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Abstract

Purpose: Studies across developed and emerging economies alluded to the persistent decline in the performance of oil and gas marketing firms, which had been attributed to both micro-economic and macro-economic factors. The objective of the study was to determine the effect of supply chain disruptions on market performance of selected oil and gas marketing companies in Lagos State, Nigeria.

Materials and Methods: The study adopted a survey research design. The total population of the study was 1,044 full-time employees of five selected oil and gas marketing companies in the downstream sector of the petroleum industry in Nigeria. The study sampled three hundred and sixty-two (362) respondents, who participated in the study. Stratified random sampling method was adopted, because it ensures less homogeneity, and a true representative of the sample, thereby the accuracy of statistical results can be higher than that of simple random sampling. Structured questionnaire was used to collect the primary data from the sample size. The research targeted 362 respondents in the survey, while 322 copies of the questionnaire administered were filled and returned. Therefore, the response rate was 91.7%.

Findings: The three independent variables that were studied, explained 4.8% of the market performance as represented by adjusted R-square. This, therefore, meant that other variables not studied in this research contributed 95.2% of the market performance.

Implications to Theory, Practice and Policy: The study recommended that oil and gas marketing companies should increase their commitment to adopting scenario planning and supply chain mapping strategies, in order to mitigate risks threatening their supply chains, in order to accomplish better performance.

Keywords: *Supply chain risks, Natural Disasters, Man-made Hazards, Macro-economic Events, Market Performance*

1.0 INTRODUCTION

In a fast-paced, inter-connected world of global commerce, supply chain is a circulatory system of businesses set up to maximize the total value created (Adeleke, 2022c, 2023a, 2023b; Tambo, Ondoro, & Obura, 2018). Supply chain managers must integrate a company's whole supply chain, from upstream suppliers to customers, to achieve sustainable success. Companies have made it feasible through strategies such as lean manufacturing, outsourcing, and supplier consolidation, and as a result, these efforts have resulted in cheaper prices, improved quality, faster time to market, and increased company agility. Consequent upon this, most supply chains have become more linked and global.

However, global supply chains are more susceptible now more than ever before, with more possible sources of failure and less margin of error for absorbing delays and disruptions. With the expansion of operations and incursions into the global market, supply chain risks have become unavoidable and will only increase in the near future. According to a 2011 Business Continuity Institute survey, 85 percent of organisations with worldwide supply chains faced at least five supply chain disruptions in the previous 12 months (Bhamra, Dani, & Burnard, 2011). The implications of such disruptions can be considerable, resulting in lower revenues, greater downtime, delivery delays, lost clients, and even tarnished reputations. Hendrick and Singhal (2005) reported that organisations in their study, experienced 30% dip in shareholders' returns compared to their competitors following a publicly reported disruption.

Review of extant literature revealed that supply chains are exposed to a wide range of risks, which for the purpose of this paper will not be discussed in any detail. There are numerous disturbances, interruptions or disruptions caused by supply-demand risks in both upstream and downstream in supply chain, as well as operational and environmental risks. The supply-demand risks upstream include supplier business risks, supply market production capacity restrictions, quality issues, and technology and product design changes in purchasing, supplier relationships, and supply networks (Adeleke, 2023b; Zsidsin, Panelli, & Upton, 2000).

The downstream side of the supply chain includes disruptions in the physical distribution of items to the end consumer, mainly in transportation operations (e.g., a truck driver strike) (McKinnon, 2006) and the distribution network (e.g., a distribution centre delay), induced by customers' unanticipated needs, market dynamics amongst others (Adeleke, 2022b; Nagurney, Cruz, Dong, & Zhang, 2005). There are inherent risks that arises from manufacturing processes, logistics, yearly turn-arounds, union strikes which are referred to as operational or organisational risk [internal to a company's operations] (Adeleke, 2022b; Christopher & Lee, 2004; Juttner, 2005). Other sources of supply disruptions include extreme weather, natural disasters, epidemic/pandemic, man-made hazards and macro-economic events (often referred to in supply chain management field as environmental or disruption risks) are but a few examples of the issues that plague supply chains globally (Abeysekara, Wang, & Kuruppuarachchi, 2019; Adeleke, 2022d, 2022e; Udbye, 2013, 2016).

