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Strategic Entrepreneurship and Operational Performance of Indigenous Oilfield Services Firms in Selected South-South States of Nigeria.

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ABSTRACT

This study examined the relationship between strategic entrepreneurship and operational performance of indigenous oilfield services firms in South-South States of Nigeria. The underpinning theories of the study were dynamic capabilities theory and innovation theory. The study adopted descriptive cross-sectional survey research design at organizational unit of analysis with five-points Likert scale questionnaire for data collection. The population of the study was 1827 indigenous oilfield services firms in South-South States, Nigeria with sample size of 328 determined by Taro Yamane's formula and Bowley's formula for proportional allocation of respondent firms. The reliability was determined by Cronbach's Alpha while construct validity was with Pearson's r , factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity. The data analysis were descriptive and inferential statistics in Microsoft Excel Software Package version 2016 and International Business Machine (IBM) Statistical Package for the Social Sciences (SPSS) version 29 software application tools respectively. Pearson Product Moment Correlation Coefficient (PPMCC) techniques was used to test the hypotheses. The results showed that strategic entrepreneurship had positive and significant relationship with operational performance of indigenous oilfield services firms in South-South States, Nigeria. This study provided empirical evidence of positive and significant relationship between strategic entrepreneurship and operational performance of indigenous oilfield services firms.

KEY WORDS: Customer Satisfaction, Entrepreneurial Culture, Operational Performance, Strategic Entrepreneurship, Strategic Resource Management, Workforce Competence.

1. INTRODUCTION

Nigerian indigenous entrepreneurial firms in the oilfield services business need the right amount of resources in personnel, financial capital, infrastructure and facilities, proprietary equipment and tools, organizational capabilities, right culture of technology driven

innovations to survive in the competitive environment. Attaining world-class performance and competitiveness in today's highly globalized complex business environment and competition puts immense pressure on products and services-oriented organizations

with limited resources to pursue operational excellence/performance in terms of customer satisfaction, workforce competence, cost reduction by optimization, and providing high-quality products and services in shorter lead times to their customers (Asif et al., 2020). The competitive landscape of the 21st century presents firms with new fundamentals like globalization or global marketplace, and significant volatility, uncertainty, complexity and ambiguity (VUCA) in predicting the future.

Currently, crude oil and natural gas sectors' contribution is a minuscule of approximately 5.67% to Nigeria's Gross Domestic Product (GDP). However, it still remains the nucleus of the nation's economy with over 90% of foreign exchange earnings and government revenues for socio-economic development (National Bureau of Statistics, NBS, 2023).

In most natural resource endowed, dependent and mono-product developing economies like Nigeria, social and economic development, Gross Domestic Product (GDP) growth, poverty reduction and job creation depend largely on the success of their extractive industries and associated services firms. A mono-product economy refers to an economy mainly dependent on a single product or resource for economic growth and development. It could be further referred to as a situation where a country depends on a single product for sales or exports for its budget funding especially to the tune of 70% in revenue. Nonetheless, Nigeria today could be described as a mono-product economy dominated by hydrocarbon resources as the major foreign exchange earners which accounts for about 79% from crude oil and 10% from natural gas, a third of banking sector credit, and more than half of government revenues, though petroleum sector accounts for approximately 6% of her GDP (Asif et al, 2020; Ojha, Vij & Vrat, 2014).

Prior to the advent of Nigerian Oil and Gas Industry Content Development (NOGICD) Act in 2010, most Nigerian entrepreneurs with interest and requisite industry expertise and experience found it very difficult accessing the massive local business opportunities existing in the industry due to specific international and technical entry barriers (Udok, Udofia & Okunbolade, 2020; Ocheni, 2015). However, with the passage of Nigerian Oil and Gas Industry Content Development (NOGICD) Act popularly known as the "Nigerian Content Policy" in 2010 and the setting up of the appropriate structures for its implementation through the Nigerian Content Development and Monitoring Board (NCDMB), provided the needed entry opportunities and encouragement for Nigerian entrepreneurs with relevant oil and gas industry knowledge, experience, expertise and skills and financial capital to go into business in this critical sub-sector of the economy (Udok, Udofia & Okunbolade, 2020; Ocheni, 2015). The creation, adoption and progressive implementation of the Nigerian Content Policy in the oil and gas industry is seen as a strategy to increase the participation of Nigerian indigenous entrepreneurs in the supply and value chain of the sector. The strategic objective of this policy is to improve socio-economic benefits derivable from both the backward and forward linkages in terms of procurement and utilization of locally produced input materials, creating more direct and indirect job opportunities for the locals and also to create more indigenous technical capacity and employment opportunities for the local workforce (NOGICD Act, 2010). Backward linkages involve the supply of input materials to the commodity sector that links the sector to other sectors in the local economy. Forward linkages are activities that involve processing of the sector's outputs prior to export for example, in the oil and gas industry, the establishment of refineries, petrochemical industries and production of fertilizers (Adedeji et al., 2016).

However, previous studies on this subject have produced mix and inconclusive results. The research by Arokodare and Asikhia. (2020) which examined the moderating effect of external environment on the relationship between strategic entrepreneurship and performance of selected oil and gas service firms in Lagos and Rivers states, Nigeria showed that strategic entrepreneurship components significantly predicted and influenced performance in terms of sales growth, market share and profitability. The study findings as well showed that external environment significantly moderates the relationship between strategic entrepreneurship and performance. The study by Okoi et al., (2022) on the relationship between strategic entrepreneurship practices and performance of small and medium-sized enterprises (SMEs) in Nigeria's hospitality industry found that strategic resource management enhanced performance. This implies that investing in human capital is likely to contribute meaningfully to sustenance of competitive advantage over rivals by creating specific knowledge, skills and culture within the firm and entrepreneurship innovation supports creativity of organization performance. Also, Kabuoh et al., (2019) studied the influence of efficient resource management on value creation by SMEs in the gas sub-sector in Lagos State, Nigeria and found that efficient utilization of resources had significant positive influence on value creation. Again, Adeyeye, Wale-Oshinowo and Ayeni. (2020) in their study on impact of entrepreneurial culture as a deterrent to corruption on information and communication technology (ICT) firms' performance in Minna Metropolis, Niger State, Nigeria established that innovativeness, experimentation and accountability which are dimensions of entrepreneurial culture had positive and statistical significant impact on ICT firms' performance. Despite existing related studies and their findings on strategic entrepreneurship and operational performance in various contexts, the subject has remained inconclusive and hugely debatable. A variety of industries, economic sectors and geographical locations were used in earlier research conducted in other parts of Nigeria and the world, none of these past studies were on strategic entrepreneurship and operational performance of indigenous oilfield services firms in selected South-South States of Nigeria. As stated by Miles. (2017) cited in Ugwu and Igbo. (2021), new research gaps can be identified and developed based on evidence, knowledge, methodology, scope, theories, and population gaps. The researchers have established gaps in terms of study concept, methodology (population, sample size and sampling techniques, data classification and analytical techniques), scope (content, geographic coverage and unit), and empirical studies. These identified gaps in literature are what the present study seeks to fill by offering innovative solutions, make valuable contribution to the body of knowledge with practical policy implications for implementation.

Therefore, to address these research gaps, this study intends to examine the extent to which entrepreneurial culture and strategic resource management as dimensions of the independent variables (strategic entrepreneurship) relate with customer satisfaction and workforce competence respectively as measures of the dependent variables (operational performance) of indigenous oilfield services firms in South-South States, Nigeria.

