: Business Continuity

The findings indicate that the obtained correlation coefficient (R = 0.773) shows a high relationship between the independent and dependent variables. This means that changes in fuel-related factors (fuel price fluctuation, substandard fuel, and fuel scarcity) have some relationship with changes in business continuity. The R-squared value indicates that the model accounts for about 83.9 % of the variation in business continuity. This is a high proportion, meaning the three fuel-related factors contribute significantly to determining business continuity. Further, the adjusted R-squared also reduces the number of predictors in the model. At 0.830, it is lower than the R-squared value by only a whisker, which means that each of the three predictors brings further explanation to the model. This is a very good sign that the model is well fit and is unlikely to overfit, regardless of the number of predictors.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.778	3	7.593	15.946	.000[b]
	Residual	48.127	796	.863		
	Total	55.905	799			

a. Dependent Variable: Business Continuity
b. Predictors: (Constant), Fuel Price Fluctuations, Fuel Scarcity, Substandard Fuel

The ANOVA significance value (p-value) of 0.000 is less than the usual alpha level of 0.05. This means that the overall model is statistically significant and that the predictors (changes in fuel price, substandard fuel, or fuel scarcity) have an effect on business continuity. A p-value as close to zero fully supports the fact that the observed relationship is not by chance.

Coefficients[a]				
Model		Unstandardized Coefficients		Sig.
		B	Std. Error	
1	(Constant)			.000
	Fuel Price Fluctuations	.626	.644	.001
	Substandard Fuel	.500	.646	.000
	Fuel Scarcity	.753	.739	.000

a. Dependent Variable: Business Continuity

The result shows that each predictor has an associated coefficient that tells how much it contributes to the business continuity apart from p-values, which check the significance of all the predictors independently. Fuel price fluctuation shows a coefficient of 0.626 and a p-value of 0.001; the coefficient = 0.626 means that when fuel price fluctuation is increased by one-unit, other things are equal, and business continuity is expected to decline by 0.626 units. The results prove that the effect of fuel price fluctuation is statistically significant, as the p-value equals 0.001. Second, the table shows that substandard fuel weakens business continuity; for every unit of substandard fuel used, business continuity is down by 0.5 units. The extremely low p-value of 0.000, which indicates that this factor has a significant impact on business continuity, also supports this. Finally, the coefficient of determination of fuel scarcity of coefficient = 0.753 & p-value = 0.000 shows that fuel scarcity is by far the most influential factor out of all three factors. This implies that the extent of business interruption corresponding to each unit increase in fuel scarcity is 0.753. The output also provides a p-value of 0.000, statistically indicating that this effect is highly significant.

5.0 CONCLUSION

The study concludes that fuel–related issues, which include fuel prices, substandard fuel, and fuel scarcity, negatively affect business continuity. Therefore, the following recommendations are necessary to mitigate these factors on business continuity:

i. There is a need for the Nigerian government to establish a long-term fuel stock pipeline, which could be achieved through a fuel reserve so that organizations are not hugely affected in the course of scarcity or any other difficulty.
ii. If fuel subsidy is inevitable, the government should incorporate targeted subsidies to reduce the impact of fuel costs and offer some stability for industries that depend on fuel.
iii. There is a need for the government to encourage the development of decentralization of energy sources besides fuel, such as natural gas, solar, and renewable energy.
iv. The government should also ensure high-quality deliveries to wipe out the spread of low-quality fuel that not only hammers machinery, production costs, and operations but also affect other business affairs.

v. To ensure fair fuel distribution, it is high time the Nigerian government turned serious to policies against hoarding and artificial scarcity through intensive audits and punitive measures to be taken when violations are committed.

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REFERENCES

Abdulraheem, I. K., Onwuka, H. C., and Ogungbo, M. O. (2024). Market disruption and business resilience: examining the impact of fuel subsidy removal on Nigerian enterprises. *International Journal of Innovative Studies*, *5*(1), 45-64.

Adelakun, B. (2019). *Agriculture and rural development in Nigeria*. Ibadan University Press.

African Development Bank (2022). *African economic outlook 2022: Supporting climate resilience and a just energy transition in Africa.* AfDB. Available at; https://www.afdb.org/. Accessed 1st November, 2024.

Ajayi, T. (2020). The role of fuel in Nigeria's transport sector. *Journal of Energy Economics, 13*(2), 122-137.

Ajayi, T., and Oladipo, Y. (2021). Fuel quality standards and regulatory challenges in Nigeria. *Journal of Environmental Management, 15*(4), 98-110.

Al Jazeera. (2023, May 29). *Bola Tinubu sworn in as Nigeria's president, succeeds Buhari.* Available at; https://www.aljazeera.com/news/2023/5/29/tinubu-sworn-in-as-nigerias-president-succeeds-buhari. Accessed 1st November, 2024.

Al Mubarak, F., Rezaee, R., and Wood, D. A. (2024). Economic, societal, and environmental impacts of available energy sources: A review. *Eng*, *5*(3), 1232-1265.

Ameh, E. B. (2024). *An assessment of supply chain resilience capabilities in Nigeria's downstream oil and gas sector* (Doctoral dissertation, Royal Roads University (Canada)).