Studies on disruption risks which is the focus of this study has been described as those dangers from continual changes in volatile contexts, such as natural disasters man-made hazards and macro-economic events, have been disregarded in emerging economies, including Nigeria (Bavarsad, Boshagh, & Kayedian, 2014; Dolgui, Ivanov, & Sokolov, 2018; Langat & Karanja, 2021; Tambo et al., 2018). Thus, this study focused on the supply chain disruption risks in the downstream petroleum sector, with specific reference to the oil and gas marketing firms in Lagos State, Nigeria.

Supply chain interruptions and other related difficulties are the biggest challenges facing companies in the modern global market (Adeleke, 2023b; Marley, Ward, & Hill, 2014). The

normal flow of goods and materials within a supply chain might be interrupted by unplanned and unanticipated incidents. Braziotis, Bourlakis, Rogers, and Tannock (2013) stated that there is growing evidence that the frequency and severity of catastrophic events are on the rise, posing a threat to global supply chain networks. A case in point is the novel Covid-19, which disrupted global supply chain affecting several industries in different part of the world (Adeleke, 2022a; Mellat & Nachiappan, 2021). Since the 1960s, the typical cost of disruptions has increased by more than a factor of ten. In today's interconnected and complicated supply networks, predicting the effects of uncertainty is a challenging task. Many sectors over the past decade have seen the effects of supply chain disruptions on their inter-connected worldwide operations (Rehman, Khan, & Yu, 2019).

The challenge of establishing continuous and improved performance in the oil and gas marketing industry has been centred on petroleum distribution and marketing organisations' capacity to distinguish themselves by providing distinctive products and services sufficiently enough to generate above-average returns. Supply chain disruptions have posed a grievous impact on the performance of oil and gas companies around the world. The novel Covid-19 pandemic, caused one of the worst supply chain disruptions in history, as well had major effects on the oil and gas industry. With reference to Nigeria, Akinmurele (2022), Ndigwe (2022), Nsikan, Ekeins-Wilson, Ayandike, & Ortencia (2019) and Owuso and Poi (2019) posited that the meager performance of oil and gas marketing companies in Nigeria is due to some interrelated problems like inefficient supply chain management, internal operations, product marketing, declining investment and external environmental factors.

Alaba (2021) and Nsikan et al. (2019) clearly stated that inefficient and ineffective mitigation strategies applications to, supply chain disruptions, increased outsourcing, long lead-times, low product shelf-life, petroleum product shortages, and poor quality products currently affect petroleum products (diesel, kerosene, and premium motor spirit, among others) in the industry had been the bane of the Nigerian indigenous oil and gas marketers, which in turn have caused the decline in their overall performance. Therefore, investigation into supply disruption risks in the petroleum industry, particularly the downstream sector in emerging economies such as Nigeria, is important (Briggs, Tolliver, & Szmerekovsky, 2012; Ceryno, Scavarda, Klingebiel, & Yuzgulec, 2013; Mellat & Nachiappan, 2021), because changes in risk can have meaningful impact on firm’s overall success and its various stakeholders including management, employees, investors, suppliers, and customers (Adeleke, 2023b; Hendricks & Singhal, 2005).

Previous studies conducted in developed and emerging economies such as Brazil, Italy, South Africa, Kenya, Japan, China, Thailand, USA, Germany, and the UK examined the impact of environmental factors (natural disasters, man-made hazards and macro-economic events) on global supply chains, known in supply chain management literature as supply chain disruptions (Abe, 2014; Clark, 2012; Hendricks, Jacobs, and Singhal, 2020; Lohr, 2011; Mellat & Nachiappan, 2021; Silva & Reddy, 2011; Udbye, 2013, 2016). Most supply chain disruption research had been done in wealthy countries, and this is fascinating. Few studies have examined how supply chain disruption dimensions affect oil and gas marketing enterprises in Lagos State, Nigeria. Disrupted supply chains risk can cause firms to lose their market share if they do not recover fast (Hendricks et al., 2020).

