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Employee Mobility and Innovation of Selected Oil and Gas Upstream Companies in Nigeria

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Abstract

The study investigates employee mobility and innovation of selected upstream oil and gas companies in Nigeria. The objective was to establish the effect of employee mobility and innovation of selected upstream oil and gas companies in Nigeria using a survey research design. Three upstream oil and gas companies were surveyed using proportionate and stratified random sampling techniques. A total population of 9,437 regular and contract employees were investigated with a sample size of 807. The validity of the instrument was determined using content and construct validity while Cronbach Alpha was used to ascertain the reliability of the instrument. Multiple linear regression Analysis was used to analyse the hypothesis with the aid of Statistical Package for Social Science (V26.0). The study found that employee mobility through knowledge sharing, hedge relationships, and knowledge transfer have positive significant effect on innovation of selected upstream oil and gas companies in Nigeria. Findings further revealed that reward system has a negative significant effect on innovation of selected upstream oil and gas companies in Nigeria. It concluded that employee mobility promotes innovation of selected upstream oil and gas companies in Nigeria. Based on the findings, the study recommends that upstream oil and gas companies in Nigeria should take advantage of knowledge sharing, hedge relationships and knowledge transfer with high reward system to enhance innovation within the companies.

Keywords: *Employee mobility, Knowledge sharing, Hedge relationships, Knowledge transfer, Reward system, Innovation*

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Background to the Study

Globally, the potential for higher performance in the oil and gas industry have been determined by its intangible assets (employees) skills and knowledge as shown in the last 3 years due to shift in the energy system away from one dominated by hydrocarbons toward one in which low-carbon sources play the lead role (Chantal and Jayanti, 2021). The change in climate imposed physical risk (direct and indirect risks to assets from climate-related hazards) to all the oil and gas producing countries in the world. Additionally, the Covid-19 crisis has resulted in a material near-term drop in global energy demand, at one point led to a 30 percent reduction in the global oil production. Organisational outcome of oil and gas upstream companies is now increasingly becoming a function of climate resilience. In Nigeria, oil and gas sector are key industry and bedrock for Nigeria economic development, growth, and eradication of poverty. The industry provides ninety-five percent (95%) of the Nigerian foreign exchange earnings and sixty five percent of national budget revenues (NNPC Directorate of Planning, Research and Statistics, 2021). The sub-sectors of the oil and gas sector are upstream and downstream, the upstream commonly known as Exploration and Production (E&P). It covers all the activities related to searching for crude oil and natural gas, their recovery and production. The downstream is involved in the distribution of the refined petroleum products such as marketing, storage, retail outlets, servicing, and maintenance in the industry.

Despite the contributions of oil and gas sector to the Nigerian economy, oil and gas companies in Nigeria struggle with technique and choice of adequate organisational outcome. According to Olowokere (2021), the oil and gas upstream companies in Nigeria have failed to utilize new trends and ideas in hydrocarbon exploration and proper adjustment of hydrocarbon exploration strategies to discover more oil-gas fields to guarantee energy security. Most of the upstream oil and gas companies traditionally relied on manual, expensive and risky methods which required expensive, bulky, and slow technologies in addition to specialized skills and equipment. These conventional technologies exposed workers to several safety hazards such as toxic gases, falling, fire, accidents, and others. They increased the operational costs, thus reducing the company's organisational outcome. Scarlett (2021) further affirmed that most oil and gas upstream companies in Nigeria have not significantly invested in emerging technologies such as robotics and automation, research, and development (R&D), as well as set up Technology Incubation and Innovation Center, which is to provide a platform for 'idea generation, incubation, and acceleration of innovative ideas to the companies. In addition to the problem of innovation among the oil and gas upstream companies, it was observed that specialists in oil and gas are yet to attain the required skills level. The prevailed issues are adduced to apparent operational challenges in the kind of human capital deficit amongst others. In addition, the oil and gas companies are challenged by the changing nature of skillset due to an increasing depth offshore, in the Arctic and unconventional sources, advancement in technologies, and difficulty in attracting entry-level talent.

There is also evidence of employee mobility in the industry which is ably confirmed in the 2021 Global Energy Talent Index report. The report revealed that 77% of oil and gas employees considered a change of employment status within the next three years. On account, the report established that 50% move to a permanent staff position, 44% would move to a

contractor role, and 6% considered retiring soon. However, the extent of employee mobility on the organisational outcome of oil and gas companies in the Nigeria context is yet to be empirically investigated. This has created a vacuum or gap for a study.

