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Strategic Resource Management and Workforce Training and Development of Indigenous Oil and Gas Service Firms in Nigeria

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Abstract

Purpose: The study aimed to examine the influence of strategic resource management on workforce training and development of indigenous oil and gas service firms in Nigeria.

Methodology: The study which adopted survey research design at the organisational unit of analysis used a self-developed five-point Likert scale questionnaire as instrument of primary data collection from management level respondents. The population of the study was 1827 indigenous oil and gas service firms in four randomly selected South-South States of Nigeria with sample size of 328 determined with Taro Yamane's formula and proportionally allocated with Bowley's formula. The scale of measurement reliability was determined with Cronbach's Alpha and its construct validity tests were with Pearson's r, Kaiser-Meyer-Olkin (KMO) measure of sample adequacy and Bartlett's Test of Sphericity. The collected data were analysed using descriptive and inferential statistics in Microsoft Excel Software Package version 2016 and IBM Statistical Package for the Social Sciences (SPSS) version 29 software application tools respectively and the research hypothesis tested with simple regression analytical techniques.

Results: The results of regression analysis showed that strategic resource management significantly and positively influenced workforce training and development of indigenous oil and gas service firms in Nigeria. Therefore, the study concludes that strategic resource management has significant and positive influence on workforce training and development of indigenous oil and gas service firms in Nigeria.

Unique contribution to theory, policy and practice: Based on the results, the study recommended that owners/managers of indigenous oil and gas service firms in Nigeria and other parts of world should continuously invest in their strategic resource management capabilities with special attention to human capacity development in technical skills and talent acquisitions and retention.

Keywords: Strategic Resource Management, Workforce Training and Development, Indigenous Oil and Gas, Service Firms.



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1.0 INTRODUCTION

Resources are tangible and intangible assets controlled by an organisation that enhances the implementation of its strategies. Barney. (1991) defines resources as all assets, capabilities, organizational processes, firm attributes, information and knowledge controlled by a firm to conceive and implement strategies that improve its efficiency and effectiveness. According to Barney. (1991) cited in Flynn, Picasso and Paiva. (2018), an organisation's resources are divided into three categories, namely: physical resources, human resources and organisational resources. The physical resources compose of the plant, equipment and tools, location, physical technology, financial capital and access to raw materials. The human resources are related to the training, experience, intelligence, judgement, relationships, and insights of the workforce including individual managers and employees in an organisation. The organisational resources include the decision making process of the organisation, the formal reporting structure of the organisation, its planning, control and coordinating systems and the relationships among groups within an organisation, between it and other organisations and with the external environment.

The strategic resources considered in this study are propriety equipment and tools, technology, financial capital, human resources and management decision-making process. According to Hayes and Wheelwright. (1984) and Schroeder et al. (2002) cited in Flynn, Picasso and Paiva. (2018) proprietary equipment and tools which may be patented or not are strategic resources developed by an organisation to meet it specific needs as well as improve its overall performance which are usually difficult to imitate in the short term by rivals and are related to causal ambiguity. Moore. (1992) cited in Asiabaka. (2010) and Enwere, Asiabaka, Ogolo and Ugwu. (2024) defined technology as the application of knowledge to the achievement of specific objectives or the solution of specific problems. Moreover, Hayes and Wheelwright (1984) cited in Flynn, Picasso and Paiva. (2018) were of the opinion that technology refers to the total system of resources and organisational capabilities that are used by an organisation to produce its products and services. Also, the researchers stated that technology is seen as a set of overall capabilities which are important for the success of an organisation as well as valued source of future growth and competitive advantage equal in importance to marketing and financial capabilities. Again, they argued that technology is a means through which organisations develop better production and operational processes and methods that improve productivity (lower costs of production and operation). Furthermore, Asiabaka. (2010) stated that information and communication technology (ICT) being technology-based and knowledge driven seems indispensable in this present age is considered a crucial and strategic resource because it helps to improve performance.

Also, Adeoye. (2012) cited in Okoye and Akpan. (2020) opined that technology investment related factors that positively impact on performance and competitiveness include skills intensity and investment in skills upgrading. The ever increasing use of ICT in all spheres of human activities has transformed the face of the earth. ICT found useful applications in healthcare delivery, engineering, manufacturing and services industries, agriculture,



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communications, extractive industries, oil and gas industry, energy production, transmission and distribution, religion, military, security organisations, politics and governance, all aspects of arts and entertainment industry, science, and education among others (Enwere, 2023; Baridam & Govender, 2019). The human resources category of the strategic resources sees employees as the most important link between the strategy and the tactics that are necessary for the implementation of the other two strategic resource components in the strategic resource management framework of the Nigerian indigenous oil and gas service companies. As stated by Barney. (1991) cited in Anya, Umoh and Worlu. (2017) human resources are key to the attainment of sustainable competitive advantage by firms with human resource pool which are valuable, rare, cannot be imitated or substituted by rivals in the market place. Proprietary equipment and tools, technology, financial capital can be acquired anytime for a price by most firms but it is very difficult to acquire highly qualified, trained, competent, engaged and motivated employees.

According to Barak, Maymon and Harel. (1999) cited in Oladipo and Abdulkadir. (2011) organisations tend to develop and improve the quality of their present employees by providing very comprehensive training and development programmes tailored towards the achievement of specific organisational goals. Also, Nwaeke and Obiekwe. (2017) defined training as the process of increasing, improving, enhancing and modifying employees' skills, abilities, capabilities and knowledge to enable current and future jobs to be carried out effectively and efficiently. It is defined as a systematic development of knowledge, skills and attitudes required by employees to perform adequately on a given task or job. (Amo, 2019). The main goal of every training and development program is to add value to human resource. It has been observed by researchers and practitioners that training and development foster initiative and creativity of employees and assist to prevent manpower obsolescence which may be due to attitude, age or inability of a person to adapt himself or herself to technological changes (Cole, 2002). Training is only required to take place when the need and objectives for such training have been identified (Itika, 2011).