For instance, after Hurricane Mitch destroyed its central American banana supply source, Dole experienced decline in its market performance, while its major competitor, Chiquita’s market shares increased (Silva & Reddy, 2011). According to Anyaogu, Onyekwelu, and Oladehinde (2020), most oil and gas enterprises lose money and perform poorly due to supply chain disruptions induced by the Covid-19 pandemic (a component of natural disasters), which crashed

global oil prices, and produced foreign exchange instability, leading to high-interest rates, and spiral inflation in most countries of the world. The study hypothesized that;

H_0: Supply chain disruption risk components have no significant effect on the market performance of selected oil and gas marketing companies in Lagos State, Nigeria.

Theoretical Framework

This study is premised on resource dependence theory (RDT). This theory argued that supply chain disruptions may have a significant effect on firm's performance outcomes (Hendricks & Singhal, 2003, 2005, 2020; Kuria, Kwasira, & Waruguru, 2015; Revilla & Saenz, n.d.; Silva & Reddy, 2011). The effect of environmental factors on business performance has been extensively studied with emphasis on the need for flexibility and protection from turbulent environmental conditions (Child, 1973a, 1973b; Lawrence & Lorsch, 1967; Thompson, 1967).

Resource Dependence theorists argued that strategic planning linked to performance increases the understanding of the effects of strategic planning on business performance under different situations, and will foster a consistent conceptualization of strategic planning characteristics and their relationships to different organisational and environmental characteristics (Egelhoff, 1984; Wolf & Egelhoff, 2002). Therefore, it can be rationalised that a firm can use suitable risk management practices (strategies) that positively impact its business performance. There are several findings directly linking the contingency and resource dependence theories to the field of supply chain management. Hillman, Withers, and Collins (2009) and Miner (2003) found RDT to be of high importance to strategic management and organisational theory.

Resource dependence theory focuses on control, power, and vulnerability in a firm's external resource provisions (Bode, Wagner, Petersen, & Ellram 2011). Consistent with this view, Ahmed, Hayder, and Khan (2014) observed that resource dependency theory provides focuses on environmental uncertainty, which occurs when the power and control are diverted, therefore, firms affected have to respond to them, in order to run their functions smoothly. The provision of resources enhances organisational operations, the firm's performance, and its survival (Bebeji, Mohammed, & Tanko, 2015). Besides, this theory disclosed that the common pressures of the environment hypothesized by Pfeffer and Salancik (2003) on organisations are fundamentally the same today as they were during the time of the emergence of the theory; specifically: "economic crisis, dissatisfaction with political leadership, increased social activism" (Davis & Cobb, 2010). This theory is relevant to this study because the occurrence of environmental risks is not so much how they affect the supply chain of a firm, but how they influence the performance outcomes of firms. The theory also shows that in uncertain times, stronger relationships allow the firm to draw the necessary resources from supply chain partners, in order to sustain performance (Jangga, Ali, Ismail, & Sahari, 2015).

2.0 LITERATURE REVIEW

Several empirical findings have established the link between supply chain disruptions and a firm's market performance. Hendricks and Singhal (2005) in their study investigated the effect of supply chain disruptions on the long-run stock price performance and equity risk of the firm. These scholars found that supply disruptions significantly influenced the decline in sales growth of firms under study. This is consistent with findings in a study earlier done by these scholars in 2003. In another study done in 2012, they confirmed that supply disruptions do not only impact the short-term performance of firms, but can as well have a negative long-term effect on their market performance. Similarly, Worthington and Valadkhani (2004) investigated the impact of natural disasters on the Australian equity market. The study employed daily price and accumulation

returns between 31st December, 1982 to 1st January, 2002, using severe storms, floods, cyclones, earthquakes, and bushfires (wildfires) to measure the impact of natural disasters.

The results showed that bushfires, cyclones and earthquakes have a major effect on market returns, unlike severe storms and floods. Leckcivilize (2012) examined the Great Tohoku Earthquake and Tsunami of 2011, as an external shock to Japanese automakers in the United States of America. The results of the study revealed that the disaster caused major disruption on Japanese motor vehicles and motor parts export and led to a significant decline in Japanese auto makers' market share in the U.S. Likewise, this natural disaster also totally disrupted the global supply chain of electronic products with the huge negative economic outcome for firms, leading to the closure of their plants for several months and loss of their market share (World Bank, 2012).