Amnesty International. (2020). *Niger Delta: Environmental impact of oil spills and gas flaring.* Available at; https://www.amnesty.org/en/latest/research/2020/05/niger-delta-environmental-impact/. Accessed 1st November, 2024.

Bloomberg New Energy Finance. (2022). *Electric vehicle outlook 2022*. Available at; https://about.bnef.com/electric-vehicle-outlook/. Accessed 1st November, 2024.

Bloomberg (2024). *Nigeria runs on generators and nine hours of power a day.* Available at; https://www.bloomberg.com/news/articles/2019-09-23/nigeria-runs-on-generators-and-nine-hours-of-power-a-day. Accessed 5th November, 2024.

Borecki, M., Geca, M., Zan, L., Prus, P., and Korwin-Pawlowski, M. L. (2024). Multiparametric methods for rapid classification of diesel fuel quality used in automotive engine systems. *Energies*, *17*(16), 4189.

CA Mining (2023). *These countries are the Top 5 oil producers in Africa.* Available at; https://mining-recruitment-jobs.com/these-countries-are-the-top-5-oil-producers-in-africa/. Accessed 4th November, 2024.

Central Bank of Nigeria. (2023). *Annual economic report 2023.* CBN. Available at; https://www.cbn.gov.ng/. Accessed 1st November, 2024.

Food and Agriculture Organization. (2020). *The state of food and agriculture 2020: Overcoming water challenges in agriculture.* FAO. Available at; https://www.fao.org/state-of-food-agriculture/2020/en/. Accessed 1st November, 2024.

George Williams, L. (2022). *Effects of illegal refilling or counterfeiting of liquidated petroleum gas on the sales of oil marketing companies in Uganda* (Doctoral dissertation, Institute of Petroleum Studies-Kampala).

Gupta, S. (2021). *Energy in the global economy*. Oxford University Press.

Harmon, R. R., and Cowan, K. R. (2009). *A multiple perspectives view of the market case for green energy. Technological forecasting and social change*. Available at; https://doi.org/10.1016/j.techfore.2008.03.026. Accessed 4th November, 2024.

Herbane, B. (2019). Rethinking organizational resilience and business continuity from a crisis management perspective. *Journal of Business Continuity & Emergency Planning, 13*(1), 5-17.

Ihendinihu John U., O. S. O. (. &. &. P. (2019). *Determinants of corporate social responsibility disclosure practices: An empirical study of Nigerian listed firms.* https://doi.org/10.20370/cjbss.v10i1.1603

International Energy Agency. (2022). *World energy outlook 2022*. Available at; https://www.iea.org/reports/world-energy-outlook-2022. Accessed 1st November, 2024.

International Monetary Fund. (2022). *World economic outlook: Countering the cost-of-living crisis.* Available at; https://www.imf.org/en/Publications/WEO. Accessed 1st November, 2024.

Intergovernmental Panel on Climate Change (2021). *Climate change 2021: The physical science basis.* Cambridge University Press. Available at; https://www.ipcc.ch/report/ar6/wg1/. Accessed 1st November, 2024.

Isah, M. O., Olabomi, R. A., and Malumfashi, G. I. (2024). Impact of power distribution and metering on micro, small and medium enterprises in Nigeria. *International Journal of Financial Research and Business Development*.

ISO. (2021). ISO 22301: *Business continuity management systems – Requirements. International Organization for Standardization.* Available at; https://www.iso.org. Accessed 3rd November, 2024.

Long, C., Liu, X., and Peng, J. (2023). Do unprecedented gasoline prices affect the consumer switching to new energy vehicles? An integrated social cognitive theory model. *Sustainability, 15*(10), 8030.

Martínez, D. T. S., Kreuz, T., Ridens, B. L., Rahman, R. K., Sumathi, S. V., Ross, S., ... and Smith, N. R. (2025). Energy transport is a cornerstone of the energy supply chain. *Energy Transport Infrastructure for a Decarbonized Economy*, 7-43.

Nag, B. (2023). India's energy security: The case of oil. In *Axes of Sustainable Development and Growth in India: Essays in Honour of Professor Jyoti K. Parikh* (pp. 101-118). Singapore: Springer Nature Singapore.

National Bureau of Statistics. (2022). *Nigeria: Economic growth report.* NBS. Available at; https://nigerianstat.gov.ng/. Accessed 3rd November, 2024.

National Bureau of Statistics. (2022). *Nigeria fuel import quality report 2022.* NBS. Available at; https://nigerianstat.gov.ng/. Accessed 3rd November, 2024.

Nigerian National Petroleum Corporation. (2023). *Monthly petroleum products report.* NNPC. Available at; https://www.nnpcgroup.com/. Accessed 3rd November, 2024.

Nwachukwu, D., and Tumba, M. (2023). Price unleashed: examining the ripple effects of petroleum subsidy removal on consumer buying behavior in Nigeria (Systematic Literature Review). *International Journal of Advanced Academic and Educational Research*, *13*(7), 40-51.

