Supply Chain Risk Management and Business Performance of Selected Oil and Gas Marketing Companies in Lagos State, Nigeria: Moderating Role of Firms' Size

Asikhia, O. U., Makinde, G.O., Akinlabi, H. B, Olawore, O. P.

Supply Chain Risk Management and Business Performance of Selected Oil and Gas Marketing Companies in Lagos State, Nigeria: Moderating Role of Firms' Size

[1]Asikhia, O. U., [2]Makinde, G.O., [*3]Akinlabi, H. B, [4]Olawore, O. P.

Department of Business Administration and Marketing, School of Management Sciences,

Babcock University, Ilishan-Remo, Nigeria

[*]**Corresponding author: Akinlabib@babcock.edu.ng**

Abstract

The oil and gas marketing firms in Lagos State are faced with issues such as natural disasters (pandemic), man-made hazards (pipeline vandalization and oil theft) and macro-economic events (economic downturn, high inflation and foreign exchange volatility). These challenges have critically affected consumers purchasing power, cause increasing high cost of operations, dwindling revenue and consequently decline in operating performance of oil and gas companies, especially oil and gas marketing firms. This study investigated the effect of supply chain risk management strategy on business performance of oil and gas marketing companies in Lagos, Nigeria as moderated by firm size. The study adopted a survey research design. The study population study was 1,044 full-time employees of five selected oil and gas marketing companies in the downstream sector of petroleum industry in Nigeria where a sample size of 362 employees were selected. The study adopted purposive, stratified and proportionate sampling techniques. An adapted and validated questionnaire was used to collect primary data from the respondents. Data was analyzed using descriptive and hierarchical multiple regression technique. Findings indicate supply chain risk management strategy had significant effect on usiness performance of oil and gas marketing companies in Lagos, Nigeria. Finding further revealed that firm size significantly moderated the relationship between supply chain risk management strategy and business performance among oil and gas marketing companies in Lagos, Nigeria. The study recommended that management of oil and gas marketing companies need to employ strategic agility measures in order to thoroughly understand the Nigerian oil and gas business environment which is germane for oil and gas marketers so as to enable them build a framework that will enable them survive the changing environment and gain overall performance.

Keywords: *Firm Size, Food and Beverage Companies', Business Performance, Supply Chain Risk Management Strategy, Lagos State*

1.0 Introduction

The oil and gas industry are vulnerable to various external environmental factors that poses challenges to the overall success of firms operating in the industry and this require management of oil and gas marketing firms to identify, assess, and develop risk-mitigating strategies in order to respond to threats using their resources in the most accurate agile manner in order to survive. Hence, the central objective of most petroleum marketing firms has, therefore, been to not only continue to survive but, also to take benefit of what globalization offer and move in new directions competitively. The deterioration in business performance in oil and gas industry spread across both the advanced and evolving economies, with many worlds renowned oil and gas companies caught in the web and exhibiting huge deterioration in revenue arising from environmental factors.

There is considerable pressure on the performance of oil and gas marketing firms in the African countries due to difficult and tough economic and external conditions (Majimbo & Namusonge, 2020; Majimbo, 2021; Osoro, Muturi, & Ngugi, 2016; Suraw & Kariuki, 2018). The challenges facing oil and gas marketing firms operating in Africa are diverse and many; and most of these are attributed to regulatory uncertainty, political interference, policy instability, lack of transparency, infrastructure deficit, institutional void, political uncertainty, delays in enacting energy policies and regulations into laws are suppressing growth, development and investment in a number of African countries (Abudu & Sai, 2020; Ngwu, 2021; Nyoghosa, Edmund, Kebede, & Bekele, 2017; Ogundare, 2020; Oladehinde, 2019; Onyekwelu, 2019; Shobande, 2018). Abba et al. (2019) and Owuso and Luke (2020) stressed that poor strategic response to these challenges in oil and gas industry was responsible for decline in the performance of oil and gas marketing firms in Africa.

In Nigeria, most of oil and gas marketing firms have recorded fluctuating success due to policy instability, political interference, regulatory uncertainty, lack of transparency, institutional void and poor infrastructural facilities. Abba et al. (2019) and Olujobi (2021) opined that indigenous Nigerian oil and gas marketing firms were not intensely entrepreneurial to strategically react to unstable economic policies in the oil and gas industry due to lack of trained manpower, poor infrastructural development, lack of adequate or sufficient capital base on the part of the indigenous oil and gas marketing companies and cannot stand intense competition from superior foreign companies which resulted to fluctuating annual performance. Nsikan, Ekeins-Wilson, Ayandike, and Ortencia (2019) and Owuso and Poi (2019) posited that 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 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 which currently affect some product (diesel, kerosene and petroleum motor spirit) in the industry had been the bane of the Nigerian indigenous oil and gas marketers which in turn have caused decline in their overall performance.

Supply chain risk management is the process that involves identifying, controlling, monitoring and evaluating risks in supply network and developing strategies to prevent or minimize the effect to quickly recover from disruptions (Machoiak, 2012). Supply chain risk management enable firms to continuously, sufficiently adjust and adapt in appropriate time to the changing circumstances of the environment and to deal with the strategic discontinuities and disruptions arising from highly volatile and uncertain situations (Ngwu, 2019, 2021). The scholar emphasized that financials, operations and hazards are key factors that can cause value erosion in firms and their impacts can be attributed to the ineffectiveness of strategy. Embracing risk-

mitigating strategies will enhance continuous and adequate adjustment of firm's operations towards dynamic business environment and adjust in appropriate time, its strategic direction in core business in relation to changing circumstances and sensitive to the business environment (Ngwu, 2019, 2021; Owuso & Luke, 2020). The performance of any firm depends on its strategic insight and foresight towards its external environment which includes suppliers, competitors, partners, customers and governments (Ngwu, 2021; Owuso & Poi, 2019). Overall, there have been difficulties translating risk management strategy into tactical and operational level activities, this have resulted in an ineffectiveness of strategies that contribute to poor corporate performance of oil and gas marketing firms in Nigeria (Alaba, 2021).

The current business environment characterised by challenges of intense globilisation, long transportation lead times, single sourcing policy risk, supply chain efficiency, lean inventory, technology risk, infrastructure risk, increased outsourcing, limitations of modes of transportation, information technology revolution, regulatory risk, fiscal and monetary risk, foreign exchange volatility risk, business continuity risk, governance risk, low product shelf-life, and the rising call for agile, and green supply chain management had all significantly increased uncertainty in the oil and gas industry and consequently affecting performance of firms in the industry (BusinessDay Editorial, 2018; Ngwu, 2021). These challenges, if not strategically managed through the combination of risk-avoidance, risk-reduction, risk-transfer and risk-acceptance, as well as business continuity plan (BCP) or enterprise risk management (ERM), may lead to decline in firms' performance (Ngwu, 2021).