Bavarsad et al. (2014) study investigated the impact of supply chain risk factors on organisational performance in the automobile industry in Iran. These scholars found a significant and negative relationship between supply chain risks and organisational performance using costs, responsiveness, finance, and time as variables to measure firms' performance. This position is equally affirmed by Inuoe (2012) that the higher the risks from catastrophes, the lower the supply chain performance. Likewise, Haraguchi and Lall (2014) studied the impact of the Thai flood in 2011 and highlighted how this natural disaster reduced the world's industrial production by 2.5%. They also estimated the number of days it took electronics firms such as Dell, Sony, and Fujitsu to recover from the catastrophic event and reported how Western Digital, the world's largest hard disks maker at that time, suffered a 35% fall in returns.

lahmar, Galasso, Chabchoub, and Lamothe (2016) examined the supply vulnerability of companies using a single source of supply and identified how this purchasing policy affected the market performance of Toyota, Land Rover, Nokia, and Ericsson. These scholars found that as a result of this policy, Land Rover was affected because the company decided to keep one supplier of the chassis frame "UPF-Thompson" for its best-selling model. Unfortunately, this supplier lost money on other ventures into foreign markets and went bankrupt at the end of 2001. This incident caused financial losses (35 million pounds) and the dismissal of 1,400 workers and also put into question Land Rover's survival in the market at that time.

Gul, Hussain, Bangash, and Khattak (2010) examined the impact of terrorist activities on financial markets in Pakistan. They found that terrorist incidents had an adverse impact on the financial markets in the country. Also, Chesney, Reshetar, and Karaman (2011) investigated the impact of terrorist activities in 25 countries over a period of 11 years. They found a negative impact of terrorist incidents on stock markets. Similarly, Suleman (2012) examined the impact of terrorist attacks in Pakistan on stock market performance during the period from 2002 to 2009. The study found a negative impact of terrorist attacks on the stock returns of listed companies. Furthermore, Gulley and Sultan (2009) examined the impact of terrorist attacks on stock and bond markets in a group of developed countries from 1968 to 2005. The study was based on developed countries which included the UK, France, Germany, Italy, the US, Canada, Australia, and Japan. The results suggest that a greater number of terrorist activities have a negative effect on stock returns, while bond markets generate a lower yield in such incidents.

Several studies documented that there exist significant relationships between macro-economic variables and business performance (Abioye, 2017; Akinmurele, 2022; Augie, 2016, 2017; Menike, 2006; Onuba, 2017; Onyekwelu, 2021; Opara, 2017). Variables used in measuring macroeconomic factors include currency devaluation, gross domestic product (GDP), real activity, exchange rates, interest rates, inflation, political risks, oil prices, the trade sector, money supply, budget deficits, trade deficits, domestic consumption, unemployment rate, imports and regional stock market indices, real wage among others. Researchers such as Nijam, Ismail, and Musthafa

(2015) found a clear link between macro-economic factors and business performance. Their study empirically revealed that macro-economic factors significantly influence business performance. Adekunle, Alalade, and Okulenu (2016) showed that there was a positive and significant correlation between interest rates and capital market growth, while the inflation rate and exchange rate are however not significant. Singh, Mehta, and Varsha (2011) investigated macro-economic factors and stock returns in the Taiwan stock exchange using GDP., employment rate, exchange rate, inflation, and money supply as macro-economic variables. The study revealed that exchange rate and GDP influence the returns of all portfolios, while exchange rate, inflation rate, and money supply were having a negative relationship with returns for portfolios of big and medium companies.

Egbunike and Okerekeoti (2018) examined macro-economic factors, firm characteristics, and financial performance in selected quoted manufacturing firms in Nigeria by exploring interest rate, inflation rate, exchange rate, and GDP growth rate as macro-economic indicators and their influence on financial performance. Findings showed inconsistency in macro-economic factors results; the inflation rate had a negative and significant effect, while the interest rate had a negative but non-significant effect. The exchange rate was negative but non-significant, while the GDP growth rate was positive and significant. Mwangi and Wekesa (2017) examined the influence of economic factors on firm performance in Kenya. The economic factors were taxation and interest rate, while the dependent variables of the study were efficiency and growth. The study found that economic factors had a significant effect on firm performance.