Problem Statement

The indigenous oilfield services firms operating in Nigeria lack strategic resources in human capital, financial capital, infrastructures and facilities, proprietary equipment and tools and organizational capabilities, right culture of technology driven innovations to survive and grow in the competitive business environment. These firms are equally lacking in strong corporate governance culture, structure and practices to increase their operational effectiveness and

efficiency to increase their access to capital, and reduce risks. Most Nigerian entrepreneurs with interest and requisite industry expertise and experience found it very difficult accessing the massive local business opportunities existing in the industry due to specific international and technical entry barriers. Operations in Nigeria's oil and gas industry were initially dominated by foreign entrepreneurs called international oil and gas companies (IOCs) leaving little or no space for indigenous entrepreneurs especially technology-based oilfield services firms to participate, function and benefit from the enormous values derivable from its value chain to support socio-economic development of Nigeria. Nigerian indigenous entrepreneurs and managers in this sector are yet to embrace and adopt scientific management and innovative techniques like strategic entrepreneurship to achieve sustainable competitive advantage and growth supported by creativity and innovation in taking full advantage of opportunities to outperform rivals in the oil and gas industry space.

Research Objectives

The main objective of this study examined the relationship between strategic entrepreneurship and operational performance of indigenous oilfield services firms in South-South States of Nigeria. The specific objectives are as follows:

- To assess the extent to which entrepreneurial culture relates to customer satisfaction of indigenous oilfield services firms in South-South States of Nigeria.
- To evaluate the extent to which strategic resource management relates to workforce competence of indigenous oilfield services firms in South-South States of Nigeria.

Research Questions

- How does entrepreneurial culture relate to customer satisfaction of indigenous oilfield services firms in South-South of Nigeria?
- How does strategic resource management relate to workforce competence of indigenous oilfield services firms in selected South-South States of Nigeria?

Research Hypotheses

- **H0₁:** Entrepreneurial culture does not significantly relate to customer satisfaction of indigenous oilfield services firms in South-South States of Nigeria.
- **H0₂:** Strategic resource management does not significantly relate to workforce competence of indigenous oilfield services firms in South-South States of Nigeria.

The remainder of this paper is structured as follows: Section 2 reviews literature on strategic entrepreneurship and operational performance while, Section 3 discusses methodology adopted for the study, Section 4 presents results and discussion and Section 5 contains conclusion and recommendations. Section 6 explains research implications, limitations and suggestions for future studies.

2. LITERATURE REVIEW

Conception Review

Strategic Entrepreneurship

Strategic entrepreneurship is a concept which plays an important role in a highly uncertain and turbulent business environment like the oil and gas industry with its unique boom and burst cyclic characteristics. Strategic entrepreneurship is the combination of strategic functions with entrepreneurial actions to create value, wealth and benefits for the firms, society and individuals. The focus on opportunities is a good basis to describe the relationships

between strategy or strategic management and entrepreneurship (Ajagbe, 2014). Ajagbe and Ismail. (2015) opines that uncertainty conditions show a growing difficulty in making predictions, an increase in management risks, the emergence of new structural firms and innovative managerial mindset and culture. As a result of highly competitive business environment, the integration between strategic management and entrepreneurship has in recent times been the focus of numerous researchers conceptualized as strategic entrepreneurship (Ukenna et al, 2019). In this context, strategic entrepreneurship is defined as the action of simultaneously engaging in the search for opportunities and competitive advantages for devising and implementing entrepreneurial strategies that create value, wealth and benefits for all (Ukenna et al, 2019., Lackeus, 2016). Strategic entrepreneurship involves advantage-seeking and opportunity-seeking behaviours that result in operational performance or operational excellence of firms. Also, Arokodare. (2018) defines strategic entrepreneurship as a process that facilitates firms' efforts to identify opportunities with the highest potential leading to value creation, through the entrepreneurial components which are then exploited through measured strategic activities based on their resource base. Organizations create wealth in terms of measured value added and growth i.e. sales and profitability by exploring opportunities in their internal and external environment and then develop competitive advantages to exploit these opportunities (Ukenna et al, 2019).

Previous studies have shown that the concepts of entrepreneurial culture and strategic resource management of firms were enhanced and examined by the adopting strategic entrepreneurship approach (Ukenna et al, 2019; Arokodare & Asikhia. 2020; Akokodare et al., 2020; Makinde and Agu, 2018).

Also from literature, it is believed that effective strategic entrepreneurship helps a firm position itself to be capable of successfully responding to different environmental changes that significantly affect firms in the current competitive business landscape (Arokodare & Asikhia, 2020). The environment constitutes a major domain of strategic entrepreneurship as through its dynamics, complexity and munificence, it influences resources, organizational structure and entrepreneurial leadership of the firm, which lead to the development of capabilities by the firm. The identification of opportunities in the environment is the beginning of entrepreneurial behaviour in strategic entrepreneurship (Paek & Lee, 2017). It is the foundation of the firm in building its resources and capabilities which would eventually determine differentiated or unique competitive advantages in different environment (Kiyabo & Isaga, 2019). According to Nhuta and Kapofu. (2015) strategic entrepreneurship allows the firm to apply its knowledge and capabilities in the current environmental context while exploring for opportunities to exploit in the future by applying new and/or enhanced capabilities. Simsek, Heavey and Fox. (2017) in explaining firm performance stated that the combination of strategic and entrepreneurial actions explains how firms create, renew and sustain competitive advantages and transcend, transform and exceed the dynamics of competition. To obtain optimal outcomes with respect to operational performance from strategic entrepreneurship concept, the combination of the various attributes of strategic entrepreneurship must be balanced and effectively managed within both the contexts of internal organisation and changing external environment. As stated by Dogan. (2015) firms need to achieve a balance between the advantage-seeking behaviours associated with strategic management and the opportunity-seeking behaviors that entrepreneurship is known for. This researcher felt to a certain extent that the strategic management aspect seeks stability and

predictability while the entrepreneurship aspect requires flexibility and novelty. To support organizations become more creative and innovative in value and wealth creation as well as to achieve and sustain competitive advantage, strategic entrepreneurship practices are strongly recommended for adoption (Tuluca & Yurtkur, 2015). According to Gumel. (2018) exploiting an entrepreneurial opportunity is often a necessary action to capture and sustain competitive advantage. The practice of strategic entrepreneurship focuses on the exploitation of opportunity through creativity and innovation to maximize potential value and wealth creation, revenue, profit, growth and operational performance (Jayathilake, 2015).

In this study, Strategic entrepreneurship is conceptualized as entrepreneurial culture to technology and innovation abridged as entrepreneurial culture and strategic management of human and finance capitals, material and organizational resources shortened as strategic resource management.

Operational Performance

Performance measurement is generally divided into financial and non-financial performance. Financial performance is the ability of an organization to generate revenue, income and profits. Financial performance is frequently used to gauge how an organization conducts its business activities as well as its business results. It could as well be used to benchmark the performance of one organization against another within an industry. These measures relate to the method used by executive management to allocate funds for various projects. Precisely, financial performance measures reflect internal managerial performance and decision-making capability instead of a reflection of external market response (Sawaeen & Ali, 2020). Small and medium-sized enterprises (SMEs) organizations like the Nigerian indigenous oilfield services firms had been reprimanded for relying too much on financial performance measures without considering the non-financial measures which are the real drivers of value and wealth. Being over dependent on financial measures of performance had caused managers of SMEs such as indigenous oilfield services firms to emphasize on the results of past actions instead of focusing on factors which ensure present and future success of their organizations. Due to the lagging nature of the financial measures, managers who solely rely on them are only able to obtain information on the results of previous activities which make them not to have any forward-looking information or indicators of future performance outcomes (Sawaeen & Ali, 2020).

Therefore, from this perspective, non-financial performance measures or operational performance measures are seen as better indicators or predictors of future financial performance since they provide an otherwise unavailable forward-looking information regarding business activities and financial results that would have impact on business performance. For instance, non-financial or operational performance measures such as customer satisfaction, and workforce competence could give indications or predictions of future cash flow that would not be available through any other means (Madueke & Kamala, 2016). Enhanced performance with respect to operations is of interest if it has an effect on the organization's competitive position. Organizations that could offer exceptional value and/or lower prices for products and services would increase customer satisfaction, experience and loyalty which could potentially increase their market share and maximize their revenue and profitability (Sawaeen & Ali, 2020).