Training is the foundation of sound management as it improves employees' productivity, effectiveness and efficiency. According to Ugwu and Igbo. (2021) coaching, on-the-job training and mentoring are different methods of formal and informal training through which employees are equipped with new skills, knowledge and competence required to perform specific tasks or jobs in the workplace. On the other hand, employee development are actions specifically designed to prepare an employee with particular key learning opportunities and training for higher responsibilities. Employee development programmes provide general knowledge and attitude which will be helpful to employees in higher roles or positions. As stated by Dowling and Welch. (2004) cited in Amaeshi. (2014) training aims to improve current work skills and behaviour while development aims to increase abilities in relation to future role, position or job while development is more expansive and focuses on employee growth and future performance rather than an immediate job role.

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In a highly dynamic and competitive business environment like Nigeria's oil and gas industry, the influence of strategic resource management on workforce training and development of indigenous oil and gas service firms in Nigeria is still limited and elusive.

1.1 Problem Statement

The indigenous oil and gas service companies operating in Nigeria's oil and gas sector constantly experience difficulties of manpower shortage with requisite industry's technical skills, expertise and experience, poorly motivated workforce, inadequate training opportunities, poor remunerations, compensations, benefits and welfare packages. Low human resources quality, frequent poaching and export of skilled personnel by the international oil and gas companies. The Nigerian indigenous oil and gas firms are not always able to meet their human resource needs. Shortfall of human resource needs delay project delivery, oil and gas production process and output, negative impact on revenue forecasts and profits from the oil and gas sector of Nigeria's economy. Again, shortfall in human resource needs of Nigerian indigenous oil and gas service firms result to poor completion of tasks and assignments, extra workload, increases fatigue and stress intensity on employees and decreases the firms' ability to meet set goals in project execution and delivery to their customers. Therefore, the specific research problem of this paper is inadequate investments in strategic resources especially the local workforce by indigenous oil and gas service firms in Nigeria to effective drive and grow this important sector of the economy.

1.2 Purpose of the Study

The main purpose of this study was to investigate the influence of strategic resource management on workforce training and development of indigenous oil and gas service firms in Nigeria.

1.3 Research Question

How does strategic resource management influence workforce training and development of indigenous oil and gas service firms in Nigeria?

1.4 Research Hypothesis

H₀: Strategic resource management does not significantly influence workforce training and development of indigenous oil and gas service firms in Nigeria.

Therefore, the remaining sections of this research paper are as follows: section 2 for literature review, section 3 for methodology, section 4 for results and discussion, and section 5 for summary, conclusion and recommendations.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

The study adopted two theoretical model namely: resource-based theory and Porter diamond theory.



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2.1.1 Resource-Based Theory

Resource-based theory of the organisation was proposed by Wernerfelt in 1984 which advocates that human capital administration can be of great contribution to the sustenance of competitive advantage over rivals by creating knowledge awareness, abilities and culture within the firm that cannot be easily imitated by other firms (Mata, Furest & Barney, 1995; Afiouni, 2007) cited in Okoi et al., (2021). Resource-based theory is a composite theory derived from the combination of resource-based view and knowledge-based view (Theriou et al., 2009) cited in Kiyabo & Isaga. (2019). Resource-based view introduced by Penrose in 1959 on one hand suggests that a firm's competitive advantage and superior performance come from firmspecific resources and capabilities that are not easily copied by competitors and that such resources are valuable, rare, imperfectly imitable and non-substitutable (Barney, 1991) cited in Kayibo & Isaga. (2019). The characteristics of resources owned and controlled by the firm for sustainable competitive advantage are: valuable (resources used to exploit opportunities and/or neutralize threats in a firm's business or market environment), rare among a firm's current and potential competitors, inimitable and non-substitutable (Ukenna et al., 2019). In spite of the importance of the resource-based view in strategic management, it was heavily criticized based on these three weaknesses: First, resource-based view was unable to explain the importance of entrepreneurial strategies and abilities as one of the sources of firms' competitive advantage. Second, it does not broadly explain the creation or acquisition of strategic assets by firms. Third, it was silent on how and why certain firms have competitive advantage in dynamic business environment and others do not. (Akio, 2005; Barney, Ketchen Jr. & Wright, 2011; Priem & Butler, 2001; Connor, 2002; Teece, Pisano & Shuen, 1997) cited in Kayibo & Isaga, (2019). To overcome these weaknesses exhibited by resource-based view and to reinforce and improve its robustness, the knowledge-based view was introduced as its extension. Knowledge-based view on the other postulates that competitive advantage is governed by the capability of firms to develop new knowledge-based assets that create core competencies. The assumption of knowledge-based view is that knowledge is the critical input in production and operation as well as the primary source of value and wealth creation (Grant, 1996) cited in Kayibo & Isaga. (2019). However, building of distinctive capabilities and core competencies within firms calls for knowledge management processes of creating, acquiring, storing, sharing, and deploying knowledge. Knowledge-based view suggests that firms should first build knowledge management capabilities so as to gain abilities of creating other necessary distinct capabilities and core competencies (Theriou et al., 2009) cited in Kayibo & Isaga. (2019).

Based on the foregoing, it has been established that the resource-based theory recognizes that both resources and knowledge management capabilities are sources of a firm's sustainable competitive advantage. Consequently, the resource-based theory advocates that firms should obtain competitive advantage through resources and knowledge management capabilities to enhance performance (Kiyabo & Isaga, 2019). The strategy used by a firm depends on both the resources and knowledge management capabilities owned and controlled by that firm for superior performance which include but not limited to assets, capabilities, organizational process, firm attributes, the information and knowledge (Kiyabo & Isaga, 2019). Though



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resource-based theory recognized as a hybrid of both resource-based view and knowledgebased view and well researched by scholars is criticized for its tautology, obsolescence, failure of being innovative and competition oriented in turbulent business and market environment like the oil and gas industry (Kraaijenbrink, Spender & Groen, 2010) cited in Kori, Muathe and Maina. (2021). This assessment has been the fundamental hindrance to the resource-based theory achieving acceptance at the theoretical status by some of its staunchest critics (Priem & Butler, 2001) cited in Kabuoh et al., (2019). However, according to Barney. (1991) cited in Kabuoh et al., (2019) the argument raised by resource-based theory proponents against these assertions by its critics is that at the definitional level, all strategic management theories could be considered or reduced to tautological reasoning. Despite the criticisms of scholars on resource-based theory, its concepts are still considered useful in guiding this current study on strategic resource management and workforce training and development of indigenous oil and gas service companies in Nigeria in achieving its objectives.