Furthermore, Rao (2016) investigated the relationship between macro-economic factors and the financial performance of five selected firms in Nairobi, Kenya. The study was from 2004 to 2015. The study found a significant negative effect of interest rate and oil price on firms' financial performance, but GDP growth, exchange rate, and inflation rate were not significant. However, the studies of Wagner and Bode (2008), and Schmidt and Raman (2012), revealed that disruptions in the supply chain have a very low impact on overall business performance. These scholars are of the view that the impact of supply disruptions is highly over-estimated, especially the risk that stems from uncommon catastrophic events, such as natural and man-made disasters.

Conceptual Framework

The hypothesized model linking the interaction between natural disasters, man-made hazards, macro-economic events, and firm performance is depicted in Figure 1. The model is mainly grounded within the resource dependency theory to explain supply chain disruption-market performance interaction. The research question surrounding the theoretical framework for this study states: In what way does supply chain disruption affect the market performance of selected oil and gas marketing companies in Lagos State, Nigeria? Following the studies of Hendricks and Singhal (2003, 2005, 2020) they argued that: disruptions increase the risk of the firm; disruptions have a significant negative effect on profitability; disruptions have a debilitating effect on performance as firms do not quickly recover from disruptions and disruptions have a negative implication across the board effect on stock price, profitability, and share price volatility.

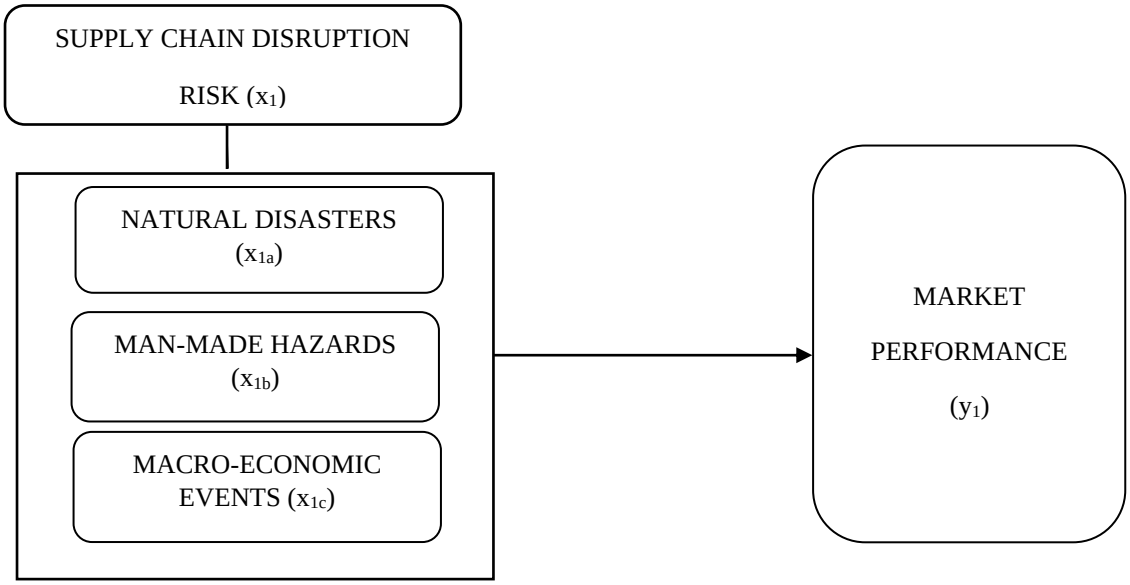

Figure 1: Conceptual Framework

3.0 MATERIALS AND METHODS

The survey research design was used in this study. Survey research design, according to Kumar (2011), tries to find or establish the presence of links or independence between two or more components of a situation. Several researchers (Agorzie, Monday, & Aderemi 2017; Mhelembe & Mafini, 2019; Peter, Rotich, & Ochiri, 2018) have deemed this study design adequate for use in their individual investigations. The study's population consists of 1,044 full-time employees from five selected oil and gas marketing companies in Nigeria's downstream petroleum industry (Annual Report of the respective oil and gas marketing companies, 2019). Total Nigeria Plc., OVH Energy Marketing Ltd. (formerly Oando Nigeria Oil Plc.), MRS Oil Plc., Ardova Plc. (formerly Forte Oil Plc.), and Conoil Nigeria Plc. are among the major marketers chosen.