Operational performance is defined as the strategic dimensions which firms choose to compete (Chavez, Yu, Gimenez, Fynes &

Wiengarten, 2015). Operational performance is the level of achievement of the competitive priorities set by an organization (Schroeder et al, 2002). According to Andy. (2007) cited in Ango and Taiwo. (2023) operational performance is a firm's performance measured against prescribed or required quality, speed and dependability. It is the processes and resources that organizations use to produce the highest quality of products and services as effectively and efficiently as possible. Operational performance is also defined as the alignment of all business units within an organisation to ensure that they are working together to achieve core business objectives and to ensure performance of a firm measured against standard indicators of effectiveness, efficiency, and environmental responsibility such as product and service quality, speed, cost and regulatory compliance or obedience (Billie, 2007). The most common operational performance measures are productivity, effectiveness, product and service quality, cost, speed, flexibility, dependability, reliability, delivery, efficiency, customer satisfaction and workforce competence. Based on the results and conclusion of previous studies, the non-financial performance measures or operational performance components and indicators were used in the present study to measure the performance of indigenous oilfield services firms in South-South States of Nigeria. This study adopted customer satisfaction and workforce competence as measures of operational performance.

Indigenous Oilfield Services Firms

The Nigerian crude oil and natural gas industry has grown to become a key player in the international oil and gas markets as it is rated the largest oil producer in Africa and the tenth largest in the world (Fubara et al., 2019; Enwere, 2018). It is the nation's live-wire as it creates employment opportunities, contributes to government revenue, and boosts foreign exchange reserves, among other benefits (Unam, Agorzie, & Asaolu, 2015; Monday et al., 2010).

According to Aigboduwa and Oisamoje. (2013), operations in the oil and gas industry are divided into three major segments along its value and supply chain of upstream, midstream and downstream sectors. The upstream sector involves operations in the areas of exploration, development (drilling and completion) and production. The midstream sector operations are processing, storage, marketing, transportation and delivery of crude oil and natural gas through pipelines, vessels, trains and trucks to the refineries. The downstream sector operations and activities include refining, distribution and marketing of petroleum products and derivatives such as petrol, diesel, kerosene, liquefied petroleum gas (cooking gas) and other derivatives from crude oil refining and natural gas processing. The distribution and retail channels of the downstream sector ensure that these products are delivered to their final residential, commercial and industrial consumers and end-users.

Meanwhile, Abu, Aun and Oluwasanmi. (2018) stated that innovation and continuous improvement efforts have segmented the oil and gas industry into two major interrelated business organizations namely the oil and gas producing organizations and oil and gas services organizations. The oil and gas producing organizations (known as operators or producers) are in some cases the sole owners, operators and producers of oil and gas acreages or fields, or might be in joint venture or production sharing contract or service contract relationships with national government of host country and other operators. These firms are focused mainly on integrating multiple technologies and innovations and managing overall risks of oil and gas assets and facilities. On the other hand, the oil and gas services organizations (known as oilfield services firms) which are highly technical in products and services. They are

focused on the use of specialized technical and non-technical expertise, knowledge and skills in developing technologies and innovations needed for oil and gas projects execution and delivery of services based on contractual agreements. Again, oilfield services firms with their project management expertise are in some cases involved in a medium to long term oil and gas assets and facilities integrated project management, services and operations contractual relationships with the producing firms. The growth of the oilfield services sub-sector is very much the story of outsourcing, innovations and finding innovative solutions to technological, operational, cost and management challenges faced by the oil and gas producing firms. The oilfield services firms are described as the heavy lifters of the oil and gas industry by leading the operations, maintenance, innovations and projects management and delivery space. They provide technological and innovative solutions for operational processes to explore, drill, extract, process, transport and refine crude oil and natural gas resources in cost effective and efficient ways. The oilfield services sector is a solution-driven industry and its function is to select and integrate technologies and innovations into oil and gas project management and delivery (Klynveld Peat Marwick Goerdeler, KPMG, 2016).

The Nigerian indigenous oilfield services firms provide products, equipment, technical and non-technical support services necessary to design, construct, drill, complete, produce, process, meter, store, transport and refine extracted petroleum resources by engaging their expertise in these service categories: construction and movable equipment, consultancy services, fabrication and construction, manufacturing and related services, non-movable assets, procurement and supplies, quality control inspection and testing, specialized technical and non-technical support services. They are seen as essential partners across the value and supply chain segments of the oil and gas industry providing technical, logistics and other support services to onshore and offshore operations (Abu, Aun & Oluwasanmi, 2018).

Meanwhile, industrial clusters and ecosystems around the locations of oil and gas extraction, production and processing assets and facilities of which oilfield services firms are the majority tend to stimulate socio-economic activities and technological development thereby creating both direct and indirect jobs and drive innovations (KPMG, 2016). Operations in Nigeria's oil and gas industry were initially dominated by foreign entrepreneurs called international oil and gas companies (IOCs) leaving little or no space for indigenous entrepreneurs especially technology-based oilfield services firms to participate, function and benefit from the enormous values derivable from its supply chain to support socio-economic development of Nigeria and her constituent administrative structures (Aneke, 2012).

However, the formation of Organization of Petroleum Exporting Countries (OPEC) in 1960 encouraged member states to take direct control of their petroleum resources and industry by increased participation through National Oil Companies (NOCs). Nigeria became an OPEC member in 1971 which paved the way for the incorporation of Nigerian National Oil Company (NNOC) and the subsequent creation of the Ministry of Petroleum Resources (MPR) in 1975. While the NOCs in most OPEC member countries took direct control of their oil and gas production operations, the international oil and gas companies in Nigeria were allowed to continue with such operations under joint venture (JV) agreements and production sharing contract (PSC) agreements (Aigbodua & Oisamoje, 2013). The merger of NNOC and MPR in 1977 resulted in the formation of Nigeria National Petroleum Corporation (NNPC) which conferred it with triple duties of ownership/participation,

supervision and regulation of Nigeria's oil and gas industry until recently in the year 2021 when the new Petroleum Industry Act (PIA, 2021) was signed into law. The PIA, (2021) unbundled the Nigerian National Petroleum Corporation (NNPC) into successor entities which enabled NNPC to be incorporated as a limited liability company currently known as NNPC limited while transferring regulatory functions formerly held by the defunct Department of Petroleum Resources (DPR) to the newly established Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and Nigerian Midstream and Downstream Regulatory Authority (NMDRA).

The indigenous oilfield services firms as defined in Nigerian Oil and Gas in Industry Content Development (NOGICD Act, 2010) are Nigerian indigenous service companies which demonstrate ownership of equipment, Nigerian personnel and capacity to execute such work to bid on land and swamp operating areas of the Nigerian oil and gas industry for contracts and services contained in the schedule of the Act. The schedule of this Act contains list of oil and gas work categories and related scope of products and services activities with percentages of required Nigerian content participation reserved for Nigerian indigenous oilfield services firms. The NOGICD Act (2010) also specified the units of measuring each listed product and service activity which are in man-hours, spend, tonnages, volumes, lengths, usage, loan amount, areas, tonnages/rates, man-hours/spend, number of certifications obtained and contracts. The stated services and contracts work categories in the NOGICD Act (2010) are as follows: Front End Engineering Design (FEED) and detailed engineering and other engineering activities; fabrication and construction; materials and procurement; well and drilling services/petroleum technology; research and development services (R & D related to operators in country); exploration, subsurface, petroleum engineering and seismic; transportation/supply/disposal services; health, safety and environment; information systems/information technology/communication services; marine operations and logistics services; finance and insurance; installation, hook-up and commissioning; inspection, testing and certification; project management/consulting; surveying/positioning services; modification and maintenance; and shipping services (NOGICD Act, 2010).

However, the indigenous oilfield services subsector is among the knowledge-intensive businesses (KIBs) which is gradually emerging as a powerful sub-sector in Nigeria's economy with rising significance in exploring and exploiting opportunities since the institutionalization of the Nigerian oil and gas industry content regulatory policy and operational framework in 2010 especially in positively contributing to the Gross Domestic Product (GDP) at national level, internally generated revenues (IGRs) at the sub-national (states), local government and community levels as well as providing solutions to rising unemployment in the knowledge-based economy (Fubara et al., 2019).