Little attention has been given to supply chain disruption risks, management and business performance of oil and gas marketing firms in Nigeria. Besides, the few existing studies on supply chain disruptions and management were on upstream oil and gas sector and directed on developed economies restricting their generalisation to the global environment. Agorzie, Monday, and Aderemi (2017), Alaba (2021), Ehinomen and Adeleke (2012), Enyinda, Briggs, Obuah, and Mbah (2011), Nsikan, John, and Tommy (2014), Nsikan et al. (2019) and Owuso and Poi (2019) among other studies that examined the effect of supply chain risk management on firm performance in the oil and gas industry in Nigeria have not employed firm experience as moderating variables in relation to supply chain risk management and business performance in oil and gas marketing industry in Nigeria. These served as gaps in the knowledge and qualify to be investigated. Nketsiah (2018) and Radipere and Dhliwayo (2014) pointed out that firm characteristics such as experience is a unique firm attribute which influences the variation in business strategies and performance outcomes across firms and industries. Furthermore, no studies in Nigeria, to the best of the researcher's knowledge, have employed both firm size and experience (firm characteristics) as moderating variable between supply chain risk management and business performance in oil and gas marketing firms in the downstream petroleum sector in the country. These served as the gaps and the motivation for this study. Accordingly, this study is set out to investigate the moderating effect of Firms' Size on the relationship between Supply Chain Risk Management and Business Performance of selected oil and gas marketing companies in Lagos State, Nigeria.

2.0 Literature Review

2.1 Conceptual Review

The size of a firm is the amount and variability of production capacity and ability a firm owns or the amount and variety of services a firm can provide at the same time to its customers (Emmanuel, Anga, & Isa, 2019; Niresh & Velnampy, 2014). A firm can be considered small, medium or large in two different but related ways, in terms of sheer organisational size or in terms of its industry market share: Even though size and market share are conceptually different, they are correlated empirically (Chelliah, Pandian, Sulaiman, & Munusamy, 2010).

According to Akinyomi and Olagunju (2013), Radipere and Dhliwayo (2014), size of a firm is related to both the resources it has access to in addition to the costs associated with the operations of a firm of a particular size. Abbasi and Malik (2015), Niresh and Velnampy (2014), opined that firm size is a primary factor in determining the performance of a firm. Firm size is very critical to business performance due to the trend of economies of scale (Akinyomi & Olagunju, 2013; Higon, 2011; Takahashi, 2009). According to Osuji (2019) large/big firms have the capacity to produce variety of products that appeal to and attract a wide range of customers as well as significantly influence what happens to price and quantity in the market. Fundamentally, it means larger or bigger firms can produce a larger quantity of outputs with low cost (economies of scale) and obtain cost leadership relative to smaller firms, because they have the capacity to access critical resources (Takahashi, 2009). Large firms can, in order to gain competitive advantage over their rivals, lower production costs and increase their share of the market (Akinyomi & Olagunju, 2013; Higon, 2011). They show better business performance (profitability), while smaller firms do not have ability to compete with larger firms in this regard (Abbasi & Malik, 2015).

2.1.1 Supply Chain Management Challenges

Supply chain (SC) according to Giunipero, Denslow, and Melton (2008) is the interacting flow of information, material, and capital. SC is posited to be a network of organisations that are involved, through upstream (supply sources) and downstream (distribution channels) linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumers (Christopher & Peck, 2004). Also, Wagner and Neshat (2010), opined that supply chains consist of networks of structures, processes and management components which provide the linkage between supply and demand, binding together the producer of the service or product and the customer. Udbye (2016), sees supply chain as a system of suppliers (several tiers of), manufacturers, distributors, retailers and customers (also several tiers of) in which material, financial and information flows connect participants in both directions.

Managing supply chains has experienced numerous trends across the world (Udofia, Adejare, Olaore, & Udofia, 2020). A number of trends during the last two decades have affected supply chain management and therefore, turned supply chain vulnerability into an important business issue and research area (Adeleke, 2022; Ghadge, Dani, & Kalawsky, 2012; Okafor, 2021a, 2021c; Singhal, Agarwal, & Mittal, 2011). Supply chain vulnerability has been described as exposure to serious disturbance arising from risks within, as well as external to the chain (Blackhurst, Rungtusanatham, Scheibe, & Ambulkar, 2018; Okafor, 2021b). The sensitivity of a supply chain to these disturbances is measured by its vulnerability. According to Elleuch, Dafaoui, Elmhamedi, and Chabchoub (2016) supply chain vulnerability reflects its susceptibility to disruption and is a consequence of the risks it faces. Similarly, Bode and Wagner (2015) and Wagner and Bode (2006), opined that supply chain vulnerability is a function of certain supply chain features and that the loss a firm suffers is a result of its supply chain vulnerability to a given supply chain disruption. Due to increasing dynamism and uncertainty in global business environment, supply chain vulnerability issues are becoming key concerns to firms across the world (Ghadge et al., 2012).

2.2 Business Performance

Performance is what is expected to be delivered by an individual or a set of individuals within a time frame and could be stated in terms of tasks, results or efforts, and quality, with pattern of conditions under which it is to be delivered (Kumari & Malhotra, 2012). Ajike, Egbuta, Nwankwere, Ogundiwin, and Adeeoko (2021) opined that performance is the effort expended by a firm in other to reach and achieve its listed objectives. Performance is a major multi-

dimensional construct designed to achieve results and has a strong connection to strategic goals of an organisation (Mwita, 2000). Folan, Browne, and Jagdev (2007) averred that performance is the attainment of the target in the form that must be known and communicated to all parties within the firm and associated with the vision of the firm. While, Kaur and Sharma (2014), opined that performance described the extent to which a firm accomplishes its performance objectives, customer needs, employee needs, among others. Daferighe and Edet (2019) see performance as, the effect of achieving organisational objectives, a yardstick of success.

The issue of business/firm/organisation performance has been fundamental in strategy research for decades and encompasses most other questions that have been advanced in the field, as for instance, why firms behave, how they differ, how they choose strategies and how they are managed (Daferighe & Edet, 2019). Adeleke, Ogundele, and Oyenuga (2010) maintain that business performance is a process or set of processes for establishing shared understanding about what to be achieved and of managing and developing people in a way which increases the probability that it will be achieved in the short and long term. Muma, Nyaoga, Matwere, and Nyambega (2014), defined business performance as the extent to which an organisation achieves set goals and objectives. Furthermore, Griffin (2003), as cited in Al-alak and Tarabieh (2011), described business performance as the ability of a firm to attain its own needs and that of its stakeholders and ensure its own survival.