Several studies such as Byukusenge and Munene (2017), Ul-Haq and Anwar (2016), Bojan and Bojan (2012), Nasiripour, Radfar and Badpa (2013), Nawab et al. (2019), Laith Ali Yousif AL-Hakim, and Shahizan (2011) examined employee mobility and innovation and how these had brought about robust performance to the organisation outcome with new and novel idea that ultimately positioned the organisation for better service delivery. However, some gaps in literature with regards to the labour mobility and organisational innovation have been identified, which necessitated this study for further research. Studies (Fabling, et al., 2011; Tajpour et al., 2018) had alluded to the fact that innovation and management are twin and inseparable in countries like Nigeria, Kenya, USA, and Saudi Arabia. The exploration and exploitation of crude oil and gas in Nigeria have continued to come under severe strain with consequent negative effect on their organisational innovation. Thus, this study becomes imperative as it x-rays the significance of employee mobility as it paves the way for digitization, which revamps a lot of old and continuing business processes and leads to better organisational performance. Mobile devices and platforms like the cloud permit more mobility and creative innovation since employees can work without being strapped to a desk.

From the foregoing, the scope of this study was limited to knowledge sharing, reward system, hedge relationship, employee buy-in and knowledge transfer as the components of employee mobility within oil and gas upstream companies. These indicators were used to formulate the research objective quite apart from hypothesis that is subject to empirical examination using appropriate statistical tool. Therefore, this study aims to establish the effect of employee mobility components on innovation of selected oil and gas upstream companies in Nigeria.

Literature Review

Conceptual Review

This section focused on the review of employee mobility and its sub-variables of knowledge sharing, reward system, hedge relationship, employee buy-in and knowledge transfer; and innovation. It reviewed related literature on the opinion of scholars relating to the study variables. The section also discusses the theoretical and empirical findings from the previous studies.

Employee Mobility

Employee mobility is the movement of employees from one firm to another and across different types of firms and across industries. Scholars such as Wright, Tartari, Huang, Lorenzo, and Bercovitz (2018), perceived employee mobility as the transfer of employees from one organisation to another either through locational movement or through a change in ownership, the transfer of employees within the same organisation but in different units and/or geographies, and the spinning off by employees into new ventures. Campbell, Ganco, Franco and Agarwal (2012), on their view, contended that employee mobility is the transfer of human capital to newly founded or established competitors which could even be a sort of spin

outs i.e., a venture founded by former employee's courtesy knowledge spin. Studies (Arrow 1962; Stephan 1996) have shown that employee (worker) mobility is one of the potential sources of knowledge flows or knowledge spill overs between firms. Although, several other sources such as patents, licences, product competition, and product announcements have been identified as critical means of knowledge diffusion, employee mobility was considered to form the large part of knowledge that is tacit (codified) and complex, which is embodied in workers (Lenzi 2006).

Movements of employees could take two forms: It is either an intra-firm mobility or an inter-firm mobility. This has generated research among scholars considering the rate at which employees both young and those nearing retirement now switch jobs all over the world (Cappelli, 2000 cited in Somaya et al., 2008). Intra-firm mobility otherwise known as functional mobility is the movement of employee within the same firms across different functions, while inter-firm career mobility refers to the mobility of employees between firms and occupations. Rajagopal (2019), further opined that Inter-firm mobility occurs when an employee is moved to another organisation, which may be the subsidiary of the parent organisation, to acquire new dimensions of knowledge. This he stressed that employee mobility encourages employees' intention to explore knowledge from other organisations, while the parent organisations aim at exploiting the enhanced knowledge of the employees who return to the parent organisations after spending time in other organisations. Inter firm mobility though it is seen to be beneficial, it is exposing such employee to the waiting of another organisation that need best hands to move their organisation forward in the industry they operate in. Empirical studies and theories on how employee mobility impact firm performance has mainly paid more attention to the human capital implications of employee mobility. The question of how the mobility of employees across different types of firms (i.e., competitors vs. co-operators) determines firm performance remains unanswered, and so, need to be researched on (Somaya, et al., 2008).

The benefits of employees' mobility had been confirmed in various ways (Megha, 2019). Employees' mobility paves the way for digitization, which revamps a lot of old and continuing business processes and leads to better employee performance. It also enhances employee engagement in the company and leads to a more tightly connected work community. In addition, employees' mobility, thus, gives employees complete schedule flexibility. Further, mobility leads to employees' satisfaction as employees can work from anywhere and at any time as per their suiting, it keeps them more satisfied and makes them feel empowered. Empowered employees display more productivity and efficiency.

Components of Employees Mobility

This section focuses on the conceptual review of employee mobility dimensions. It considers the characteristics, the advantages and the limitations of the respective dimension. These dimensions are: knowledge sharing, reward system, hedge relationship, employee buy-in, and knowledge transfer. It also included innovation conceptual reviews.

Knowledge Sharing

Knowledge sharing refers to a social interaction culture, involving the exchange of employee knowledge, experiences, and skills through the whole department or organisation. Hogel et al. (2003), as cite in Lin (2007) stressed that knowledge sharing comprises a set of shared understandings related to providing employees access to relevant information and building and using knowledge networks within organisations. Lee (2018), defined knowledge sharing as a multifaceted effect on organisations, such as improving work performance, among which creativity is apparently one of the most important parts. Knowledge sharing generally has two dimensions: First, the management of explicit knowledge through knowledge repositories and secondly, adequately managing the various knowledge management (KM) processes such as acquisition, creation, distribution, sharing and application (Stenmark, 2001).