These organisations engage in the distribution, retail and marketing of petroleum products nationwide (Alaba & Agbalajobi, 2014; Arokodare, 2019). The Krejcie and Morgan (1970) formula was used to calculate a sample size of 362 people. To collect information from respondents, a modified and structured questionnaire was employed. The content and construct validity of the instrument were used to establish its validity, while Cronbach's alpha was used to determine its reliability, yielding coefficient alphas of 0.861, 0.976, 0.960, and 0.879 for natural catastrophes, man-made hazards, macro-economic events, and market performance respectively. All variables were assessed with six items on a six-point Likert scale ranging from Very High (VH) = 6, High (H) = 5, Moderately High (MH) = 4, Moderately Low (ML) = 3, Low (L) = 2, Very Low (VL) = 1. This adjusted scale improved the reliability of the responses, while also eliciting more effective responses from the respondents. The hypothesis was examined using Regression Analysis and the Statistical Package for Social Science (SPSS) version 26. This statistical technique was used by the researchers to determine the strength of the effect of independent variables on dependent variables as demonstrated in the conceptual model.

Data Analysis and Results

This analysis aims to determine the effect of the independent variables on the dependent variable. The number of copies of the questionnaire that were administered to the employees of five selected oil and gas marketing companies in the downstream sector of petroleum industry in Nigeria was 362. A total of 332 copies of the questionnaire were properly filled and returned. This represented

an overall successful response rate of 92%. This response rate was excellent according to Wimmer and Dominick (2006), since it surpassed the minimal value of 50% response rate prescribed for statistical analysis (Mudenda & Mugenda, 2003). Multiple regression analysis was used to find the proportion in the dependent variable (market performance) which can be predicted from the independent variable (supply chain disruption risk). Table 1 shows the analysis results.

Table 1: Multiple Regression Between Supply Chain Disruption Risk Components and Market Performance

Model One $MP=b_0+b_1NR+ b_2MH+ b_3ME + u$		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
		B	**Std. Error**	**Beta**		
332	(Constant)	3.906	.291		13.427	.000
	Natural Disasters	.028	.046	.036	.608	.544
	Man-made hazards	-.046	.049	-.059	-.946	.345
	Macro-economic events	.251	.057	.248	4.395	.000
a. Dependent Variable: Market Performance b. $R = 0.239^a$ Adj. $R^2 = 0.048$ c. $F(3\ 328) = 6.603 (p<0.05)$						

Source: Researchers' Findings, 2023

Table 1 shows the multiple regression analysis results for the effect of supply chain disruption components on the market performance of selected oil and gas marketing companies in Lagos State, Nigeria. The results showed that natural disaster ($\beta = 0.28$, $t = 0.608$, $p>0.05$) has a positive but insignificant effect on market performance. Man-made hazards ($\beta = -0.046$, $t = -0.946$, $p<0.05$) has a negative and insignificant effect on market performance while macro-economic hazards ($\beta = 0.251$, $t = 4.395$, $p<0.05$) is the only factor that shows a positive and significant effect on the market performance of selected oil and gas marketing companies in Lagos State, Nigeria.

The *R* value of 0.239 indicates that supply chain disruption components have a weak relationship with the market performance of selected oil and gas marketing companies in Lagos State, Nigeria. The coefficient of multiple determination $Adj.R^2 = 0.048$ indicates that only about 4.8% of the variation that occurs on the market performance of selected oil and gas marketing companies can be accounted for by supply chain disruption components 95.2% of changes that occur is accounted for by other variables not captured in the model. The predictive and prescriptive multiple regression equations derived from the results are thus expressed:

$MP = 3.906 + 0.028ND - 0.046MH + 0.251ME + e_i$----------Eqn i (Predictive Model)

$MP = 3.906 + 0.251ME + e_i$ ----------Eqn i (Prescriptive Model)

Where:

MP = Market Performance

ND = Natural Disasters

MH = Man-made Hazards

ME = Macro Economic Events

The regression model shows that holding supply chain disruption components to a constant zero, market performance would be 3.906, which is positive. In the predictive model, it is seen that of all the variables, man-made hazards and macro-economic events are significant, that is why they

are the only variables in the prescriptive model. The results of the multiple regression analysis as seen in the prescriptive model indicate that when two of the components of supply chain disruption (macro-economic events) are improved by one unit, market performance would also increase by 0.250.