2.1.2 Porter Diamond Theory

This study was also anchored on the Porter diamond theory of national advantage. The theory was pioneered by Porter (1990) at the Harvard Business School. It is an economic diamond model developed for small business to make entrepreneurs comprehend their competitive advantage that countries or business groups possess due to peculiar characteristics which are at their disposal, and discussed how governments can engineer or influence a country's position in a world of competitive environment. The introduction of business enabling policy framework like the Nigerian Oil and Gas Industry Content Development (NOGICD) Act, 2010 and Petroleum Industry Act (PIA), 2021 are good examples of practical applicable of Porter diamond theory in the Nigeria's oil and gas industry business environment. Porter. (1985) believes that the competitiveness of business is connected with performance of other firms.

The Porter diamond theory is linked to strategic resource management and workforce training and development in entrepreneurial organisations. The principal truth with this theory is the assumption that nations and firms create value and wealth. The theory noted four basic characteristics of a country's design and the environment in which local firms compete. In the first instance, there is a factor endowment which is made up of specialized infrastructure, skilled human capital, technical knowledge and the institutional ability such as Petroleum Training Institute (PTI), Petroleum Technology Development Fund (PTDF), and Nigerian Content Development and Monitoring Board (NCDMB). The institutionalization of these specialized strategic resources go a long way to show that dynamic market conditions can be achieved if the strategic human resource policies are formulated and implemented in a manner that will position them to achieve the firm's goals. Secondly, there is an in-ward demand condition where the demand for the product is on the increase in the local market, making the local home market buyers mount pressure on firms to speedily create and make more advanced products than those of foreign goods. These entrepreneurs need to strategically structure, bundle and leverage of available resources and capabilities to bring out creative ideas and innovations in the production of goods and services that will meet the taste of the home buyers.

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By doing these, they will increase the profitability of their firms both in the short and long term. Finally, if firms within the same industry relate and support one another through strategic partnerships/alliances and collaborative approaches, this will meaningfully contribute to increasing their inputs and will create an atmosphere for entrepreneurial innovation where ideas can be translated and there is a room for inventions. Therefore, this theory is valuable to the present study in explaining the influence of strategic resource management on workforce training and development of indigenous oil and gas service companies in Nigeria.

2.2 Conceptual Review

2.2.1 Strategic Resource Management

Strategic resource management is the process of making decision, planning, coordinating and taking certain actions with regard to organizational resources by the top managers of a firm in order to achieve set goals and objectives (Monday, Akiniola, Ologbenla & Aladeraji, 2015). Strategic resource management enhances top managers' ability to allocate the necessary resources and to design the organisation to bring the intended strategies to objective reality (Arokodare et al., 2020). The benefits of developing and implementing strategic resource management for a business organisation as highlighted by Oyedijo, 2013 are: first, the provision of guidance to the entire management of an organization by making clear what the company wants to achieve and what it has to do and the pathways it needs to follow to be where it would like to be in the marketplace. Second, it facilitates a disciplined identification and appraisal of business opportunities and directs the evolving relationship of the organization with its environment and carry out certain breakthrough advances for competitive advantage. Third, it renders more effective the ordering of priorities and allocation of resources including time to identified opportunities. Fourth, it provides a basis for the clarification of individual responsibilities thereby contributing to the commitment, motivation and engagement of organization members to the attainment of both short and long term organisational goals.

Previous study by Tulucea and Yurtkur (2015) describes strategic resource management as the process of getting maximum benefits from the resources in an organisation by effective construction of a resources bank, integration of resources and optimization of resources management to improve firms' performance at large, small and medium enterprises. As stated by Chang and Wang (2013) cited in Kabuoh et al., (2019) strategic entrepreneurship is at work when strategic resource management and allocation are aimed at facilitating simultaneous advantage identification and opportunity seeking. Entrepreneurship attitude has been identified in literature as a factor that plays the role of organising tangible and intangible resources in a manner that helps the detection and utilization of entrepreneurial opportunities and leading to expansion of competitive advantage (Atashi & Abdolpour, 2012). According to Nhuta and Kapofu. (2015) some firms use collaborative strategies and develop alliance partners' capabilities to access resources from partners and bundle them in new combinations to exploit opportunities in both the internal and external environment. Hitt, Ireland, Sirmon and Trahms. (2011) opines that organizational resources such as culture and leadership are tools that can enhance value and wealth creation. Entrepreneurial leadership powered by knowledge sharing



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is to influence others to engage in a simultaneous advantage-seeking and opportunity-seeking behaviours (Kabuoh et al., 2019).

Furthermore, strategic resource management portfolio includes the elimination of resources when they are potentially unable to create value and wealth, and unification of those resources for establishing wealth generating capabilities in the firm (Ali & Rouzita, 2012). Strategic human resources management include aligning human resources to short and long term strategic objectives of the organization for improvement of its overall performance and creation of an organizational culture intended to strengthen agility, flexibility and creativity (Ali & Rouzita, 2012). Controlling and gaining access to valuable, rare and difficult to imitate resources are not enough to achieve competitive advantages. These resources hopefully sustained over time need to be effectively and efficiently organised and orchestrated (Hitt, Ireland & Hoskisson, 2011). Resource orchestration as an emerging research area is grounded in Resources-Based Theory (RBT) and Dynamic Capabilities Theory (DCT) (Sirmon, Hitt, Ireland & Gilbert, 2011). Resource orchestration is concerned with actions entrepreneurs take to facilitate efforts to effectively and efficiently manage the firm's resources. These are actions to structure the firms resource portfolio, bundle resources into capabilities and leverage the capabilities to create value for the customers, thereby achieving a competitive advantage for the firm (Hitt, Ireland, Sirmon & Trahms, 2011).