Knowledge-intensive businesses (KIBs) are mainly grouped into three categories. The first category are professional knowledge-intensive businesses (P-KIBs) which are traditional professional services such as Law, Accountancy, Management etc. with direct link to the oilfield services sector. The second category are technological knowledge-intensive businesses (T-KIBs) which are technological-based products and services related to science, technology, engineering and mathematics (STEM) fields, research and development (R&D) and innovations with direct links to the oilfield services industry and its related technical activities. The third category are computer knowledge-intensive businesses (C-

KIBs) which are computer science, engineering and software related services also with direct link to the oilfield services subsector (Martinez-Fernandez & Miles, 2006; Figueirido & Ferreria, 2019) cited in Adeyeye, Wale-Oshinowo & Ayeni. (2020).

Though, the three categories of knowledge-intensive businesses (KIBs) are all directly linked to the oil and gas sectors' technical and non-technical activities. This study will specifically focus on the oilfield services subsector as a knowledge-intensive business domain based on its strong affiliations with science, technology, engineering and mathematics (STEM) disciplines, research and development as well as innovations.

The indigenous oilfield services firms are entrepreneurial firms due to their modus operandi that differs from normal and traditional ventures guided by the provisions of the Nigerian oil and gas industry content development (NOGICD Act, 2010). According to Enwere. (2018) and Enyoghasim et al., (2019) just as Nigeria is the largest and leading oil and gas producing country in Africa, so is her indigenous oilfield services subsector the largest recognized and leading market for oilfield services and products in Africa. The indigenous oilfield services firms are learning organizations known for their many creativity, innovativeness and technology transfer initiatives and strategies in order to cope with the numerous challenges in the business environment (Adeyeye, Wale-Oshinowo & Ayeni, 2020).

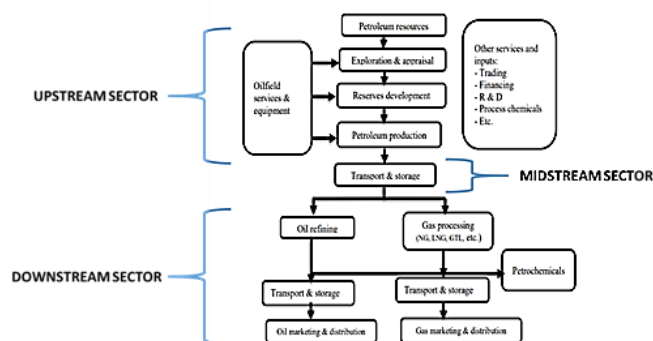


Figure 1. Nigeria's Oil and Gas Industry Value and Supply Chain.

Source: Authors Research Desk, 2025

The South-South States of Nigeria

The south-south states are located within the precincts of Nigeria's Niger Delta and cartographically comprises of six constituent states of Akwa Ibom, Bayelsa, Cross River, Delta, Edo and Rivers. These states are popularly referred to as south-south zone of Nigeria which is situated in the southern part of Nigeria, with a southern border to the Atlantic Ocean, eastern border to Cameroon, western boundary to south-western states of Nigeria and northern boundaries to south-eastern and north-central states of Nigeria. The zone occupies approximately 12% of the entire nation's surface area (Fubara et al., 2019; Enyoghasim et al., 2019).

The south-south states are petroleum resources-rich region and major hub of all oil and natural gas extractive activities including oilfield services in Nigeria. These states contain vast amounts of crude oil and natural gas resources found within Nigeria's onshore, shallow waters/offshore and deep offshore. The traditional occupation and economic activities of the indigenous people of these states are mainly agricultural base with respect to fishing, farming, commerce and trade. However, the discovery of commercial quantity of crude oil and natural gas resources in these states in 1956 increased the presence of oil and gas prospecting, operating and servicing firms, which through their corporate social responsibility

create community development programmes that encourage improvement and growth in education, agriculture, health, social welfare, micro-credit and small business development etc. (Fubara et al. 2019; Niger Delta Region Development Master Plan, NDRDMP, 2010). The states contribute substantially to the national, state and local economic treasury through crude oil and natural gas resource development windfalls from exploitation and production and associated services activities from its constituent states and local communities.

Research Conceptual Framework

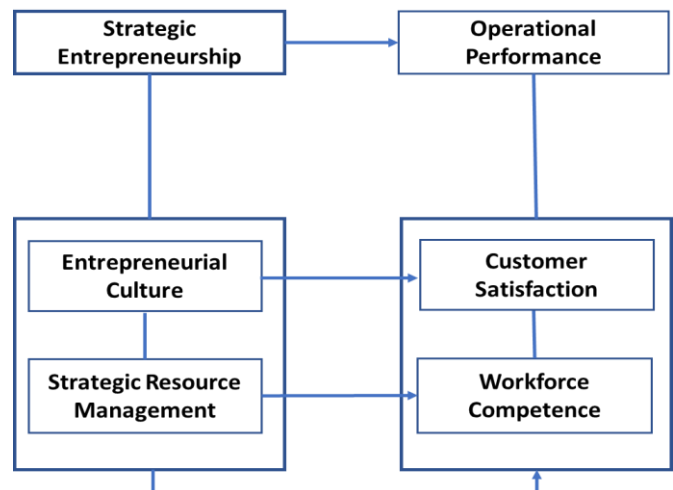


Figure 2. Conceptual Framework of Strategic Entrepreneurship and Operational Performance of Indigenous Oilfield Services Firms in South-South States of Nigeria.

Source: Desk Research, 2025.

Theoretical Review

This paper adopted two theoretical assumptions and models namely: dynamic capabilities theory and innovation theory which provided logical links between the independent and dependent variables to achieve the research objectives.

The dynamic capabilities theory (DCT) was developed by Teece, Pisano and Shuen. (1997) as an extension of the resource-based theory which mitigated the shortcomings of resource-based theory and resource dependence theory to explain the mechanism that links resources and product markets to sustainable competitive advantage, survival and growth of the firm in size, scope and scale (Arokodare & Asikhia, 2020). Dynamic capabilities theory emphasizes resource renewal by reconfiguring old resources into new combinations of operational capabilities as well as competitive survival and resilience due to turbulent in the business environment (Barney, Wright & Ketchen Jr, 2001; Bitar & Somers, 2003) cited in Kori, Muathe & Marina. (2021).

Schumpeter's theory of Economic development on innovation was propounded by Joseph Schumpeter in 1949. This theory assumes that individuals possess mental and creative ability to convert innovative ideas to economically viable products and services that meet the demands of the people in any society. This assertion is premised on the fact that business environment changes over time and exerts considerable influence on the operations and performance of businesses. The theory argues that entrepreneurs are risk takers and their innovative ideas are orchestrated based on their pro-activeness in the environment. Although, environmental factors are succinctly external to them but responding to the environmental factors calls for logical understanding on the interplay of those factors for sound decision making. The theory therefore, posits that

being proactive to the business environment help entrepreneurs to secure and sustain greater operational effectiveness that give them greater leverage for improved operational performance. Meanwhile, the theory describes entrepreneurs as visionary change management agents who introduce new economic activity that leads to a change in the marketplace or business environment (Ukenna et al., 2019).

Therefore, this study was anchored on innovation theory because the concept has been found to be empirically connected with strategic entrepreneurship and operational performance of indigenous oilfield services firms. Innovation theory is valuable to this study in explaining the relationship between strategic entrepreneurship and operational performance of indigenous oilfield services firms in South-South States of Nigeria.

Empirical Review

Strategic Entrepreneurship and Operational Performance

In establishing the empirical gaps, this study reviewed related previous studies within and outside Nigeria's context. The results obtained from various empirical findings remained divergent, inconclusive and conflicting.