This implies that an increase in macro-economic events would lead to an increase in market performance, while an increase in man-made hazard will lead to a reduction in the market performance of selected oil and gas marketing companies in Lagos State, Nigeria. Also, the *F*-statistics (df = 3, 328) = 6.603 at p = 0.000 ($p<0.05$) indicates that the overall model is significant in predicting the effect of supply chain disruption components on market performance which implies that supply chain disruption except natural disasters are important determinants in the market performance of selected oil and gas marketing companies in Lagos State, Nigeria. Therefore, the null hypothesis (H_0) which states that Supply chain disruption components do not significantly affect market performance of selected oil and gas marketing companies in Lagos State, Nigeria is hereby rejected.

4.0 FINDINGS

This research found that the market performance of selected oil and gas marketing enterprises in Lagos State, Nigeria was significantly impacted by supply chain disruption components (natural catastrophes, man-made hazards, and macro-economic events). This implied that the usual movement of goods and materials within a supply chain, as well as the operations of one or more partners located elsewhere in the supply chain, would be severely disrupted, if an incident happened. Conceptually, supply chain disruption is a critical influencer of performance in any organisation.

Market success is a pointer of business performance. The ability to have market share, market share growth, and revenue growth are all used to appraise firms' market success. However, such market performance is vulnerable to supply chain disruptions as revealed by numerous studies (Hendricks & Singhal, 2005, 2012; Hendricks et al., 2020; Udbye, 2013, 2016). As a natural disaster dimension, the outbreak of COVID-19 pandemic in 2019, revealed that events with exceptional uncertainty had obstructed conventional demand and supply patterns, leading to disruptions in transportation/logistics and supply chain systems across the world and consequently huge losses in productivity, sales and profitability (Adeleke, 2023b; Mellat & Nachiappan, 2021; Nkengasong & Mankoula, 2020).

Several studies at various times revealed how man-made hazards such as sea piracy, wars, terrorist attacks, oil thefts/sabotage amongst others affected firms' performance in different part of the world. Events such as terrorist attacks in New York in 2001, Madrid in 2004, London in 2005, Jakarta in 2009, Mumbai in 2008 (Czinkota, Knight, Liesch, & Steen, 2005; Markoulis & Neofytou, 2019; Narula, 2015; Natarajarathinam, Capar, & Narayanan, 2009; Sheffi, 2001, Sheffi, 2005), were reported to have affected stock prices of many companies in the countries where these attacks happened. The recent conflict between Russia and Ukraine is reported to have disrupted supply chain of Diesel and Jet A1 fuels and consequently, responsible for the spike in prices of these imported petroleum products used by various industries in Nigeria (Balogun, 2022).

Macro-economic issues such as economic slump/recession, inflation, level of trade barriers, unemployment rate, currency devaluation among others, are issues that affect the overall business context across industries in different parts of the world (Augie, 2019; BusinessDay Editorial, 2017; Cavusgil & Deligonul, 2012; Egbunike, & Okerekeoti, 2018). Macro-economic events are risk linked with changes in inflation rates, high interest rates, sudden currency devaluation, high exchange rates and economic recession (Rao & Goldsby, 2009; Sheffi & Rice, 2005; Trkman &

McCormack, 2009), all of which has been identified as some influential factors that affects performance of supply chain members and cause risks to the management of supply chains (Blos, Quaddus, Wee, & Watanabe 2009; Christopher, Mena, Khan, & Yurt, 2011; Manuj & Mentzer, 2008; Natarajarathinam et al., 2009; Singh & Abdul-Wahid, 2014; Sodhi & Lee, 2007; Tang & Musa, 2011; Zsidisin, 2003; Zsidisin, Ellram, Carter, & Cavinato, 2004).