Resource structuring includes acquiring, accumulating and divesting resources. Resource bundling involves stabilizing existing capabilities, enriching current capabilities and pioneering new capabilities. Leveraging requires a sequence of actions including mobilizing capabilities to form requisite capability configurations, coordinating these configured capabilities and deploying these configurations with a resource advantage strategy, a market opportunity strategy or an entrepreneurial strategy. However, in practice, these three resource orchestration processes are difficult to differentiate from one another as they evolve into more complex resource capabilities configurations to create valuable, rare and difficult to imitate capabilities as well as increased ability to act on opportunities (Kabuoh et al., 2019). Therefore, strategic resource management is conceptualized in this paper as setting clear objectives in the delivery of products, services and solutions to customers, new opportunity and allocate resources, assign responsibilities to achieve short and long term goals, protect valuable and unique technologies, inventions and innovations with licences, patents and trademarks, and collaborative actions through local and international joint ventures, alliances, partnerships with competitors for knowledge and technology transfer.

2.2.2 Workforce Training and Development

In human resource management, workforce training and development is defined as a function concerned with organisational activity aimed at improving the job performance of individual groups in the organisational setting (Itika, 2011). Training and development can be described as "an educational process which involves the sharpening of skills, concepts, changing of attitude and gaining more knowledge to enhance the performance of employees. Some of the benefits of training and development are: increased productivity, less supervision, job



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satisfaction and skills development (Mathis & Jackson, 2010). According to Monday, Neo and Premeaux. (2012) cited in Amaeshi. (2014) training and development are the formal activities undertaken by organisations to assist employees acquire skills, knowledge, abilities, capabilities and experience required to perform both current and future jobs. Generally, training and development activities are designed to help employees continue to make positive contributions in the form of good performance by obtaining new knowledge, skills and abilities. Training has been defined as the process by which individuals change their skills, knowledge, attitudes and/or behaviour while development refers to those learning opportunities designed to help employees grow which is not primarily skill-oriented (Ivancevich, 2001; Berge et al., 2002; Robbins & Delenzo, 1998) cited in Amaeshi. (2014). In addition, Okoye and Akpan. (2020) stated that investment in workforce skills upgrade through training and development is of great importance if industries including the indigenous oil and gas service firms in Nigeria are to maintain their competitiveness in the global economy. Training and development are essential organisational activities required to develop workforce to undertake higher grade tasks, provide the conventional training to new and young workers, raise efficiency and standards of performance, meet regulatory requirements and inform people during induction training and pre-retirement engagements (Barton & Delbridge, 2011; Sparrow, 1998) cited in Amaeshi. (2014). Therefore, this paper conceptualized employees/workforce training and development as regular and continuous training opportunities, learning and development to increase daily output at work, employees equipped with right job knowledge and skills are real assets, train and develop employees on new methods, technologies and innovations, train employees on local, national and international regulations, standards, best practices as well as industry and customers' specific requirements.

2.3 Research Conceptual Framework

The researchers developed measuring parameters of strategic resource management as independent variable and workforce training and development being the dependent variable of indigenous oil and gas service firms in Nigeria as shown in Figure 1: Conceptual Framework.



Figure 1: Conceptual Framework

2.4 Empirical Review



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In establishing the empirical gaps, this study reviewed existing body of knowledge on strategic resource management and workforce training and development within and outside the context of indigenous oil and gas service firms in Nigeria.

2.3.1 Strategic Resource Management and Workforce Training and Development

Wijaya and Wijaya. (2023) adopting a cross-sectional survey research design evaluated the role of strategic entrepreneurship and social capital on sustainable supply chain management and organisational performance of manufacturing companies in Central Java Province, Indonesia. The study used a sample size of 390 logistics managers from 45 companies determined by purposive sampling technique. Online survey questionnaire designed on a 7-point Likert scale was the instrument of data collection. The study hypotheses were tested using Partial Least Squares (PLS) analysis technique in SmartPLS 3.0 software application. The study findings showed that strategic entrepreneurship had a positive influence on sustainable supply chain management and organisational performance. Sustainable supply chain management had a positive influence on organisational performance while strategic entrepreneurship had an indirect influence on organisational performance through supply chain management but does not mediate any relationship between social capital and organisational performance. The study recommended that further research should be carried out with all the manufacturing companies in Indonesia beyond the 45 companies used in this study being reviewed.

Oguzo. (2023) using a qualitative approach examined the relationship between strategic information management and job performance of business managers in deposit money banks in Rivers State, Nigeria. The study was a systematic review of the empirical results of previous relevant studies. The study findings revealed that strategic information management system was positively correlated with job performance of business managers in deposit money banks in Rivers State, Nigeria. The study recommended that financial services firms should ensure that their system automation are dynamically innovative, creative and accommodative.

However, Lopes and Moori. (2021) using the process of bibliometric review anchored on a quantitative descriptive research method examined the mediating influence of Internet of Things (IoT) on the relationship between strategic logistics management and operational performance in logistics companies in Sao Paulo, Brazil. The data were collected through a semi-structured questionnaire based on a 6-point Likert scale from a sample size of 76 respondents drawn from a population of 7940 firms using convenience sampling technique. The data were subjected to measurements and scale validation through convergent validity. Cronbach's Alpha coefficient, composite reliability, discriminant validity tests, descriptive (means, standard deviations and coefficient of variation) and multivariate statistics. Structural equation modelling in Partial Least Squares - Path Method (PLS-PM) using SmartPLS 3.0 software application estimated the structural relationships of the model as well as verified its statistical significance. The research findings showed that the Internet of Things (IoT) as a strategic technological resource plays a partial mediating role in the relationship between strategic logistics management and operational performance in logistics companies in Sao Paulo, Brazil. The study recommended that management practitioners, transportation,



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warehousing and retail executives should implement the Internet of Things (IoT) technology by enabling proactive decisions, interconnecting resources, automating, streamlining, generating customer information, and eliminating errors can provide better efficiency, reduce complaint rates, and process failures, improve quality, flexibility and productivity of storage and transport services as well as assisting in meeting deadlines for delivery.