The study by Yudhanto, Rochima and Rivani. (2023) using a survey research method evaluated the relationship between strategic entrepreneurship and the performance of women-owned fish processing micro, small and medium-sized enterprises (MSMEs) in Cibinong District, Bogor Regency, Western Java Province, Indonesia. The researchers used census sampling technique to obtain data from a population sample of 30 respondents of commercial businesswomen fish processors. The census sampling technique was adopted as the population was small. A structured questionnaire developed based on 5 point Likert scale adapted from previous studies was used to obtain data from the sampled respondents. The data were analyzed with Partial Least Squares–Structural Equation Modelling (PLS-SEM) technique in SmartPLS 3.0 software for validity, reliability, descriptive and inferential analyses. The results of the study showed that environmental factors, resource orchestration, individual or personal resource and competitive advantage were the four strategic entrepreneurship practices that favourably and significantly enhanced performance. The study recommended that managers of MSMEs should strategically structure their resource portfolios, invest in human capital, and integrate both opportunity-seeking and advantage-seeking behaviours into their business practices to improve performance. Also, managers of MSMEs should be aware that entrepreneurial innovation and strategic resource management play significant roles in determining MSMEs performance since they foster creativity, introduce cutting-edge technology and promote research and development activities that increase organizations' profitability.

The research by Enwere. (2023) examined the relationship between the strategic entrepreneurship and operational performance of selected indigenous technical oilfield services firms in Rivers State. The researcher used descriptive research design for the study and employed a self-developed 5-points Likert scale structured survey questionnaire based on the strategic entrepreneurship and operational performance constructs as the instrument of data collection. A simple random sampling technique with the support of Taro Yamane's formula were used to determine the sample size of 72 indigenous technical oilfield services firms from the population of 88 firms operating in Rivers State. The questionnaire and data integrity tests for reliability, validity and normality were performed in IBM Statistical Package for the Social Sciences (SPSS) software application version 29. The results of the study showed positive and significant relationship between strategic entrepreneurship and

operational performance. The study concludes that strategic entrepreneurship could be a leverage in gaining strong competitive advantage and sustained improvement in operational performance of indigenous technical oilfield services firms.

Okoi et al., (2022) using a survey research design studied the relationship between strategic entrepreneurship practices and performance of small and medium-sized enterprises (SMEs) in Nigeria's hospitality industry. The study employed a structured questionnaire for obtaining data from 400 respondents purposively sampled from a population of 1294 employees. Descriptive analysis and inferential statistical techniques of multiple regression analysis were performed on the data. The research findings showed that strategic resource management and entrepreneurship innovation have significant positive influence on the performance of SMEs. The results also showed that strategic resource management enhanced performance by investing in human capital which contributed meaningfully to the sustenance of competitive advantage over rivals by creating specific knowledge, skills and culture within the firm and entrepreneurship innovation supports creativity of organization performance. The study recommended that managers should progressively incorporate new decision-making styles, processes and behaviour that will place a firm in a competitive and advantageous position when accessing a new market.

Yanur and Avanti. (2022) using a survey research design empirically examined the effect of strategic entrepreneurship, dynamic capabilities and organizational ambidexterity on innovation performance of telecommunications startup firms in Indonesia. The study used structured questionnaire based on a 6-point Likert scale to obtain data from a sample of 62 respondents drawn from the population of 123 telecommunications startup firms. The data were analyzed for descriptive and inferential statistics using Partial Least Square-Structural Equation Modelling (PLS-SEM) in SmartPLS version 3.2.9 software. The results of the study showed that strategic entrepreneurship had significant influence on dynamic capabilities, organizational ambidexterity and innovation performance but the dimension of entrepreneurial culture has minimal effect or non-significant influence on innovation performance. The study recommended that owners and corporate-level (C-level) managers of startup firms should build entrepreneurial leadership, entrepreneurial mindset, entrepreneurial culture, dynamic capabilities and organizational ambidexterity as all play significant roles to enhance innovation performance. Also, startup managers and founders need to ensure that the linkages between entrepreneurial culture and dynamic environment are strengthened as innovation operate in markets with higher degrees of environmental dynamism.

Hoglund and Martensson. (2019) using a case study method approach empirically evaluated strategic entrepreneurship practices of simultaneously balancing the process of entrepreneurship and strategic management focusing on the work of the Swedish Public Employment Services (SPES). The study was carried out based on a longitudinal and qualitative process approach of interview and observation involving a sample of 100 employees drawn from a population of 14500 employees. The results of the study showed that there are several organizational culture and structure as well as entrepreneurial leadership and that each must be in alignment and mutually supportive of each other in order to succeed with the strategic work and the implementation of strategic entrepreneurship practices in public organizations like the Swedish Public Employment Services (SPES). The study recommended that both private and public organizations implementing strategic entrepreneurship practices need to do so in relation to their

organizational culture, structure and entrepreneurial leadership and that each part be aligned and mutually supportive.

Sriboonlue. (2019) examined the relationship between entrepreneurial awareness and business performance of small and medium-sized enterprises in Thailand. The study used a quantitative research instrument of structured questionnaire to collect data from a sample of 387 respondents drawn from a population of 1805 registered SMEs in Thailand. The sample size of the study was determined by Krejcie and Morgan. (1970) method while the validity and reliability of the questionnaire were tested by confirmatory factor analysis and Cronbach's Alpha coefficient respectively. The collected data were analyzed with the statistical techniques of variance inflation factor (VIF), correlation analysis and ordinary least square (OLS) methods of regression analysis. The results of the study showed that integrative new ideas generation and market leadership orientation dimensions of entrepreneurial awareness have significant and positive relationship with superior organizational innovation, outstanding business creativity and business performance while the proactive, risk-taking attitude and modern technology utilization dimensions have positive and non-significant relationship with superior organizational innovation, outstanding business creativity and business performance. Also, the study findings established that both superior organizational innovation and outstanding business creativity have positive and significant relationship with business performance. The research findings showed that the moderating effects of competitive intensity play significant role on the relationship among each of the four dimensions of strategic entrepreneurial awareness and its consequences as well as the relationship among superior organizational innovation, outstanding business creativity, and business performance. The study recommended that top management and executives of organizations must pay special attention to and stimulate the concept of integrating new ideas generation and market leadership orientation amongst employees to innovate new working processes or new creative business concepts that satisfy customer expectations and enhance working operational efficiency which result to competitive advantage, superior organizational innovation, outstanding business creativity and business performance.

Again, Ukenna et al., (2019) using survey research design examined the effect of strategic entrepreneurship on organizational performance of selected Agricultural SMEs in Lagos, Ogun and Oyo States, Nigeria. The study sample size was 376 of respondents determined with Raosoft sample size calculator drawn from the population of 1152 owners/managers of selected SMEs in the Agricultural sector of Lagos, Ogun and Oyo States, Nigeria. Data were obtained from respondents with adapted questionnaire as survey instrument, simple random sampling and proportionate sample size techniques for the choice of respondents. The questionnaire was subjected to both validity and reliability tests using KMO and Cronbach's Alpha coefficient respectively. The data were analyzed with descriptive and inferential statistics in Statistical Package for the Social Sciences (SPSS) version 23 software application. The research findings revealed that strategic entrepreneurship had a significant effect on both social value creation and customer satisfaction measures of organizational performance of SMEs. The study recommended that SMEs in the agricultural sector should adopt strategic entrepreneurship practices to optimize performance in terms of social value creation and customer satisfaction.