2.2.1 Firm Size

The size of a firm is the amount and variability of production capacity and ability a firm owns or the amount and variety of services a firm can provide at the same time to its customers (Emmanuel et al., 2019; Niresh & Velnampy, 2014). A firm can be considered small, medium or large in two different but related ways, in terms of sheer organisational size or in terms of its industry market share: Even though size and market share are conceptually different, they are correlated empirically (Chelliah et al., 2010). According to Akinyomi and Olagunju (2013), Radipere and Dhliwayo (2014), size of a firm is related to both the resources it has access to in addition to the costs associated with the operations of a firm of a particular size. Abbasi and Malik (2015), Niresh and Velnampy (2014), opined that firm size is a primary factor in determining the performance of a firm. Firm size is very critical to business performance due to the trend of economies of scale (Akinyomi & Olagunju, 2013; Higon, 2011; Takahashi, 2009). According to Osuji (2019) large/big firms have the capacity to produce variety of products that appeal to and attract a wide range of customers as well as significantly influence what happens to price and quantity in the market. Fundamentally, it means larger or bigger firms can produce a larger quantity of outputs with low cost (economies of scale) and obtain cost leadership relative to smaller firms, because they have the capacity to access critical resources (Takahashi, 2009).

Firm size as a controlling variable has been a matter of debate amongst scholars or an important contingency variable that needs consideration when designing an effective strategic planning system in order to achieve better performance (Glaister, Dincer, Tatoglu, Demirbag, & Zaim, 2008; Lau, Yam, & Tang, 2007; Swan & Allred, 2003). Hofer (1975), cited in Chelliah et al. (2010) identified firm size as a critical contingency variable moderating the relationship between business strategy and performance. This is corroborated by Hallikas and Lintukangas (2016), that firm size as a factor influences firms' risk management performance due to the fact that large-scale enterprises are found to be performing better in distributing information and utilizing knowledge. According to Kumar, Guo, Shaw, Colicchia, Garza-Reyes, Kumari, and Bak (2018), the size of a firm is considered as a key element impacting an enterprise's risk management capability, because large firms are found to have better information distribution system and perform better in applying knowledge.

2.3 Empirical Review

Literature has established the existence of certain contextual factors as potential moderators in the relationship between supply chain risk management and business performance such as firms' size, age, structure, culture and industry type (Coad, Holm, Krafft, & Quatraro, 2015; Ruzzier and Ruzzier, 2015). In a turbulent environment, many advantages are short-lived as competitive and environmental pressures quickly undermine any resource value or heterogeneity. The ability of the organisation to stay on top of its business and to quickly respond to changing market needs is very critical for superior firm performance in such environments.

The results of the empirical study of Jankaweekool, Chaiyawat, and Sinthupinyo (2019) revealed that SCRM strategy adopted by automotive firms in Thailand on firm capability (performance) is affected by size of organisation. They opined that large size firms are more likely to utilise activities and turn it into risk management knowledge sharing. Similarly, Kannadhasan and Nandagopal (2009) investigated the role of firm size as a moderator of the relationship between business strategy and performance in Indian's automotive industry and found that there is a statistically significant relationship among strategy, firm size and performance of Indian automotive companies. Likewise, Mutunga and Owino (2017) examined the moderating role of firm size on the relationship between micro factors and financial performance of manufacturing firms in Kenya. Micro factors were measured with capacity, practice and strategy. The results of the study showed that relationship between micro factors and firm financial performance is moderated by firm size. The study further concluded that there is a positive relationship between the moderating effect on micro factors and firms' financial performance.

Ogutu (2017) examined the moderating effects of firm characteristics on strategic planning and performance of state corporations in Kenya. This study was unique because the scholar included, firm's size, age, ownership, diversification, innovation and board size and competence as firm characteristics. The result of the study confirmed the position of scholars who believed that firm's size and other firm's characteristics has moderating effect on the relationship between firm strategy and performance. Also, Gordon, Loeb, and Tseng (2009) examined the relationship between enterprise risk management (ERM) and performance. They argued that the association between enterprise risk management and performance is contingent upon five firm-specific factors namely, environmental uncertainty, industry competition, firm complexity, firm size, and board of directors' monitoring. Finally, these scholars argued that for implementing ERM, firms should take note of the contextual variables that are surrounding the firm.

However, there are several studies that have contrasting results. For instance, Hassan and Farouk (2014) investigated firm attributes and earnings quality of listed oil and gas companies in Nigeria for the period of 2007-2011. The findings revealed that firm size among other variables have a significant but negative influence on earnings quality of listed oil and gas companies in Nigeria. Similarly, Effendi and Kusumantini (2015) found that the effect of firm size moderation on the influence of strategic planning on firm performance was negative with relatively small value. They maintained that the larger the firm size, the more formal strategic planning is needed to improve firm performance. Also, Ali, Mukulu, Kihoro, and Nzulwa (2016) empirically examined the effect of firm size on the relationship between functional integration and firm performance. Analysing data from 176 Kenyan manufacturing firms, the study found that firm's size is not a moderator in the relationship between functional integration and firm performance. This implies that, irrespective of firm's size, functional integration as a strategic capability is available to both small, medium and large manufacturing firms in Kenya.

It also suggests that there may be other moderators not dealt with in the study. Adding to the empirical discourse is the study of Dogan (2013) which examined the effect of the size of the company on profitability, using data collected from 200 companies from 2008 to 2011. The study found that the relationship between firm size and profitability was negative, when leverage and the age of company was used as controlling variables. Thus, while size has been accepted as a main feature in the firm performance debate, it is not clear how it affects the relationship between supply chain risk management and business performance of oil and gas marketing firms. Based on the need to fill the lacunae in literature from the Nigeria purview, the study hypothesized that:

H₀: The effect of Supply Chain Risk Management on Business Performance of selected oil and gas marketing companies in Lagos State, Nigeria is not significantly moderated by Firm's Size.

2.4 Theoretical Review

The contingency theory and resource dependence theory have been adopted as the underpinning theory for this study. Contingency and resource dependence theories posit that firms should match their management practices to the supply chain vulnerabilities with the main objective of minimising supply chain disruptions and subsequently control their effects on undermining firms' performance (Jangga, Ali, Ismail, & Sahari, 2015; Revilla & Saenz, n.d.; Talluri, Kull, Yildiz, & Yoon, 2013). CT and RDT provide a foundation for minimizing the magnitude of supply chain disruption risk, and also built on the premise that outcome/results is an outcome of application of numerous factors (Standing & Kauffman, 2007). The results of management attempts in managing supply chain disruption necessitate concerted effort not only from the focal firm, but also from other supply chain members (Kuria, Kwasira, & Waruguru, 2015). Organisations respond to external threat to its survival by using its internal reources among which is size and age [experience] (Wakaisuka-Isingoma, Aduda, Wainaina, & Mwangi, 2016) and collaborating with other organisations within its supply network (Drees & Heugens, 2013; Wicker, Vos, Scheerder, & Breuer, 2013).