Ugwu and Igbo. (2021) using a case study approach empirically investigated the relationship between manpower training and employee development in Access Bank Plc in Obio-Akpor Local Government Area, Port Harcourt, Rivers State, Nigeria. The study adopted descriptive and correlation survey research design with data obtained from a sample size of 339 respondents determined using Taro Yamane's (1967) sampling technique drawn from a population of 700 employees of Access Bank Plc in Obio-Akpo based on a non-probability random sampling technique. The data were sourced with the aid of a structured questionnaire on a 5-point Likert scale using judgemental and purposive methods. The data were subjected to descriptive and inferential analysis with Pearson Product Moment Correlation Coefficient (PPMCC) for hypotheses testing in Statistical Package for the Social Sciences (SPSS) version 20.0 software application to achieve the research objectives. The research results showed that job training had a significant positive relationship with employee competency. The study recommended that organisations should integrate employees training and coaching programs into their mission statement to ensure employees acquire job specific knowledge and skills.

Al-Qudah et al., (2020) using a descriptive survey research design examined the impact of strategic human resource planning on organisational performance of public shareholding companies in Jordan. The study used a sample size of 203 respondents drawn from a population of 239 Jordanian public shareholding companies in the financial, industrial, services and insurance sectors registered with the Jordanian Securities Commission (JSC). A structured questionnaire was used in data collection. Descriptive and inferential analyses of the data were done in Statistical Package for the Social Sciences (SPSS). The research results revealed that strategic human resource planning (integration of human resource planning and strategic planning, strategic participation) had statistically significant impact on organisational performance of public shareholding companies in Jordan which increases public shareholding companies' overall productivity, employee satisfaction and reputation as well as reduced operating costs. The study recommended that human resource managers need to understand the effectiveness of strategically designed human resource practices across functions.

Kabuoh et al., (2019) adopting a survey research design determined the influence of efficient resource management on value creation by SMEs in the gas sub-sector in Lagos State, Nigeria. The study used a sample size of 495 respondents determined with Cochran's (1997) formula and drawn from a target population of 1043 owners/managers and heads of units of all SMEs in the liquefied petroleum gas sub-sector registered with Nigerian Association of Liquefied Petroleum Gas Marketers (NALPGAM) Lagos State branch. Stratified, multi-stage and proportionate random sampling methods were used in selecting the respondents. A validated structured questionnaire was used as the instrument of data collection. Data were analysed



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using descriptive and inferential (regression analysis) statistics. The results of the study indicated that efficient utilization of resources had significant positive influence on value creation in the gas sub-sector in Lagos State. The study, therefore, recommended that SME firms should imbibe efficient resource management and knowledge which consequently enhances adequate value creation and sustainability.

Flynn, Picasso and Paiva. (2018) using a descriptive survey research design examined the relationship between resources and operational performance of high performance manufacturing projects in selected countries. The sample size was 291 manufacturing plants in three industries: electronics, machinery and transportation located in 11 countries across the world. The data were obtained by means of a structured questionnaire designed on a 7-point Likert scale. The validity and reliability of scales of measurement were verified with the use of confirmatory factor analysis (CFA). The data were analysed using descriptive statistics of mean and standard deviation, and inferential statistics of correlation analysis and multiple regression analysis for testing the research hypotheses. The findings of the study showed that technology was the only resource that was significantly related to the four operational performance measures of quality, delivery, flexibility and costs. Proprietary equipment was significantly related to quality and delivery but not to flexibility and cost measure of operational performance. Human resources was to a lesser degree significantly related to the costs aspect of operational performance. This study recommended that operations managers should make strategic resource allocation decisions based on the need to achieve desired operational performance outcomes.

Furthermore, Anya, Umoh and Worlu. (2017) using correlational survey research design empirically examined the relationship between human resource planning and organisational performance of selected oil and gas firms in Port Harcourt, Rivers State, Nigeria. The study used a sample size of 70 managers and supervisors as respondents determined by Taro Yamane's (1967) formula taken from a population of 85 managers and supervisors in five selected oil and gas firms in Port Harcourt using stratified sampling technique. The sample size for each of the firms was estimated by the use of Bowley's (1926) proportional allocation technique. Data were obtained from the respondents with a 5-point Likert scale structured questionnaire and analysed with Statistical Package for the Social Sciences (SPSS) version 21.0 software application. Descriptive statistics and inferential analysis of testing the research hypotheses using the Spearman's rank order (rho) coefficient to determine the relationships among the study variables. The study found that there was a significant and positive relationship between human resource planning dimensions (forecasting manpower demand and strategic action) and organisational performance measures of customer satisfaction and productivity of oil and gas firms in Port Harcourt. The study recommended that oil and gas firms and their human resource managers should continually carry out manpower audit and planning to determine in advance the demand and supply situation in the labour market prior to recruitment of employees.



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Awolusi, Magaji and Akpan. (2015) adopting a survey research design empirically investigated the relationship between strategic human resource management and organisational performance in the Nigerian oil and gas industry. The study used a structured questionnaire with items measured on a 5-point Likert scale adapted from previous relevant studies as an instrument for obtaining data from a sample size of 450 respondents in 10 oil and gas companies. A multi-stage sampling techniques of cluster and purpose, proportionate and random sampling techniques were adopted for the study. The obtained data were analysed using Statistical Package for the Social Sciences (SPSS) version 20.0 software application sequentially using the methodologies of reliability, validity tests and multiple regression analysis for research hypotheses testing. The results of the research established that strategic human resources management (SHRM) practices positively and significantly affected both performance measures of organisational climate and organisational performance in the Nigerian oil and gas firms should see strategic human resource management as an innovative tool for improving organisational climate and performance.

Amaeshi. (2014) using a quantitative survey research design approach measured the relationship between human resource management practices and employee retention in Nigeria's manufacturing industries. The study was based on a sample size of 184 respondents drawn from a population of 500 employees. A 5-point Likert scale questionnaire was used as the instrument for obtaining data from the respondents. The data were analysed in Statistical Package for the Social Sciences (SPSS) version 17.0 software application. The questionnaire measurement scales were subjected to reliability and validity tests. Descriptive (means and standard deviations) and inferential (regression analysis) statistics were performed on the data. The findings of the research showed that among the four dimensions of human resource management practices (training and development, career development, compensation and benefits, and appraisal performance and achievement, only compensation and benefits had a positive and significant impact on employee retention in Nigeria's manufacturing industries. The study recommended that the role of human resource manager as a strategic partner in organisations should be given serious attention as this would ensure that desire to stay is inculcated among employees.