Meanwhile, Kiyabo and Isaga. (2019) using survey research design

empirically assessed the influence of strategic entrepreneurship on SMEs performance under the mediation of competitive advantage in the welding industry in Tanzania. The researchers employed cross-sectional design and structured questionnaire in collecting data from a sample of 300 respondents determined by the rule of the thumb based on the requirements of factor analysis and structural equation modelling techniques in the three purposively selected urban centres of Dar es Salam, Mbeya and Morogoro in Tanzania. According to Hair et al., (2010) cited in Kiyabo and Isaga. (2019) factor analysis requires a minimum sample size of 120 subjects for factor loading + or - 5 while structural equation modelling requires sample size ranging between 100 and 400 subjects. The data were analyzed with the aid of Statistical Package for the Social Sciences (SPSS) computer software for descriptive statistics while the inferential statistics was done with the aid of Analysis of Moment Structures (AMOS) computer software were determined using structural equation modelling techniques which consisted of confirmatory factor analysis and latent variable path analysis. The results revealed that learning orientation influences entrepreneurial orientation which influences strategic resource management to create competitive advantage that promotes SMEs performance in the welding industry in Tanzania. Therefore, the study recommended that SMEs managers are encouraged to embrace learning orientation to continuously create competitive advantage that leads to superior performance.

Shirokova, Ivonen and Gafforova. (2019) using a survey research design method examined the relationship between different components of strategic entrepreneurship (entrepreneurial mindset, innovation, managing resources strategically and competitive advantage) and SMEs performance in Russia during economic crisis. The study used a standardized questionnaire based on a 7-point Likert scale and applied simple random sampling technique to collect data from a sample size of 656 respondents drawn from a population of 2583 SMEs selected from different economic sectors in Russia. The reliability of the survey instrument was tested using Cronbach's Alpha coefficient. The data were analyzed with descriptive and inferential statistics. The findings from the study suggested that the entrepreneurial components of strategic entrepreneurship are positively related to SMEs performance. Also, a significant negative relationship was found between the combined indicators of entrepreneurial component and competitive advantage and performance of SMEs. The results showed that companies have limited resources based on economic crisis periods making SMEs firms focus on implementing only one strategic entrepreneurship component instead of simultaneously taking entrepreneurial and strategic actions will be suicidal to the SME firms. The study recommended that SMEs top managers as corporate decision makers saddled with the responsibility of crafting and implementing strategies should realize that combining specific strategic entrepreneurship components which results to improved performance under stable conditions can have negative consequences during economic crisis. Also, that SMEs top managers should focus on promoting entrepreneurial behaviours or actions which usually involve innovation, willingness to take risks, developing new products and services and proactive search for and implementation of new business opportunities during economic crisis when resources are limited.

The study by Abdullahi. (2018) empirically assessed the impact of effective entrepreneurship and strategic management on business success of SMEs in Malaysia using a qualitative approach and semi-structured interview questionnaire as instrument for collecting data from a sample of 15 interviews respondents drawn from a

population of 88 owners and managers of SMEs. The study identified that the owner and manager language skills attributes, finance and networking partnership and business location characteristics focus were the three generalized factors that influenced success and performance of SMEs based on entrepreneur's perceptions. The study recommended that small business owners and managers desirous of seeing their business succeed in the local environment should always consider the impact of these factors: the owner and manager language skills, financial and networking partnership and business location characteristics.

The research by Makinde and Agu. (2018) examined the effect of strategic entrepreneurship on performance of selected SMEs in Aba Metropolis using the survey research design approach. The total population was 231 and a census population sampling technique was adopted because the population was not large enough. A structured questionnaire adapted from previous studies based on its validity and reliability results was used as the survey instrument to collect data from respondents which were the owners and management level employees in selected SMEs. The adapted questionnaire was further tested for validity through the exploratory factor analysis using principal component extraction method and reliability using Cronbach's Alpha statistics while the data analysis was performed with the use of simple linear regression analysis in Statistical Package for the Social Sciences (SPSS) software. The study results revealed that strategic entrepreneurship variables of entrepreneurial education, entrepreneurial leadership, entrepreneurial knowledge and entrepreneurial orientation have positive and significant effect on performance measures of entrepreneurial efficiency, employee turnover intention, entrepreneurial skills and entrepreneurial innovation. The study recommended that the owners and managers of SMEs need to continuously acquire entrepreneurial education for themselves and their employees, engage more in transformational leadership style as it is likely to reduce the rate of employee turnover intention, increase the level of entrepreneurial knowledge they have in order to gain competitive advantage and continuously orient both old and new staff members on new process and product innovation through periodic market research to operate competitively, profitably and significantly contribute to the economic recovery and growth plan of Nigeria.

Paek and Lee. (2017) employing a mixed research methodology examined the relationship between strategic entrepreneurship and competitive advantage of established firms in digital TV industry. The mixed research method consists of a conceptual study by which the conceptual research framework was developed from systematic literature review and an empirical case study of established firms by conducting content analysis. The study used data from secondary sources and methods of data analysis were systematic literature review and content analysis. The empirical content analysis aspect of the case study involved Samsung, Sony and Panasonic which were the three established leading firms in the TV industry. The findings of the study were the development a strategic entrepreneurship framework through the lens of dynamic capabilities view as a process of sustaining competitive advantage of established firms. This result was complemented by the empirical case study of the three established firms in the digital TV industry which revealed the distinct difference in degree of strategic entrepreneurship producing different performances in the period of technology transition. Also, the study findings showed that a firm with higher revenue share demonstrates higher frequency of positive articles relevant to dimensions of strategic entrepreneurship meaning that a firm with higher levels of strategic entrepreneurship can better

develop dynamic capabilities and it becomes easier to sustain competitive advantage in a highly volatile and uncertain business environment. The study recommended that top management in established firms should among other things promote the following: continuously scan customer needs and market trends based on accurate customer-related searching, be prepared to initiate timely decisions for successful exploitation of recognized opportunities, have a contingency plan and risk management approach through product and service line diversification and resource allocation to minimize risks and maximize profits, encourage organizational culture of entrepreneurial orientation and learning, and overcome knowledge inertia and use the firm's experience to create a future path to survive the lengthy period in a modern volatile, complex and uncertain business environment like the oil and gas industry.

3. RESEARCH METHOD

The study adopted descriptive cross-sectional survey research design.

Population and Sampling

The population of the study was 1827 indigenous oilfield services firms in the six South-South States of Nigeria obtained from Nigerian Content Development and Monitoring Board (NCDMB) approved register. The number of indigenous oilfield services firms in each of the four randomly selected South-South States were as follows: Akwa Ibom 138, Bayelsa 201, Delta 316 and Rivers 1172. The sample frame used in this study was management level positions with appropriate knowledge and experience in oilfield services business strategy, management and operational systems in each of the firms studied.

Sample Size Determination and Allocation

The study sample size was 328, determined with Taro Yamane's formula for sample size determination while Bowley's formula was used to proportionally allocate the sample size in the selected South-South States in Nigeria.

$$\text{Taro Yamane's formula is: } n = N/[1 + N(e^2)] \quad (3.1)$$

Where:

n = Sample size, N = Population of the study, e = The margin of error. Therefore, substituting $N = 1827$ and $e = 0.05$ into the stated formula gives: $n = 1827/[1 + 1827(0.05^2)] = 328$.

$$\text{Bowley's statistical formula is: } nh = nNh/N \quad (3.2)$$

Where:

n = Total sample size; nh = Proportional sample size; Nh = Population of each stratum; N = Total population of the study.

Substituting $n = 328$, $N = 1827$ and Nh value for each stratum or selected state into the stated formula gives: Akwa Ibom State: $nh = nNh/N = (328 \times 138)/1827 = 25$; Bayelsa State: $nh = nNh/N = (328 \times 201)/1827 = 36$; Delta State: $nh = nNh/N = (328 \times 316)/1827 = 57$; Rivers State: $nh = nNh/N = (328 \times 1172)/1827 = 210$.

Research Instrument

The study which was at the organizational unit of analysis used a self-developed 5-points Likert scale questionnaire as instrument of data collection from management level respondents. The questionnaire was validated and reliability of the study variables established. The construct and content validity were ascertained through checks and corrections from senior academics and research experts in the fields of strategic management, entrepreneurship, innovation, and management technology who ensured the statements in the questionnaire measured the study variables.