The foundation of CT is that the survival and effectiveness of a company depends on how well its strategy, structure and context fit one another (Lawrence & Lorsch, 1967). Jangga et al. (2015) and Talluri et al. (2013) posited that the suitability and effectiveness of risk mitigation strategies depends on firm's internal and external environments and that there is no one-size-fits-all strategy. Moreso, blanket strategy does not prove effective in all conditions. Therefore, firms' performance is affected by how well firm's resources, which include its size and age complement the corresponding business environment (Kim & Pae, 2007). In order to withstanding supply chain disruption risks, it is important for oil and gas companies to understand the relationship between supply disruptions and performance, and therefore, formulate the best strategies, in order to perform in the best possible manner even at crises scenario.

From resource dependence theory viewpoint, a firm is not self-sustainable due to inadequate resources and has to network with the external environment to thrive (Pfeffer & Salancik, 2003). The central proposition of this theory is that a firm's survival depends on its ability to acquire critical resources (supplies) from the external environment. Giving their needs and dependencies, firms are not limited to responding to these external constraints; rather, they use a variety of strategies which is influenced by the size and experience of the firm to somehow confront and change those situations (Kwaltommai, Enemali, Duna, & Ahmed, 2019). Thus, another assumption of this theoretical perspective is that organisations try to actively relate themselves with the environment, manipulating it for their own benefit, and so, in this way, organisations act strategically to influence their business environments instead of assuming a

passive role of environmental forces (Davis & Cobb, 2010). In a study carried out by Fynes, de Burca, and Marshall (2004), they confirmed that firms that harmonized with their environmental situation can enhance their performance, but those that respond too slowly to change or have a mismatch, attract poor performance and failure. In this study, this theory explains the role of management in containing supply chain disruption risks. Management can be guided by this theory especially in allocation of duties and responsibilities, as well as resources. Similarly, the principles outlined, explain why many organisations that take 'casual approach' to supply chain risk management fail.

3.0 Methodology

This study adopted survey research design. According to Kumar (2011), survey research design aims to discover or establish the existence of relationships or independence between two or more aspects of situations. This type of research design has been adjudged as suitable by various scholars (Agorzie et al., 2017: Mhelembe & Mafini, 2019; Peter, Rotich, & Ochiri, 2018) as they utilized in their respective studies. The population of the study is 1,044 full-time employees of five selected oil and gas marketing companies in the downstream sector of petroleum industry in Nigeria (Annual Report of the respective oil and gas marketing companies, 2019). The selected major marketers include, 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. The oil marketers are private individuals and members of Major Oil Marketers Association of Nigeria (MOMAN); Indigenous independent oil marketers of petroleum products under the umbrella of Independent Petroleum Marketers Association of Nigeria (IPMAN) and NNPC Retail Ltd [NRL], the retail and marketing subsidiary of NNPC, that engages in the retail and sales management of petroleum products nationwide (Alaba & Agbalajobi, 2014; Arokodare, 2019). Sample size of three hundred and sixty-two (362) was ascertained using Krejcie and Morgan (1977) formula. An adapted and structured questionnaire was used to gather information from respondents. Validity of the instrument was determined using content and construct validity while the Cronbach alpha was used to ascertain the reliability of the instrument which yielded coefficient alpha of 0.861, 0.976, 0.960, and 0.752 for natural disasters, man-made hazards. macroeconomic events, and operational performance transfer respectively. All the variables were measured with six items each; 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 similar to the one adopted by Afolaranmi (2018), Akerejola (2017), Akinbiyi (2020), Aminu (2014), Olowoporoku (2021). This modified scale increased the reliability of the responses and also gained more effective results from the respondents. The data collected were analysed using the hierarchical regression method through the use of SPSS 26.0 software. The method was adopted in order to determine the moderating effect of Firms' Size on the relationship between supply chain risk management and business performance of selected oil and gas marketing companies in Lagos State, Nigeria.

4.0 Data Analysis and Results

This section presents the results of the hierarchical mutltiple regression analysis to test the moderating effect of Firms' Size on the relationship between supply chain risk management and business performance of selected oil and gas marketing companies in Lagos State, Nigeria. Table 1 reports the results.

Table 1: Hierarchical Multiple Regression

	Model	*B*	*SEB*	*β*	*t*	*F*	*P*
1	(Constant)	3.389	.138		24.485	130.589	.000
	Supply Chain Risk Management Strategy	.317	.028	.532	11.428	(1, 330)	.000
2	(Constant)	2.272	.128		17.728	230.703	.000
	Supply Chain Risk Management Strategy	.129	.024	.216	5.252	(2, 329)	.000
	Firm Size	.420	.027	.633	15.405		.000
3	(Constant)	-.397	.552		-.718	173.039	.473
	Supply Chain Risk Management Strategy	.747	.127	1.253	5.887	(3, 328)	.000
	Firm Size	1.011	.122	1.525	8.281		.000
	SCRMS*FS	-.134	.027	-1.681	-4.960		.000
	R^2 = 0.284, 0.584 and 0.613 for steps 1, 2 and 3 respectively. ΔR^2 = 0.284, 0.300 and 0.029 for steps 1, 2 and 3 respectively *$p < 0.05$						

1. Predictors: (Constant), Supply Chain Risk Management Strategy (SCRMS)
2. Predictors: (Constant), Supply Chain Risk Management Strategy, Firm Size (FS)
3. Predictors: (Constant), Supply Chain Risk Management Strategy, Firm Size, SCRMS*FS
Dependent Variable: Business Performance

Table 1 shows the regression coefficient results with three models. In step one supply chain risk management strategy (risk reduction strategy, risk avoidance strategy, risk transfer strategy, risk acceptance/retention strategy) was regressed on business performance of selected oil and gas marketing companies in Lagos State. The findings in Table 1 show the result of hierarchical regression analysis for Model 1 when only supply chain risk management strategy and business performance of selected oil and gas marketing companies in Lagos State, Nigeria variables are in the equation model ($R = 0.532$, $R^2 = 0.284$, Adjusted $R^2 = 0.281$, $p = 0.000 < 0.05$, $R^2 \Delta = 0.284$). These indicate that supply chain risk management strategy accounts for 28.4% of the variability in business performance of selected oil and gas marketing companies. Furthermore, Table 1 shows beta coefficient, β is 0.317, $p < 0.05$ when supply chain risk management strategy is in the model. These results indicate that for every unit increase in supply chain risk management strategy, business performance of selected oil and gas marketing companies increased by 0.317. The overall model was also significant ($F (1,330) = 130.589$, $p < 0.05$) as evident from Table 1.