Ogunbiyi, O. (2021). Energy and business resilience in Nigeria: Addressing the power deficit. *Lagos Business Review, 8*(3), 211-229.

Ogundipe, A. (2022). Economic impact of substandard fuel on Nigeria's transportation and industrial sectors. *African Economic Journal, 18*(3), 245-256.

Ogundipe, A., and Ola-David, O. (2022). Fuel subsidies and Nigeria's economic stability: Policy implications. *Economic Studies Journal, 10*(1), 84-98.

Okon, I., and Anene, U. (2021). The relationship between fuel costs and inflation in Nigeria. *Journal of Economic Development, 25*(4), 214-227.

Olowogbon, T. S., Fakayode, S. B., and Luke, A. O. (2024). Transportation and economic development: advancing technological innovation and sustainability in the transportation sector of a developing nation. In *Innovation, Entrepreneurship and the Informal Economy in Sub–Saharan Africa: A Sustainable Development Agenda* (pp. 197-216). Cham: Springer Nature Switzerland.

Organization for Economic Cooperation and Development. (2020*). International trade and the COVID-19 crisis.* OECD. Available at; https://www.oecd.org/coronavirus/policy-responses/international-trade-and-the-covid-19-crisis-8dbbab9d/. Accessed 3rd November, 2024.

Pasion, F. L., Roxas, L. J., and Suin, K. A. (2023). The relationship of crude oil prices and the US dollar exchange rate in the Philippines. *Journal of Economics, Finance and Accounting Studies*, *5*(2), 89-115.

Porter, M. E., and Kramer, M. R. (2019). Creating shared value. *Harvard Business Review.*

Pulse.ng (2024). *Residents groan as fuel scarcity paralyses commuting in Lagos.* Available at; https://www.pulse.ng/news/local/residents-groan-as-fuel-scarcity-paralyses-commuting-in-lagos/4nfyv93. Accessed 4th November, 2024.

Pulse.ng (2024). *40% Nigerian households use generators, spend $14bn on fuel – Repor*t. Available at; https://www.pulse.ng/business/40-nigerian-households-use-generators-spend-dollar14bn-on-fuel-report/syl9xtv. Accessed 4th November, 2024.

Punch Newspaper (2023). *Motorists, commuters, businesses suffer as biting fuel crisis defies solution*. Available at; https://punchng.com/motorists-commuters-businesses-suffer-as-biting-fuel-crisis-defies-solution/. Accessed 3rd November, 2024.

Punch Newspaper (2024). *Tag: Erratic electricity*, Available at; https://punchng.com/tags/erratic-electricity/. Accessed 4th November, 2024.

Sadorsky, P. (2019). Oil price shocks and stock market activity. *Energy Economics, 5*(1), 105-115.

Sazzad, M. R. I., Rahman, M. M., Hassan, T., Al Rifat, A., Al Mamun, A., Adib, A. R., ... and Ahmed, M. (2024). Advancing sustainable lubricating oil management: Re-refining techniques, market insights, innovative enhancements, and conversion to fuel. *Heliyon*, *10*(20).

Singh, S., Pant, K. K., and Krishania, M. (2023). Current perspective for bio-oil production from agricultural residues in commercialization aspect: A review. *Journal of Analytical and Applied Pyrolysis*, *175*, 106160.

Smith, A., Rodriguez, C., and Tien, J. (2019). *Agriculture and food security: Building resilience.* Routledge.

Smith, D. (2021). COVID-19 and business continuity: Lessons learned for the future. *Journal of Risk and Crisis Management, 4*(2), 53-67.

Steen, R., Haug, O. J., and Patriarca, R. (2024). Business continuity and resilience management: A conceptual framework. *Journal of Contingencies and Crisis Management*, *32*(1), e12501.

Sun, H., Jing, P., Wang, B., Cai, Y., Ye, J., and Wang, B. (2023). The effect of record-high gasoline prices on the consumers' new energy vehicle purchase intention: Evidence from the uniform experimental design. *Energy Policy*, *175*, 113500.

Tietenberg, T., and Lewis, L. (2021). *Environmental and natural resource economics (12th ed.)*. Routledge.

Tverberg, G. (2018). The role of energy in the global economy. *Energy Policy, 12*(3), 187-195.

U.S. Energy Information Administration. (2023). *Annual energy outlook 2023.* Available at; https://www.eia.gov/forecasts/. Accessed 3rd November, 2024.

Watters, R., and Dobson, J. (2020). Strategic approaches to business continuity: Preparing for a resilient future. *International Journal of Strategic Management, 8*(4), 112-126.

World Bank. (2023). *Nigeria's industrial competitiveness: Challenges and opportunities.* Available at; https://www.worldbank.org. Accessed 3rd November, 2024.

World Health Organization. (2021). *Air quality and health impacts in developing economies.* Available at; https://www.who.int. Accessed 3rd November, 2024.

Yunusa, E., Yakubu, Y., Emeje, Y. A., Ibrahim, Y. B., Stephen, E., and Egbunu, D. A. (2023). Fuel subsidy removal and poverty in Nigeria: A literature review. *GPH-International Journal of Applied Management Science*, *4*(09), 14-27.