Table 1: Reliability and Validity Tests Results

S/No	Variables	Variables Code	Number of Items	Number of Respondents	Reliability	Validity					
					Cronbach's Alpha	Pearson's r Count	Pearson's r Table 5% (292 - 2)	P-Value	KMO	Bartlett's Test of Sphericity	Sig.
1	Entrepreneurial Culture	EC	5	292	0.85	0.562	0.195	0.000	0.756	784.019	0.000
2	Strategic Resource Management	SRM	5	292	0.81	0.641	0.195	0.000	0.765	493.337	0.000
3	Customer Satisfaction	CS	5	292	0.75	0.485	0.195	0.000	0.710	320.253	0.000
4	Workforce Competence	WC	5	292	0.81	0.575	0.195	0.000	0.721	530.373	0.000

Source: IBM SPSS 29 Output, 2025

Reliability and Validity Tests Results

Table 1 shows reliability test results of the study variables based on Cronbach's Alpha coefficient. As stated by Tavakol and Dennick, (2011) cited in Baridam and Govender. (2019), if Cronbach's Alpha test result ≥ 0.7 , the reliability is considered high; if Cronbach's Alpha test result ≥ 0.5 , the reliability is acceptable; if the Cronbach's Alpha test result ≤ 0.5 , the reliability is considered poor. The Cronbach's Alpha coefficient values were all greater than 0.7. Thus, the results were acceptable as per the threshold given by Sekaran and Bougie. (2019) cited in Kariuki, Wachira and Mwenda. (2022); Enwere et al., (2024) who stated that Cronbach's

Alpha coefficient greater than or equal to 0.7 is acceptable for basic and advanced research. This shows that the Likert scale questionnaire items and statements have high reliability as the Cronbach's Alpha values were all higher than the recommended and acceptable values of ≥ 0.5 and ≥ 0.7 . Meanwhile, Safali and Akpunar. (2020) explained that reliability can be seen from two sides: reliability (the extent of accuracy) and unreliability (the extent of inaccuracy).

Also, Table 1 shows construct validity test results for each variable of the study based on Pearson's r in IBM SPSS version 29. The basic decision rules for construct validity test with Pearson's r are as follows: comparing the values of Pearson's r count with Pearson's r table. If the value of r count $>$ r table, test result is valid and if the value of r count $<$ r table, test result is invalid. Again, taking decision based on the result of the significance (sig) or probability value (p-value), if the significance value or p-value < 0.05 , test result is valid while if the significance value or p-value > 0.05 , test result is invalid. The construct validity test result based on Pearson's r table with total sample size $N = 292$ at 0.05 level of significance and a degree of freedom of $N-2$ i.e., r table at 5% (292 - 2) value = 0.195 shown in table 2 were valid for all the study variables.

Again, factor analysis was used to test construct validity of the research instrument by using Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity with interpretive adjectives. The KMO decision criteria is stated as follows: KMO value less than 0.5 is considered poor; KMO value between 0.5 and 0.6 is considered average; KMO value between 0.7 and 0.8 is considered good; KMO value more than 0.8 is considered excellent (Simon & Goes, 2016) cited in Kariuki, Wachira &

Mwenda. (2020); Enwere et al., (2024). The KMO value for each variable was greater than 0.5 meaning that the questions actually measured the variables of the study. Similarly, Bartlett's test of Sphericity determines whether the correlation matrix among the variables is an identity (where the diagonal values is 1, and the off-diagonal values is 0) with p-value of test less than 0.05. Bartlett's test of Sphericity value for each study variable has 0.000 significance which is less than 0.05 level of significance indicating no significant correlations among the variables. Therefore, KMO and Bartlett's test of Sphericity results indicated that statements that comprised the research instruments of each variable actually measured what were intended to be measured. The research instrument was reviewed and discussed with academic and research experts from Federal University of Technology, Owerri (FUTO) who provided expertise and ensured the statements in the questionnaire measured the study variables.

4. RESULTS AND DISCUSSIONS

Questionnaire Response Rate and Demographic Information

A total of 328 copies of questionnaire were administered to management level respondents in sampled companies, out of which 292 representing 89% were retrieved from the field work and found useable for data analysis. However, 36 copies of the questionnaire representing 11% were found unfit for data analysis because they were either not properly completed or not retrieved from the field. Therefore, the response rate of 89% was found adequately good for the purposes of data analysis in this study, thereby meeting the threshold of Allen. (2016) and Rindfuss et al., (2015) cited in Kariuki, Wachira and Mwenda. (2022); Enwere et al., (2024) who posited that a response rate of above 50% is adequate for descriptive and inferential analysis in research in business and management sciences.

Also, the analysis of demographic information showed that 210 respondents were males representing 72% of the total the total respondents while 82 respondents were females representing 28% of the total respondents. Since the respondents in this study were management level employees in the sampled firms, this shows that there were more male employees in management level positions than their female counterparts in most indigenous oilfield services firms in Nigeria. This means that the female gender is under represented in management level positions in these firms.

Table 2. Descriptive Statistics

S/No	Variables	Respondents	Mean	Standard Deviation
1	Entrepreneurial Culture	292	4.6418	0.4142
2	Strategic Resource Management	292	4.4925	0.4286
3	Customer Satisfaction	292	4.5548	0.4142
4	Workforce Competence	292	4.5432	0.3985
Average Values			4.5581	0.4139

Table 2 on descriptive statistics shows that the average mean value was 4.5581 while the average standard deviation value was 0.4139 meaning that the respondents' opinions were not significantly different from the mean.

Correlations Analysis

Table 3. Correlation Matrix of the Study Variables

S/No	Variables	EC	SRM	CS	WC
1	EC	1.000			
2	SRM	0.213** (0.000)	1.000		
3	CS	0.175** (0.003)	0.217** (0.000)	1.000	
4	WC	0.135** (0.021)	0.312** (0.000)	0.193** (0.001)	1.000

**, Correlation is significant at 0.05 level (2-tailed) P-Value in Parenthesis

Source: IBM SPSS 29 Output, 2025

The Pearson's correlation decision criteria are as follows: $r = 1$ means perfect positive linear correlation, $1 > r \geq 0.8$ indicates strong positive linear correlation, $0.8 > r \geq 0.4$ means moderate positive linear correlation, $0.4 > r > 0$ indicates weak positive linear correlation, $r = 0$ shows no correlation, $0 > r \geq -0.4$ means weak negative linear correlation, $-0.4 > r \geq -0.8$ indicates moderate negative linear correlation, $-0.8 > r > -1$ means strong negative linear correlation while $r = -1$ perfect negative linear correlation (Enwere et al., 2024).

All pairs of our study variables in Table 3 demonstrates that the Pearson correlation coefficients were weak, positive and significant.

Test of Research Hypotheses

The decision rule for bivariate Pearson Product Moment Correlations Coefficient (PPMCC) r , analysis for hypothesis testing on the strength and direction of the relationship between the study variables was stated as follows: reject the null hypotheses (H_0) if the p -value is ≤ 0.05 ; otherwise, accept the alternative hypothesis (H_a).