The introduction of the moderator (firm size) in Model 2 significantly improves the effect of supply chain risk management strategy on business performance of selected oil and gas marketing companies in Lagos ($R = 0.764$, $R^2 = 0.584$, Adj. $R^2 = 0.581$, $p = 0.000 < 0.05$, $R^2 \Delta = 0.300$). Supply chain risk management strategy and firm size explained about 58.4% of the variation in business performance of selected oil and gas marketing companies as against 28.4% changes that occurs when only supply chain risk management strategy was regressed against business performance. The F value is statistically significant ($F (2,329) = 230.703$, $p < 0.05$) that the influence of the independent variable and the moderator (firm size) were significant in the model as seen from Table 1. Further, Table 4.2.6(c) shows the beta coefficients supply chain risk management strategy ($\beta = 0.129$, $p < 0.05$) and firm size ($\beta = 0.420$, $p < 0.05$); that is for every unit increase in supply chain risk management strategy and firm size, business performance of the selected oil and gas marketing companies increases by 0.129 and increases by 0.420 respectively. Summing up the effect, it shows a reduced Beta value of ($\beta = 0.317 p < 0.05$) as against the 0.129 when only supply chain risk management

strategy was regressed against business performance which implies that the moderator did not boost the effect.

In addition, Table 1 further shows the changes that occurred when the interaction term was introduced. Supply chain risk management strategy, firm size and the interaction term were entered in the regression model. Model 3 shows the hierarchical regression analysis shows the moderating and interaction effect of firm size. The results under change statistics, reveal that the R^2 change increased by 0.029 from 0.584 to 0.613 ($R^2 \Delta = 0.029$) when the interaction variable (supply chain risk management strategy *firm sizes) was added. The change was statistically significant at $p=0.000$ (p-value<0.05). The results show statistically significant relationship between supply chain risk management strategy, firm sizes and the interaction term (F (3, 328) = 173.039, p<.05). Table 1 reveals the F statistics changed from 230.703 to 173.039 ($F\Delta = 24.605$) showing a decrease when interaction term was added. The F ratio shows that the regression of supply chain risk management strategy and firm size, business performance of the selected oil and gas marketing companies is statistically significant.

The results in Table 1 (for step one) show statistically significant regression coefficients for supply chain risk management strategy ($\beta=0.317$, $p<0.05$) indicating that there is a linear dependence on between supply chain risk management strategy and business performance of selected oil and gas marketing companies. In Model 2, supply chain risk management strategy and firm size was statistically significant [supply chain risk management strategy ($\beta = 0.129$, $p<0.05$) and firm size ($\beta = 0.420$, $p<0.05$)]. In Model 3, supply chain risk management strategy, firm size and the interaction effect was still statistically significant [supply chain risk management strategy ($\beta = 0.747$, $p<0.05$); Firm size ($\beta = 1.011$, $p < 0.05$].

When interaction term was introduced the beta coefficient, β was -0.134 meaning that for every unit change in interaction term, business performance of the selected oil and gas marketing companies decreased by 0.134. Further, the interaction term showed a negative effect ($\beta = 0.177$, $p<0.05$) and it is statistically significant. The results suggest that firm size have statistically significant moderating effect on the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria. The confirmed regression equation from the results is stated as follows:

BP = -0.397 + 0.747SCRMS +1.011FS -0.134(SCRMS*FS) ------------------------Eqn.1

Where:

      BP = Business Performance

SCRMS = Supply Chain Risk Management Strategy

      FS = Firm Size

SCRMS*FS = the interaction of supply chain risk management strategy and Firm size.

The results indicate that firm size has statistically significant effect on the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria. Based on these findings, the null hypothesis (H_0) which states that firm size has no significant moderating effect on the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria was rejected.

5.0 Discussion of Findings

The finding of this study revealed that firm size significantly moderated the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria. The results which corroborated and also in agreement with the previous research by Jankaweekool et al. (2019); Kannadhasan and Nandagopal (2009); Mutunga and Owino (2017); Ogutu (2017); and Gordon et al. (2009) which they all agreed that firm size moderated the effect of supply chain risk management strategy on business performance. The finding is significant at 5% level of significance (p = 0.000) and as a result, firm size has significant moderating effect on the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria. Ogutu (2017) examined the moderating effects of firm characteristics on strategic planning and performance of state corporations in Kenya. The result of the study confirmed the position of scholars who believed that firm's size and other firms characteristics has moderating effect on the relationship between firm strategy and performance. This study was unique because the scholar included, firm's size, age, ownership, diversification, innovation and board size and competence as firm characteristics. This study's findings are in support of the assumptions of contingency theory, normal accident theory and thus, firm size significantly moderate the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria.

6.0 Conclusion

The investigated effect of firm size on the relationship between supply chain risk management strategy and business performance of oil and gas marketing companies in Lagos, Nigeria. From the findings, it can be concluded that, supply chain risk management strategy significantly had an effect on business performance of the selected oil and gas marketing companies in Lagos, Nigeria. Furthermore, it was concluded that firm size significantly moderated the relationship between supply chain risk management strategy and business performance of the selected oil and gas marketing companies in Lagos, Nigeria. Prior studies on firm size and its influence on supply chain risk management strategy- business performance, were in western world across industries. supply chain risk management strategy the influence of firm size had statistically significant effect on business performance among oil and gas marketing companies in Lagos, Nigeria. The introduction of the moderating variable has enabled the study to have a greater explanatory power. Ganesh-Kumar and Nambirajan (2013) and Ouabouch and Pache (2014) suggested that future studies should integrate firm size as a moderator variable in risk prevention. This study sought and filled the conceptual gap in literature regarding the moderating role of firm's size. As the study introduced and confirmed the new moderator of the existing relationship, a moderate level of theory building is presented to supplement existing theory.

7.0 Recommendation

Based on these research findings, the research recommends that, the management of oil and gas marketing companies need to employ strategic agility measures in order to thoroughly understand the Nigerian oil and gas business environment which is germane for oil and gas marketers so as to enable them build a framework that will enable them survive the changing environment and gain overall performance. Future researchers could carry out a comparative study of other industries and oil and gas marketing industry so as to observe and compare this study findings with other industries and this will enable the researcher to compare results.

REFERENCES

Abba, A., Zakuan, N., Salisu, A., Uba, A., Bichi, A., Shettima, U., Saif, S., Ali, M., Almasradi, R. B. (2019). Supply chain sustainability practices of oil servicing firms in the downstream sector of Nigeria's oil and gas industry. *Journal of Economic Info. 6*(4), 11-14. https://doi.org/10.31580/jei.v6i4.1031

Abbasi, A., & Malik, Q. A. (2015). Firms' size moderating financial performance in growing firms: Empirical evidence from Pakistan. *International Journal of Economics and Financial, 5*(2), 334-339.

Abudu, H., & Sai, R. (2020). Examining prospects and challenges of Ghana's petroleum industry: A systematic review. *Energy Reports, 6,* 841-858. https://doi.org/10.1016/j.egyr.2020.04.009

Adeleke, A., Ogundele, O. J. K., & Oyenuga, O. O. (2010). *Business policy and strategy*. (2nd Ed.). Lagos, Nigeria: Concept Publications Limited.

Adeleke, A. (2022, April 27). The case for supply chain management in Nigeria curriculum.