Ogolo, (2012) using a survey research design carried out a study on the effects of management in employee workplace learning for sustainable development in small manufacturing enterprises in South-East, Nigeria. The study adopted a combination of systematic and judgemental sampling procedures. The sample size of 375 respondents determined by Taro Yamane's (1967) formula from a population of 6000 small manufacturing enterprises in the five states of South-East Nigeria was used for the study. A 5-point Likert scale questionnaire and interview were used to obtain primary data from the respondents. The data obtained from field survey were analysed in Statistical Package for the Social Sciences (SPSS) for correlation analysis of the associative relationship between measures of work environment characteristics as provided by the human resources department and sources of learning on the one hand, and the measure of satisfaction with reference to outcomes of workplace learning experience on the

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other hand. The research results relating to sources of learning showed that managers were an important part of employees learning network and made useful contributions through developmental interventions like delegation and coaching while workmates or colleagues were perceived by employees to be more useful sources of work related learning than the managers. The study recommended the use of the cybernetic sustainable model proposed by the researcher by managers of small manufacturing enterprises that had the potential to increase employee sustainable development with workplace learning.

3.0 RESEARCH METHODOLOGY

The study adopted survey research design. The study was based on a specific research objective, question and hypothesis in line with the identified research problem. The study which was at the organisational unit of analysis used a self-developed five-points Likert scale questionnaire as instrument of data collection from management level respondents. The population of the study was 1827 Nigerian indigenous oil and gas service firms in Nigeria obtained from Nigerian Content Development and Monitoring Board (NCDMB) approved register and Petroleum Technology Association of Nigeria (PETAN) membership directory. The study sample size was 328 determined through stratified and simple random sampling techniques using Taro Yamane's formula for sample size determination and Bowley's formula for proportional sample size allocation. The study measurement scales were subjected to Cronbach's Alpha reliability test, face, content and construct validity tests. Face validity test was based on expert opinions. Content validity test was established in line with independent and dependent variables of the study. The construct validity tests were determined with Pearson r, Kaiser-Meyer-Olkin (KMO) measure of sample adequacy and Bartlett's Test of Sphericity before data analysis. Data were analysed using descriptive and inferential statistics in Microsoft Excel Software Package version 2016 and IBM Statistical Package for the Social Sciences (SPSS) version 29 software application tools respectively. The descriptive statistics were in frequencies, percentages, mean and standard deviation. Simple regression analysis was the inferential statistical technique used to test the research hypothesis at 0.05 level of significance which established the relationship between independent and dependent variables of the study.

4.0 RESULTS AND DISCUSSION

The tabulated results of this study are shown and discussed under these sub headings: response rate and demographic information, reliability test, validity tests, descriptive statistics on strategic resource management and workforce training and development, Pearson bivariate correlation analysis and simple regression analysis results.



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4.1 Response Rate and Demographic Information

Table 4.1: Questionnaire Response Rate

Details	Particulars	Frequency	Percentage (%)
	Response	292	89%
Questionnaire	Non-response	36	11%
	Total Distributed	328	100%

Source: Authors Computation, 2024

Table 4.1 shows that 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 for this study, thereby meeting the threshold of Allen. (2016) and Rindfuss et al., (2015) cited in Kariuki, Wachira and Mwenda. (2022) who posited that a response rate of above 50% is adequate for descriptive and inferential analysis of a research.

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 of the indigenous oil and gas service firms in Nigeria. This means that the female gender is under represented in management level positions in these firms.

Table 4.2 shows reliability test results for each of the two variables of the 5-points Likert-scale questionnaire used in obtaining the data of the study based on Cronbach's Alpha. 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 values of the study variables: strategic resource management and workforce training and development were 0.81 and 0.81 respectively, thus the results were acceptable as per the threshold given by Sekaran and Bougie. (2019) cited in Kariuki, Wachira and Mwenda. (2022) who stated that Cronbach's Alpha coefficient greater than or equal to 0.7 is acceptable for basic research. This shows that the Likert scale questionnaire items and statements have high reliability as the Cronbach's Alpha values are all higher than the recommended and acceptable values of ≥ 0.5 and ≥ 0.7 respectively. Also, Safali and Akpunar.

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(2020) explained that reliability can be seen from two sides: reliability (the extent of accuracy) and unreliability (the extent of inaccuracy).

The Pearson r and p-values for each of the study variables: strategic resource management and workforce training and development were 0.641(0.000) and 0.575(0.000) respectively. Therefore, the construct validity of the research instrument was established through Pearson r as each study variable Pearson r count value is higher than the Pearson r table value and p-value < 0.05 at 5% level of significance higher than the recommended 50% benchmark for Pearson r validity test.

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 interpretative adjectives. The research instrument was 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. 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 and Mwenda. (2020). From table 4.3, the KMO value for each variable is greater than 0.5 meaning that the questions actually measured the variables of the study. Therefore, KMO and Bartlett's test of Sphericity results indicate that statements that comprised the research instruments of each variable actually measured what were intended to be measured.

Tables 4.3 and 4.4 show the descriptive statistics of the study questionnaire statements in frequencies, percentages, means and standard deviations. The average mean and standard deviations values of all the strategic resource management statements in table 4.3 were 4.4925 and 0.5685 respectively meaning that the variations of the management level respondents opinions from the mean were small. Meanwhile, the average mean and standard deviations values of all workforce training and development statements in table 4.4 were 4.5260 and 0.5377 respectively meaning that the variations of the management level respondents opinions from the mean were small.