Table 4. Pearson Product Moment Correlations of Entrepreneurial Culture and Customer Satisfaction

	Entrepreneurial Culture	Customer Satisfaction
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Entrepreneurial Culture	Pearson Correlation	1	.175**
	Sig (2-tailed)		0.003
	N	292	292
Customer Satisfaction	Pearson Correlation	.175**	1
	Sig (2-tailed)	0.003	
	N	292	292

**, Correlation is significant at 0.05 level (2-tailed)

Source: IBM SPSS 29 Output, 2025

Table 4 shows a Pearson Product Moment Correlations Coefficient of $r = .175$, $N = 292$ and a probability value of 0.003. Therefore, as stated in the decision rule, the null hypothesis (H_0) for this relationship which states entrepreneurial culture does not significantly relate to customer satisfaction of indigenous oilfield services firms in selected South-South States of Nigeria was rejected. In contrast, the alternate hypothesis (H_a) which states that entrepreneurial culture significantly relates to customer satisfaction of indigenous oilfield services firms in selected South-South States of Nigeria was accepted because the probability value of 0.003 is less than the critical value at 0.05 level of significance (2-tailed). The findings disagreed with the results of Yanur and Avanti. (2022) that empirically examined the effect of strategic entrepreneurship, dynamic capabilities and organizational ambidexterity on innovation performance of telecommunications start-up firms in Indonesia which established that entrepreneurial culture had non-significant influence on innovation performance. This result confirmed the findings of Ukenna et al., (2019) that examined the effect of strategic entrepreneurship on organizational performance of selected Agricultural SMEs in Lagos, Ogun and Oyo States, Nigeria which established that strategic entrepreneurship had significant effect on customer satisfaction measure of organizational performance. This result agreed with the findings of Hoglund and Martensson. (2019) that empirically evaluated strategic entrepreneurship practices of simultaneously balancing the process of entrepreneurship and strategic management focusing on the work of the Swedish Public Employment Services (SPES) which established that there are several organisational culture and structure as well as entrepreneurial leadership and that each must be in alignment and mutually supportive of each other in order to succeed with the strategic work and the implementation of strategic entrepreneurship practices in public organisations like the Swedish Public Employment Services (SPES). This result is in disagreement with the findings of Sriboonlue. (2019) that examined the relationship between entrepreneurial awareness and business performance of small and medium-sized enterprises in Thailand which found that the proactive, risk-taking attitude and modern technology utilization dimensions of strategic entrepreneurship have positive and non-significant relationship with superior organizational innovation, outstanding business creativity and business performance. Again, this result is consistent with the findings of Abdullahi. (2018) who empirically assessed the impact of effective entrepreneurship and strategic management on business success of SMEs in Malaysia and established that the owner and manager language skills attributes, finance and networking partnership and business location characteristics focus were the three generalized factors that influenced success and performance of SMEs based on entrepreneur's perceptions. Moreover, Paek and Lee. (2017) examined the relationship between strategic entrepreneurship and

competitive advantage of established firms in digital TV industry which developed a strategic entrepreneurship framework through the lens of dynamic capabilities, differential effect of strategic entrepreneurship on performance measures like revenue in the period of technology transition to sustain competitive advantage in a highly volatile and uncertain business environment.

Table 5. Pearson Product Moment Correlations of Strategic Resource Management and Workforce Competence

		Strategic Resource Management	Workforce Competence
Strategic Resource Management	Pearson Correlation	1	.259**
	Sig (2-tailed)		0.000
	N	292	292
Workforce Competence	Pearson Correlation	.259**	1
	Sig (2-tailed)	0.000	
	N	292	292

** . Correlation is significant at 0.05 level (2-tailed)

Source: IBM SPSS 29 Output, 2025

Table 5 shows a Pearson Product Moment Correlations Coefficient of $r = .259$, $N = 292$ and a probability value of 0.000. Therefore, as stated in the decision rule, the null hypothesis (H_0) for this relationship which states strategic resource management does not significantly relate to workforce competence of indigenous oilfield services firms in selected South-South States of Nigeria was rejected. In contrast, the alternate hypothesis (H_A) which states that strategic resource management significantly relates to workforce competence of indigenous oilfield services firms in selected South-South States of Nigeria was accepted because the probability value of 0.000 is less than the critical value at 0.05 level of significant (2-tailed). This finding is consistent with the results of Yudhanto, Rochima and Rivani. (2023) that evaluated the relationship between strategic entrepreneurship and the performance of women-owned fish processing micro, small and medium-sized enterprises (MSMEs) in Cibinong District, Bogor Regency, Western Java Province, Indonesia which confirmed that resource orchestration, individual or personal resource were the strategic entrepreneurship practices that favourably and significantly enhanced the performance. Moreover, this finding aligned with the result of Enwere. (2023) that studied the relationship between strategic entrepreneurship and operational performance of selected indigenous technical oilfield services firms in Rivers State, Nigeria which revealed that significant and positive relationship exist between strategic resource management and employee training and development. Similarly, this result is in tandem with the findings by Okoi et al., (2022) on the relationship between strategic entrepreneurship practices and performance of small and medium-sized enterprises (SMEs) in Nigeria's hospitality industry which found that strategic resource management enhanced performance. This implies that investing in human capital is likely to contribute meaningfully to sustenance of competitive advantage over rivals by creating specific knowledge, skills and culture within the firm and entrepreneurship innovation supports creativity of organization performance. Moreso, this result aligns with the findings of Kiyabo and Isaga. (2019) that empirically assessed the influence of strategic

entrepreneurship on SMEs performance under the mediation of competitive advantage in the welding industry in Tanzania which revealed that strategic resource management had significant influenced on the creation competitive advantage that promoted SMEs performance. This result is consistent with the findings of Shirokova, Ivonen and Gafforova. (2019) that studied the relationship between different components of strategic entrepreneurship (entrepreneurial mindset, innovation, managing resources strategically and competitive advantage) and SMEs performance in Russia during economic crisis which confirmed that the managing resources strategically was positively related to SMEs performance. Again, the result confirmed the findings of Makinde and Agu. (2018) that assessed the effect of strategic entrepreneurship on performance of selected SMEs in Aba Metropolis, Abia State of Nigeria which established that strategic entrepreneurship variables of entrepreneurial education, entrepreneurial leadership and entrepreneurial knowledge as strategic resources all had positive and significant effect on SMEs performance measures of entrepreneurial efficiency, employee turnover intention, entrepreneurial skills and entrepreneurial innovation.

5. CONCLUSION AND POLICY SUGGESTIONS

In conclusion, two hypotheses were tested in this study with their findings already discussed in a previous section of this research paper. Therefore, Table 6 summarizes the results of the research hypotheses in which all null hypotheses were rejected while the alternate hypotheses were accepted.

Table 6. Summary of Hypotheses Testing and Results

S/No	Hypotheses	Results
1	H_{01} : Entrepreneurial Culture does not significantly relate to Customer Satisfaction of indigenous oilfield services firms in selected South-South States of Nigeria.	Rejected
2	H_{02} : Strategic Resource Management does not significantly relate to Workforce Competence of indigenous oilfield services firms in selected South-South States of Nigeria.	Rejected

Source: Authors Research Desk, 2025

The following policy suggestions from the study:

- Owners/Managers and employees of indigenous oilfield services firms should embrace entrepreneurial culture of technology driven innovations in their organisations as it was established to significantly and positively relate to customer satisfaction aspect of operational performance.
- Owners/Managers of indigenous oilfield services firms should continuously invest in their strategic resource management capabilities with special attention to human capital development as it was found to significantly and positively relate to employee training and development aspect operational performance.
- Owner/Managers, new entrants, potential entrepreneurs and investors of indigenous oilfield services firms should adopt and use strategic entrepreneurship as planning and forecasting techniques when developing business strategy and plans as it was discovered to significantly and positively influence operational performance.

6. RESEARCH IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FURTHER STUDIES

The results suggest that innovative hybrid approach of strategic entrepreneurship with entrepreneurial culture of technology driven innovations and strategic resource management in human capital development can be an effective complement to conventional strategic management approach, mainly with Nigerian content development policy as a management philosophy for project execution, first consideration of Nigerian goods, products and services, Nigerian content in bids evaluations and contracts awards, full and fair opportunity for Nigerians and Joint Qualification System (JQS) for indigenous oilfield services firms. This could help in the realization of one of the main strategic objectives of Nigerian Oil and Gas Industry Development (NOGICD) policy of creating opportunities and enabling business environment that promote sustainable development and growth of Small and Medium Enterprises (SMEs) oilfield services ecosystem in Nigeria.

This study was limited in scope as it focused only on the indigenous oilfield services firms in the sub-sector excluding the international oilfield services firms (IOCs) in Nigeria.

Future research should be conducted in national oilfield services firms, local independent oil and gas companies, multinational oil and gas producing and oilfield servicing firms, upstream, midstream and downstream oil and gas services sectors, upstream (exploration and production), midstream (transportation) and downstream (refining, distribution and marketing) sectors of the oil and gas industry for a more holistic insight of strategic entrepreneurship practices in the entire industry value chain in Nigeria.

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