Business Day, p.10.

Afolaranmi, O. M. (2018). *Innovative capability and competitive advantage of the food and beverage industry in Lagos State* (Unpublished doctoral thesis). Babcock University, Ilisan-Remo, Ogun State, Nigeria.

Agorzie, C. J., Monday, J. U., & Aderemi, H. O. (2017). Supply chain risk factors' assessment in the Nigerian Pharmaceutical Industry. *European Journal of Business & Mgt., 9*(17), 130-138.

Ajike, E. O., Egbuta, O. U., Nwankwere, I. O., Ogundiwin, I., & Adeeoko, A. E. (2021).

External business environment and entrepreneurship performance of small and medium enterprises (SMEs) in Lagos, Nigeria. *Hallmark University Journal of Management & Social Sciences, 3*(2), 137-151.

Akerejola, W. O (2017). *Determinants and adoption of point of sales of selected business organisations in Lagos State, Nigeria* (Unpublished doctoral thesis), Babcock University, Ilisan-Remo, Ogun State, Nigeria.

Akinbiyi, R. E. (2020). *Relationship marketing practices and customer patronage of online retail firms in Lagos, Nigeria* (Unpublished doctoral thesis), Babcock University, Ilisan-Remo, Ogun State, Nigeria.

Akinyomi, O. J., & Olagunju, A. (2013). Effect of firm size on profitability: Evidence from Nigerian manufacturing sector. *Prime Journal of Business Administration and Management, 3*(9), 1171-1175.

Alaba, O. C., & Agbalajobi, S. A. (2014). Evaluation of private refineries and depots in distribution of petroleum products in Nigeria. *International Journal of Engineering and Technology, 4*(2), 118-126.

Alaba, O. V. (2021). Growth strategy and performance of oil and gas companies in Nigeria.

International Journal of Trend in Scientific Research and Development, 5(6), 2456 – 6470.

Al-alak, B. A., & Tarabieh, S. A. (2011). Gaining competitive advantage and organizational performance through customer orientation, innovation differentiation and market

differentiation. *International Journal of Economics & Management Sciences, 1*(5), 80-91.

Ali, M. J., Mukulu, E., Kihoro, J. M., & Nzulwa, J. D. (2016). Moderating effect of firm size on the relationship between functional integration and firm performance. *International Journal of Academic Research in Business and Social Sciences, 6*(8), 38-57. https://doi.org/10.6007/IJARBSS/v6-i9/2270

Aminu, S. A. (2014). *Determinants of petrol conservation in the transportation sector of Lagos State* (Unpublished doctoral thesis), Babcock University, Ilisan-Remo, Ogun State, Nigeria.

Arokodare, M. A. (2019). *Strategic agility and firm performance of selected oil and gas marketing companies in Lagos State, Nigeria* (Unpublished doctoral thesis), Babcock University, Ilisan-Remo, Ogun State, Nigeria.

Blackhurst, J., Rungtusanatham, M. J., Scheibe, K., & Ambulkar, S. (2018). Supply chain vulnerability assessment: A network based visualization and clustering analysis approach. *Journal of Purchasing & Supply Management, 24*, 21–30. https://doi.org/10.1016/j.pursup.2017.10.004

Bode, C., & Wagner, S. M. (2015). Structural drivers of upstream supply chain complexity and the frequency of supply chain disruptions. *Journal of Operations Management, 36*, 215–228. https://doi.org/10.1016/j.jom.2014.12.004

Business Day Editorial. (2018, March 1). Deregulate downstream sector to allow private refineries operate. *Business Day*, p. 12.

Chelliah, S., Pandian, S., Sulaiman, M., & Munusamy, J. (2010). The moderating effect of firm size: Internationalization of small and medium enterprises (SMEs) in the manufacturing sector. *African Journal of Business Management, 4*(14), 3096-3109.

Christopher, M., & Peck, H. (2004). Building the resilient supply chain. *The International Journal of Logistics Management, 15*(2), 1-14. https://doi.org/10.1108/09574090410700275

Coad, A., Holm, J. R., Krafft, J., & Quatraro, F. (2015). Firm age and performance. *Journal of Evolutionary Economics, (Special Issue)*, 1-14. doi: 10.1007/s00191-017-0532-6

Daferighe, E. E., & Edet, J. P. (2019). Empirical investigation of determinants of financial performance of listed oil and gas companies in Nigeria. *East African Scholars Journal of Economics, Business and Management, 2*(12), 718-733.

Davis, G. F., & Cobb, A. (2010). Resource Dependence Theory: Past and future. *Research in the Sociology of Organisations*, *28*, 21-42. https://doi.org/10.1108/S0733-558X(2010)0000028006

Dogan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting, 4*(4), 53-59.

Drees, J. M., & Heugens, P. P. (2013). Synthesizing and extending resource dependence theory: A meta-analysis. *Journal of Management, 39*(6), 1666-1698. https://doi.org/10.1177/0149206312471391

Effendi, M. I., & Kusumantini, T. (2015). *The moderating effect of contingency variables on relationship between formal strategic planning and company performance*. Paper

presented at 2nd Global Conference on Business Social Science, Bali, Indonesia. https://doi.org/10.1016/j.sbspro.2015.11.151

Ehinomen, C., & Adeleke, A. (2012). An assessment of the distribution of petroleum products in Nigeria. *E3 Journal of Business Management and Economics, 3*(6), 232-241.

Elleuch, H., Dafaoui, E., Elmhamedi, A., & Chabchoub, H. (2016). Resilience and vulnerability in supply chain: Literature review. *ScienceDirect, 49*(12), 1448–1453. https://doi.org/10.1016/j.ifacol.2016.07.775

Emmanuel, Z., Anga, R. A., & Isa, C. G. (2019). The determinants of micro, small and medium enterprises' (MSMEs) performance in Nigeria: Evidence from business enterprise survey. Retrieved from https://mpra.ub.uni-muenchen.de/98874/1/MPRA_paper_98874.pdf

Enyinda, C. I., Briggs, C., Obuah, E., & Mbah, C. (2011). Petroleum supply chain risk analysis in a multinational oil firm in Nigeria. *Journal of Marketing Development & Competitiveness, 5*(7), 37-44.

Folan, P., Browne, J., & Jagdev, H. (2007). Performance: Its meaning and content for today's business research. *Computers in Industry, 58*(7), 605-620. https://doi.org/10.1016/j.compind.2007.05.002

Fynes, B., de Burca, S., & Marshall, D. (2004). Environmental uncertainty, supply chain relationship quality and performance. *Journal of Purchasing & Supply Management, 10*(4-5), 179-190. doi:10.1016/j.pursup.2004.11.003

Ganesh-Kumar, C., & Nambirajan, T. (2013). An integrated model for supply chain management components, supply chain performance and organisational performance: Purification and validation of a measurement instrument. *The Journal Contemporary Management Research, 8*(2), 37-56.