This result found support in prior supply chain disruption studies. For instance, Hendricks and Singhal (2005) aver a negative significant influence of supply chain disruptions in sales growth of firms under study. This is consistent with findings in a study earlier done by these scholars in 2003. In another study done in 2012, they confirmed that supply disruptions do not only impact short-term performance of firms, but also can as well have a negative long-term effect on their market performance. Further analysis revealed that bushfires, cyclones and earthquakes have a major effect on market returns, unlike severe storms and floods (Worthington & Valadkhani, 2004).

Bavarsad et al. (2014) findings corroborated Hendricks and Singhal (2005), which submitted that a significant and negative relationship exists between supply chain risks and organisational performance using costs, responsiveness, finance and time as dimensions to measure firms' performance. This position is equally affirmed by Inuoe (2012) that the higher the risks from catastrophes, the lower the supply chain performance of firms. Likewise, Haraguchi and Lall (2014) studied the impact of Thai flood in 2011 and highlighted how this natural disaster reduced the world's industrial production by 2.5%, affecting firms access to markets. They also estimated the number of days it took electronics firms such as Dell, Sony and Fujitsu to recover from the catastrophic event and reported how Western Digital, the world's largest hard disks maker at that time, suffered a 35% reduction in returns.

In identifying the macro-economic factors necessary for firms' market performance, Egbunike and Okerekeoti (2018) suggested that inconsistency in macro-economic factors results; inflation rate had a negative and significant effect on firms' overall performance, while interest rate had negative but non-significant effect. Exchange rate was negative but non-significant, while GDP growth rate was positive and significant. Furthermore, Rao (2016) investigated the relationship between macro-economic factors and financial performance of five selected firms in Nairobi, Kenya.

The study was from 2004 to 2015. The study found a significant negative effect of interest rate and oil price on firms' financial performance, but GDP growth, exchange rate and inflation rate were not significant. However, the findings of Wagner and Bode (2008), Schmidt and Raman (2012), revealed that disruptions in the supply chain have very low impact on overall business performance. Furthermore, Mellat and Nachiappan (2021) investigated the relationship between environmental disruption and firm performance outcomes in 315 Chinese firms, and found no significant relationship between environmental disruption (a component of supply disruption) and firm performance. These scholars are of the view that the effect of supply disruptions is highly over estimated, especially the risk that stems from uncommon catastrophic events (environmental factors), such as natural and man-made disasters.

5.0 CONCLUSION AND RECOMMENDATIONS

Based on the summary of the findings on the study objective and in support of the theory, past literature and practice, the study concludes that Supply chain disruption components have a significant effect on the market performance of selected oil and gas marketing companies in Lagos State, Nigeria. The three Supply chain disruption components had varied effects on market performance with macro-economic events having the highest positive, while natural disasters and man-made disasters had insignificant positive and negative effects on the market performance of

selected oil and gas marketing companies in Lagos State, Nigeria. One possible explanation for the insignificant effect of both natural disasters and man-made hazards would be that both fall into the category of "low probability, high impact" events. These incidents happen infrequently; thus, on average, organisations would not be able to properly prepare ahead of time, unlike macro-economic events that may develop over a period of time (slow onset) that can be monitored and predictable for firms to take proactive actions.

This implies that macro-economic events are more dangerous as supply chain disruption components for market performance as compared to natural disasters and man-made disasters in the country. Since the study showed that supply chain disruption components influence market performance, supply chain managers in oil and gas marketing companies should adopt "Scenario planning and supply chain mapping techniques" as recommended by scholars by being pro-active, rather than being re-active to supply disruptions. Scenario planning involves preparing for a range of possible disruptions and having strategies in place to address them. This pro-active approach allows firms to respond swiftly, when crises occurs. Supply chain mapping involves charting the flow of goods and information, which can help firms identify vulnerabilities and plan for contingencies. Regular review and assessment of these mitigation strategies will ensure its effectiveness and up-to-date.

Future Research Directions

The study has several limitations. Data for this study were collected by conducting a cross-sectional survey. Such research designs rely on respondents' perceptions, which are subjective in nature. The study was able to mitigate this limitation through capturing five measures of market performance, using objective measures of performance is recommended in future studies. Future studies can employ longitudinal survey research design to capture the dynamics of supply chain disruption risk and overall firm performance measures. Also, future research direction can make use of study variables on broader sample of upstream oil and gas companies. This would help to reveal if this research can be replicated in an oil and gas upstream industry and generate similar results.

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