Table 4.2. Renability and Valuity Tests Results											
					Reliabili ty		Valid				
	Variables	Variabl es Code	Numbe r of Items	Numb er of Respo ndents	Cronba ch's Alpha	Pearso n's r Count	Pearson's r Table 5% (292 - 2)	<i>P-</i> Value	КМО	Bartlett's Test of Sphericity	Sig.
1	Strategic Resource Management	SRM	5	292	0.81	0.641	0.195	0.000	0.765	493.337	0.000
2	Workforce Training and Development	WTD	5	292	0.81	0.575	0.195	0.000	0.721	530.373	0.000

4.2 Reliability and Validity Tests Results Table 4.2: Reliability and Validity Tests Results

Source: IBM SPSS 29 Output, 2024

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4.3 Descriptive Statistics on Strategic Resource Management

Table 4.3: Descriptive Statistics on Strategic Resource Management

S/N o	Item s Code	Strategic Resource Management	Strongl y disagre e (%)	Disagr ee (%)	Neu tral (%)	Agree (%)	Strongl y agree (%)	Number of Responden ts	Mea n	Standar d Deviatio n
1	SRM 1	We set clear objectives in the delivery of products, services and solutions to our customers.	2 (0.7)	1 (0.3)	2 (0.7)	147 (50.3)	140 (48.0)	292	4.445 2	0.6039
2	SRM 2	We identify new opportunity and allocate adequate resources to pursue the opportunity.	1 (0.3)	1 (0.3)	3 (1.0)	132 (45.2)	155 (53.1)	292	4.503 4	0.5773
3	SRM 3	We assign responsibilities to enable us achieve both short and long term objectives.	0 (-)	0 (-)	7 (2.4)	144 (49.3)	141 (48.3)	292	4.458 9	0.5452
4	SRM 4	We protect our valuable and unique inventions and innovations with licenses, patents and trademarks against imitations.	0 (-)	1 (0.3)	3 (1.0)	132 (45.2)	156 (53.4)	292	4.517 1	0.5402
5	SRM 5	We take collaborative actions by forming local and international alliances/partners competitors for knowledge and technology transfer.	1 (0.3)	1 (0.3)	3 (1.0)	122 (41.8)	165 (56.5)	292	4.537 7	0.5761

Source: IBM SPSS 29 Output, 2024

Percentages in Parenthesis

4.4 Descriptive Statistics on Workforce Training and Development Table 4.4: Descriptive Statistics on Workforce Training and Development

S/N 0	Items Code	Training and Development	Strongl y disagre e (%)	Disagre e (%)	Neut ral (%)	Agree (%)	Strongl y agree (%)	Number of Responden ts	Mean	Standar d Deviatio n
1	WTD 1	Regular and continuous training is a great motivator for our employees to increase daily output at work.	1 (0.3)	1 (0.3)	7 (2.4)	147 (50.3)	136 (46.6)	292	4.441 8	0.5499
2	WTD 2	Employees equipped with requisite job knowledge and skills are real assets to our firm.	0 (-)	0 (0)	4 (1.4)	136 (46.6)	152 (52.1)	292	4.510 3	0.5209
3	WTD 3	The competencies of our workforce are enhanced by on the job training and skills acquisition.	0 (-)	4 (1.4)	4 (1.4)	131 (44.9)	153 (52.4)	292	4.496 6	0.5592
4	WTD 4	We systematically train and develop our employees on methods, technologies and innovations.	1 (0.3)	5 (1.7)	0 (-)	114 (39.0)	172 (58.9)	292	4.582 2	0.5145
5	WTD 5	We train our employees on local, national and international regulations and standards as well as industry and customers specific requirements affecting our operations.	1 (0.3)	1 (0.3)	3 (1.0)	107 (36.6)	180 (61.6)	292	4.599 3	0.544

Source: IBM SPSS 29 Output, 2024



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Percentages in Parenthesis

4.5 Bivariate Pearson Product Moment Correlations of Strategic Resource Management and Workforce Training and Development.

The decision rule or criteria for bivariate Pearson Product Moment Correlations Coefficient (PPMCC) r is as follows: r = 1 means perfect positive linear correlation, $1 > r \ge 0.8$ indicates strong positive linear correlation, $0.8 > r \ge 0.4$ means moderate positive linear correlation, 0.4 > r > 0 indicates weak positive linear correlation, r = 0 shows no correlation, $0 > r \ge -0.4$ means weak negative linear correlation, $-0.4 > r \ge -0.8$ indicates moderate negative linear correlation, -0.8 > r > -1 means strong negative linear correlation while r = -1 perfect negative linear correlation.

Table 4.5: Bivariate Pearson Product Moment Correlations of Strategic ResourceManagement and Workforce Training and Development.

		Strategic Resource Management	Workforce Training and Development
Strategic Resource Management	Pearson Correlation	1	.259**
	Sig (2-tailed)		0.000
	N	292	292
Workforce Training and Development	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, 2024

Table 4.5 shows a Pearson Product Moment Correlations Coefficient of r = .259, N = 292 and a probability value of 0.000. The result indicates that there is a weak and positive significant relationship between strategic resource management and workforce training and development of indigenous oil and gas service firms in Nigeria. The coefficient of determination ($r^2 = 0.0670$) indicates that 6.7081% of workforce training and development is explained by strategic resource management. This implies that 6.7081% of the respondents agreed that strategic resource management significantly determines the workforce training and development of indigenous oil and gas service firms in Nigeria.

4.6 Simple Linear Regression Analysis Results of Strategic Resource Management on Workforce Training and Development.

According to Kothari & Garg. (2019) regression analysis decision criteria for interpreting test statistics, *p*-values and significance for hypothesis testing are as follows:

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Decision Rule 1: The stated null hypothesis H_0 , was that there was no significant relationship between the response (dependent) and one or more predictor (independent) variables while the alternative hypothesis was that there was a significant relationship between the response (dependent) and one or more predictor (independent) variables. A big F, with a small *p*-value (< 0.05), meant that the null hypothesis was discredited or rejected and the alternate hypothesis was accepted which would assert that there was a significant relationship between the response (dependent) and one or more predictor (independent) variables. A small *p*-value (> 0.05), meant that there was no significant relationship between the response (dependent) and one or more predictor (independent) variables. A small F, with a big *p*-value (> 0.05) indicated that there was no significant relationship between the response (dependent) and one or more predictor (independent) variables.

Decision Rule 2: Also, the null hypothesis H_o , was that the value of the p-th regression coefficient was 0, and the alternate hypothesis H_a , was that it wasn't. A big t, with a small *p*-value meant that the null hypothesis H_o , was discredited or rejected, and we would assert that the regression coefficient was not 0. A small t, with a big *p*-value indicated that it was not significantly different from 0.