Ghadge, A., Dani, S., Chester, M., & Kalawsky, R. (2013). A Systems approach for modelling supply chain risks. *Supply Chain Management: An International Journal, 18*(5), 523-538. https://doi.org/10.1108/SCM-11-2012-0366

Giunipero, L. C., Denslow, D., & Melton, H. L. (2008). Risk propensity, risk perception and business plan formalisation: A conceptual investigation. *International Journal of Entrepreneurship & Innovation Management, 8*(4), 397-416. https://doi.org/10.1504/IJEIM.2008.022312

Glaister, K. W., Dincer, O., Tatoglu, E., Demirbag, M., & Zaim, S. (2008). A causal analysisof formal strategic planning and firm performance: Evidence from an emerging country. *Management Decision, 46*(3), 365-391.

Gordon, L. A., Loeb, M. P., & Tseng, C. Y. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting Public Policy 28*(4), 301-327. https://doi.org/10.1108/00251740810863843

Hallikas, J., & Lintukangas, K. (2016). Purchasing and supply: An investigation of risk management performance. *International Journal of Production Economics, 171,* 487-494. https://doi.org/10.1016/j.ijpe.2015.09.013

Hassan, S. U., & Farouk, M. S. (2014). Firm attributes and earnings quality of listed oil and Gas companies in Nigeria. *Review of Contemporary Business Research, 3*(1), 99-114.

Higon, D. A. (2011). The impact of ICT on innovation activities: Evidence for UK SMEs. *International Small Business Journal, 30*(6), 684-699. https://doi.org/10.1177/0266242610374484

Jangga, R., Ali, N. M., Ismail, M., & Sahari, N. (2015). Effect of environmental uncertaintyand supply chain flexibility towards supply chain innovation: An exploratory study. *Procedia Economics & Finance, 31,* 262-268. doi: 10.1016/S2212-5671(15)01228-9

Jankaweekool, P., Chaiyawat, T., & Sinthupinyo, S. (2019). The empirical analysis on supply chain risk management with firm capability perspective of Thailand Automotive Industry. *Int'l Journal of Mechanical Engineering & Technology, 10*(4), 840 849.

Kannadhasan, M., & Nandagopal, R. (2009). Firm size as a moderator of the relationship between business strategy and performance in Indian's automotive Industry. *Srusti Management Review, 2*(2), 4-15.

Kaur, P., & Sharma, S. K. (2014). Evaluating the relationship and influence of critical success factors of TQM on business performance: Evidence from SMEs of manufacturing sector. *The IUP Journal of Operations Management, 1*(4), 17-30.

Kim, N., & Pae, J. (2007). Utilization of new technologies: Organisational adaptation to business environments. *Journal of the Academy of Marketing Science, 35*(2), 259-269. https://doi.org/10.1007/s11747-007-0032-6

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607-610. https://doi.org/10.1177/001316447003000308

Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners.* (3rd ed.). London: SAGE Publications Ltd. https://doi.org/10.1108/SCM-10-2017-0319

Kumar, V., Bak, O., Guo, R., Shaw, S. L., Colicchia, C., Garza-Reyes, J. A., & Kumari, A. (2018). An empirical analysis of supply and manufacturing risk and business performance: A Chinese manufacturing supply chain perspective. *Supply Chain Management: An International Journal.*

Kumari, N., & Malhotra, R. (2012). Effective performance management system for enhancing growth. *Global Management Journal, 1/2,* 77-85.

Kuria, A., Kwasira, J., & Waruguru, E. (2015). Comparative study of external supply chain risks on operational performance of motor vehicle body building firms in Nakuru County, Kenya. *International Journal of Economics, Finance & Mgt., Sciences, 3*(5), 566-576. https://doi.org/10.11648/j.ijefm.20150305.28

Kwaltommai, A. S., Enemali, M. I., Duna, J., & Ahmed, A. (2019). Firm characteristics and financial performance of consumer goods firms in Nigeria. *Scholars Bulletin, 5*(12), 743-752. https://doi.org/10.36348/sb.2019.v05i12.008

Lau, A. K. W., Yam, R. C. M., & Tang, E. P. Y. (2007). Supply chain product co-development, product modularity and product performance. *Industrial Management & Data systems, 107*(7), 1036-1065. https://doi.org/10.1108/02635570710816739

Lawrence, P. R., & Lorsch, J. W. (1967). *Organisation and environment: Managing differentiation and integration.* Boston, USA: Harvard University.

Machowiak, W. (2012). Risk management-unappreciated instrument of supply chain management strategy. *Log Forum, 8*(4), 277-285.

Majimbo, D. O., & Namusonge, M. (2020). Strategic innovation and performance of oil marketing firms in Nairobi City County, Kenya. *International Academic Journal of Human Resource and Business Administration, 3*(9), 228-245.

Majimbo, D. O. (2021). *Strategic innovation and performance of oil marketing firms in Nairobi City County, Kenya* (MBA Thesis, Kenyatta University, Kenya

Mhelembe, K., & Mafini, C. (2019). Modelling the link between supply chain risk, flexibility and performance in the public sector. *South African Journal of Economic and Management Sciences, 22*(1), 1-12. https://doi.org/10.4102/sajems.v22i1.2368

Muma, B. O., Nyaoga, B. R., Matwere, B. R., & Nyambega, E. K. (2014). Green supply chain management and environmental performance among tea processing firms in Kericho County, Kenya. *Int'l., Journal of Economics, Finance & Mgt., Science, 2*(5), 270-276. https://doi.org/10.11648/j.ijefm.20140205.11

Mutunga, D., & Owino, E. (2017). Moderating role of firm size on the relationship between micro factors and financial performance of manufacturing firms in Kenya. *Journal of Finance and Accounting, 1*(2), 14-27.

Mwita, J. I. (2000). Performance management model: A systems-based approach to public service quality. *International Journal of Public Sector Management. 13*(1), 19-37. https://doi.org/10.1108/09513550010334461

Niresh, J. A., & Velnampy, T. (2014). Firm size and profitability: A study of listed manufacturing firms in Sri Lanka. *International Journal of Business and Management, 9*(4), 57-64. https://doi.org/10.5539/ijbm.v9n4p57

Ngwu, F. (2019, December 11). Effective strategy: Fulcrum of value creation in firms. *Business Day*, p. 13.

Ngwu, F. (2021, January 6). Key 2021 business risk: Business continuity plan is imperative. *Business Day,* p. 10.

Nketsiah, I. (2018). Financial management practices and performance of SMEs in Ghana: The moderating role of firm age. *Open Journal of Economics and Commerce, 1*(4), 8-18.

Nsikan, E. J., Ekeins-Wilson, M. T., Ayandike, T. O., & Ortencia, M. M. (2019). Supply chain disruption in Nigeria oil and gas sector: Some mitigation strategies. *International Journal of Scientific and Research Publications, 9*(2), 92-97. https://doi.org/10.29322/IJSRP.9.02.2019.p8611

Nyoghosa, E., Edmund, G., Kebede, R., & Bekele, E. F. (2017). Factors affecting performance of supply chain systems in the petroleum industries in Nairobi. *Global Journal of Business and Management, 5*(4), 172-184.

Ogundare, B. (2020, December 16). Energy trends of the future: The Nigerian direction. *Business Day*, p.11.

Ogutu, M. (2017). Strategic planning and performance of state corporations in Kenya: The moderating effects of firm characteristics. *DBA Africa Management Review, 7*(1), 17-39.

Okafor, T. (2021a, February 3). The world in 2021: Four themes that would shape post-covid era. *Business Day,* p. 32.

Okafor, T. (2021b, October 13). Global supply chain crisis entangles an unprepared, over-dependent Nigeria. *Business Day,* p. 32.

Oladehinde, D. (2019, April 17). Bureaucracy stunts oil, gas sector as 16 federal agencies stifle operators. *Business Day*, pp. 1 & 34.

Olowoporoku, A. A. (2021). *Organisation capability and business performance of selected*

Hotels in South-West, Nigeria (Unpublished doctoral thesis). Babcock University, Ilisan-Remo, Ogun State, Nigeria.

Olujobi, O. J. (2021). Deregulation of the downstream petroleum industry: An overview of the legal quandaries and proposal for improvement in Nigeria. *Heliyon, 7*, 1-10. https://doi.org/10.1016/j.heliyon.2021.e06848

Onyekwelu, S. (2019, December 11). Gas, renewables 2019 performance shows where Investors can put money. *Business Day*, p. 2.

Osoro, A., Muturi, W. M., & Ngugi, P. K. (2016). Determinant affecting performance of supply chain systems in the petroleum industries in Kenya. *European Journal of Logistics Purchasing and Supply Chain Management, 4*(4), 44-63.

Osuji, E. (2019, July 27). Intimacy as a competitive edge for the small business. *BusinessDay*, p. 10.

Ouabouch, L., & Pache, G. (2014). Risk management in supply chain: Characterization and empirical analysis. *The Journal of Applied Business Research, 30*(2), 329-340. https://doi.org/10.19030/jabr.v30i2.8401

Owuso, S. M., & Poi, E. (2019). The effect of risk mitigation strategy on sales performance of petroleum marketing firms in the downstream sector of the petroleum industry in Nigeria. *International Journal of Economics and Business Management, 5*(3), 24-32.

Owuso, S. M., & Luke. G. R. (2020) Supply chain risk management and risk mitigation in the petroleum marketing firms in Rivers State. *International Journal of Management and Marketing Systems, 13*(8), 86- 98.

Peter, K., Rotich, G., & Ochiri, G. (2018). Influence of procurement risk management on procurement performance of mega projects in the energy sector in Kenya. *European Journal of Logistics, Purchasing and Supply Chain Management, 6*(5), 1-12.

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organisations: A resource dependence perspective.* Stanford, UK: Stanford University Press.

Radipere, S., & Dhliwayo, S. (2014). The role of age and business size on small business performance in the South African small enterprise sector. *Problems and Perspectives in Management, 12*(4), 7-12.

Revilla, E., & Saenz, M. J. (n.d.). A taxonomy of supply chain risk management strategies: Antecedents and performance.

Ruzzier, M., & Ruzzier, M. K. (2015). On the relationship between firm size, resources, age at entry and internationalization: The case of Slovenian SMEs. *Journal of Business Economics and Management, 16*(1), 52-73. doi:10.3846/16111699.2012.745812.

Shobande, A. O. (2018). Determinants of firm performance in Nigeria oil and gas industry. *Journal of Multidisciplinary Social Research (JMSR),* 44-51. Retrieved from https://www.researchgate.net/publication/329070070_Determinants_of_Firm_Performance_in_Nigeria_Oil_and_Gas_Industry/link/5bf4087ca6fdcc3a8de38f81/download

Singhal, P., Agarwal, G., & Mittal, M. L. (2011). Supply chain risk management: Review, classification and future research directions. *Int'l. Journal of Business Science and Applied Management, 6*(3), 15-42. https://doi.org/10.4018/978-1-60960-135-5.ch002

Standing, G., & Kauffman, R. G. (2007). *A framework for management of supply chain disruption*. 92nd Annual International Supply Management Conference.

Suraw, N. I., & Kariuki, S. N. (2018). Economic factors and financial performance of the petroleum firms in Kenya. *The Strategic Journal of Business & Change Management, 5*(4), 695 -705.

Swan, K. S., & Allred, B. B. (2003). A predictive model, analytical test and managerial implications of international subsidiaries' technology sourcing strategy. *Journal of Product Innovation and Management, 20*(6), 485-496. https://doi.org/10.1111/1540-5885.00044

Talluri, S., Kull, T. J., Yildiz, H., & Yoon, J. (2013). Assessing the efficiency of risk mitigation strategies in supply chains. *Journal of Business Logistics, 34*(4), 253 269. https://doi.org/10.1111/jbl.12025

Takahashi, S. I. Y. (2009). Entrepreneurs as decisive human resources and business: Performance for the Lao SMEs. *Chinese Business Review*, *8*(7), 29-47.

Udbye, A. (2016). How Indian supply chain disruptions and modern supply chain risk management practices produce troubling externalities and environmental consequences. *VFSTR Journal of STEM, 2*(1), 1-7.

Udofia, E. E., Adejare, B. O., Olaore, G. O., & Udofia, E. E. (2020). Supply disruption in the wake of COVID-19 crisis and organisational performance: Mediated by organisational productivity and customer satisfaction. *Journal of Humanities and Applied Social Sciences*. Retrieved from https://www.emerald.com/insight/content/doi/10.1108/JHASS-08-2020-0138/full/pdf

Wagner, S., & Bode, C. (2006). An empirical investigation into supply chain vulnerability. *Journal of Purchasing & Supply Management, 12*(6), 301-312. https://doi.org/10.1016/j.pursup.2007.01.004

Wagner, S. M., & Neshat, N. (2010). Assessing the vulnerability of supply chain using graph theory. *International Journal of Production Economics, 126*(1), 121-129. https://doi.org/10.1016/j.ijpe.2009.10.007

Wakaisuka-Isingoma, J., Aduda, J., Wainaina, G., & Mwangi, C. I. (2016). Corporate governance, firm characteristics, external environment and performance of financial institutions in Uganda: A review of literature. *Cogent Business & Management, 3*(1), 1-14. doi: 10.1080/23311975.2016.1261526

Wicker, P., Vos, S., Scheerder, J., & Breuer, C. (2013). The link between resource problems and inter-organisational relationships: A quantitative study of Western European sport clubs. *Managing Leisure, 18*(1), 31-45. https://doi.org/10.1080/13606719.2012.742226