Table 4.6 shows the summary of simple linear regression results on the influence of strategic resource management on workforce training and development of indigenous oil and gas service firms in Nigeria. The regression analysis results revealed that strategic resource management has significant influence on workforce training and development of indigenous oil and gas service firms in Nigeria ($\beta = 0.240$, t = 4.559, p < 0.05). The t-value shows that the coefficient of the model parameter is statistically significant (p = 0.001). The regression analysis results also revealed that the coefficient of relative effect (R = 0.259) shows that a weak and positive correlation exists between strategic resource management and workforce training and development. The coefficient of determination $R^2 = 0.067$ indicates that 6.7% of the variation in workforce training and development. The regression coefficient of strategic resource management is 0.240 which implies that a unit change in strategic resource management influences a positive change of 0.240 units in workforce training and development of indigenous oil and gas service firms in Nigeria.

Again, table 4.7 showed the ANOVA result which revealed that overall, the explanatory power of the model was considered statistically significant with the F-statistic value output of the regression analysis model reporting a *p*-value of 0.001 (F = 20.785, *p* < 0.05). Based on the above interpreted simple linear regression analysis results, the null hypothesis H_o, which states that strategic resource management does not significantly influence workforce training and development of indigenous oil and gas service firms in Nigeria is rejected. On the other hand, the alternate hypothesis H_a, which states that strategic resource management significantly influence workforce training and development of indigenous oil and gas service firms in Nigeria is accepted. This result is in agreement with the findings of Ugwu and Igbo. (2021) who established that a significant positive relationship exists between manpower training and employee development in Access Bank Plc in Obio-Akpor Local Government Area, Port Harcourt, Rivers State, Nigeria. This result is in accordance with the findings of Al-Qudah et



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al., (2020) who found that strategic human resource planning (integration of human resource planning and strategic planning, strategic participation) all had statistically significant impact on organizational performance of public shareholding companies in Jordan. This result is consistent with the findings of Kabuoh et al., (2019) who established that efficient utilization of resources had significant positive influence on value creation in the gas sub-sector in Lagos State. This result is accordance with the findings of Flynn, Picasso and Paiva. (2018) who found that technology and proprietary equipment dimensions of resources was the only one that was significantly related to the four operational performance measures of quality, delivery, flexibility and costs. This result was in tandem with the findings of Anya, Umoh and Worlu. (2017) who established that a significant and positive relationship between human resource planning dimensions (forecasting manpower demand and strategic action) and organizational performance measures of customer satisfaction and productivity of oil and gas firms in Port Harcourt.

Table 4.6: Summary of Simple Linear Regression Analysis Results of StrategicResource Management on Workforce Training and Development of Indigenous Oil andGas Service Firms in Nigeria.

No. of Respo ndents	Model		dardized ficients	Standard ized Coefficie nts	t	Sig.	R	R ²	Adjusted R ²	F-Value	Sig.	Durbin - Watson
		в	Standar d Error	Beta								
292	(Consta nt)	3.463	0.238		14.550	0.001	0.259	0.067	0.064	20.785	0.001	1.735
292	Strategic Resourc e Manage ment	0.240	0.053	0.259	4.559	0.001	0.203					

Dependent Variable: Workforce Training and Development

Source: IBM SPSS 29 Output, 2024

Also, this result was in agreement with the findings of Awolusi, Magaji and Akpan. (2015) who found that strategic human resources management (SHRM) practices positively and significantly affected both performance measures of organizational climate and organizational performance in the Nigerian oil and gas industry. Furthermore, this result is consistent with the findings of Ogolo, (2012) who established that managers were an important part of employees learning network and made useful contributions through developmental interventions like delegation and coaching while workmates or colleagues were perceived by employees to be more useful sources of work related learning than the managers.

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.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

5.1.1 Strategic Resource Management and Workforce Training and Development

The study objective was to investigate the influence of strategic resource management on workforce training and development of indigenous oil and gas service firms in Nigeria. To achieve this objective, management level respondents in the sampled indigenous oil and gas service firms indicated the level of their agreement to the various statements on strategic resource management and workforce training and development. Descriptive analysis in both cases showed large percentages of agreed and strongly agreed to the statements with mean values above the benchmark mean value of 3.0 and standard deviation values of less than 1 which indicated that the variations of respondents' opinions from the mean values were small. The research question on how does strategic resource management influence workforce training and development of indigenous oil and gas service firms in Nigeria was realised by the bivariate correlation analysis. The result showed a weak and positive significant association between strategic resource management and workforce training and development of indigenous oil and gas service firms in Nigeria. The research hypothesis was tested using simple regression analysis. The result indicated that strategic resource management has significant and positive influence on workforce training and development of indigenous oil and gas service companies in Nigeria allowing the null hypothesis to be rejected while the alternate hypothesis was accepted.

5,2 Conclusions

Therefore, the study concludes that strategic resource management has significant and positive influence on workforce training and development of indigenous oil and gas services firms in Nigeria since they have shown consistency in resource orchestration approaches by restructuring resource portfolio, bundling resources to form capabilities, leveraging capabilities in human capital, technology and innovation and organisational resources, continuous learning approach, increases in daily output at work, sees right knowledge and skills as real assets, adopting new methods, technologies and innovations, familiarization with local, national, international regulations, standards, best code of practices as well as industry and customers specific requirements.

5.3 Recommendations

Based on the study findings, the study recommends the followings among others:

i. Owners/Managers of indigenous oil and gas service firms in Nigeria and the world at large should continuously invest in their strategic resource management capabilities with special attention to human capacity development as it was found to significantly and positively influence workforce competence measure of operational performance.



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- ii. Academia and researchers in oil and gas entrepreneurship development centres, institutes and business schools in Nigeria and other parts of the world should incorporate strategic resource management framework in their curricula. This would enrich the quality of teaching, learning and research output from these centres.
- iii. Owners/Managers of indigenous oil and gas service firms in Nigeria and beyond should promote gender balance and inclusiveness by implementing policies that would ensure qualified female employees seamlessly transition into executive and management roles in line with sustainable development goal of gender diversity, equity and inclusion.

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