The advantages of knowledge sharing are enormous. Ali (2011) provides the benefits of knowledge sharing as: lower cost of a product or service, organisational success, and the production of innovations. Other benefits are engagement, alignment, quick thinking, speedy delivery times, fast communication, clear constraints, and direct feedback. In further support of innovations, Iqbal et al. (2011) found that, knowledge sharing leads to innovations in universities and should be enhanced. Some of the common benefits of knowledge sharing include, improved organisational agility, better and faster decision making, quicker problem-solving, increased rate of innovation, supported employee growth and development, sharing of specialist expertise, better communication, and improved business processes. A resourceful collaboration will bring more views, diverse opinions, and varied experiences to the process of decision-making, helping the business to make decisions based on collective knowledge and expertise. Effective knowledge sharing emphasises on tacit knowledge sharing in oil and gas upstream sector to enhance productivity.

Reward System

Reward system is systemic to an organisation policy, to compensate and motivate employee for full commitment and loyalty of the employee for the purpose of accomplishing organisation goals. Agwu (2013), defined reward as the benefits that arise from performing a task, rendering a service, or discharging a responsibility. He stressed further that the principal reward for performing work is pay, many employers also offer reward packages of which wages and salaries are only a part. The packages typically include bonuses, pension schemes, health insurance, allocated cars, beneficial loans, subsidized meals, profit sharing, share options and much more. Reward system is an important tool that management uses to channel employee's motivation in desired ways. Concluding that, reward systems seek to attract people to join the organisation, keep them coming to work and motivate them to perform to high levels. The basic premise of reward systems is to maintain employee motivation to increase production and sustain a competitive edge, while keeping costs low (Kanin-Lovers and Porter, 1991; Milkovich, Newman and Gerhart, 2011). Similarly, Siwale, Chrine, Kukano, and Silavwe (2020) noted that in every organisation, the productivity and performance of the employees are important to increase the effectiveness of the organisation in the environment it is operating.

Hedge Relationship

The hedge relationship is an accounting concept introduced by the hedge accounting standards and refers to the correlation between a company's asset or liability and the financial derivative used to hedge the economic risk associated with it. But in later years, it assumed different meaning, and it is called poaching otherwise known as employee raiding. Employee poaching **is** therefore the practice of aggressively recruiting talented employees from competitors. Not only do these plans afford employees with a monetary incentive to remain with their employer, but they also make the employee feel they play a vital role in the success of their business (Tuovila, 2020). The implicit assumption of past mobility research is that employees are lost to or gained from competitors. This propels scholars like Somoya, Williamson and Lorinkova (2008), to asserts that employee movements also occur in a cyclic manner between potential "co-operators" such as customers and suppliers, which may create interorganisational ties that facilitate rather than diminish business relationships with clients.

Employee Buy-in

Employees buy-in is when employees are committed to the mission and/or goals of the company, and/or also find the day-to-day work personally resonant. Furthermore, employee buy-in is a strategy deployed by organisations to imbue on their staffs the spirit of belongings. Buy-in promotes engagement and a willingness to go the extra mile on the job. Engagement is also how an employee gets involved and dedicated in work (Falola, et al., 2020). They went further to explain that employee engagement could be behavioural, cognitive, and affective. Behavioural engagement entails the employee's willingness to work beyond the terms of the contract because of the assured stability of work and remunerations. This is the employee's ability to go the extra mile in other to get work done for their organisation. Cognitive engagement is defined as the degree at which employees are mentally alert to their job roles with the goal of the organisation in their mind (Bakker and Demerouti, 2018).

Knowledge Transfer

Knowledge transfer is a knowledge management approach through which knowledge is shared or disseminated to solving problems. Argote and Ingram (2000), contended that knowledge transfer is the process through which one unit (such as group, department, or division) is affected by the experience of another. They further point out the transfer of organizational knowledge (i.e., routine or best practices) can be observed through changes in the knowledge or performance of recipient units. The transfer of organizational knowledge, such as best practices, can be quite difficult to achieve. From the organisational theory point of view, knowledge transfer is a practical problem of exchanging knowledge from one part of the organization to another. How well knowledgeable about best practices remains broadly accessible within an organization depends upon the nature of organisation knowledge, from where (or whom) it comes, who gets it, and the organizational context within which any transfer occurs.

Scholars and researchers have categorized knowledge transfer into two mechanisms namely personalization and codification (Hansen, Nohria, and Tierney, 1999). Personalization refers to the one-to-one transfer of knowledge between two entities in person. Sudhindra, Ganesh, Arshinder, and Kaur (2017), accentuates that personalized knowledge transfer results in

better assimilation of knowledge by the recipient when tacit knowledge is higher and/or when information content in knowledge object is high. Codification, (explicit knowledge) on the other hand, refers to the act of converting knowledge into knowledge artifacts such as documents, images and videos that are consumed by the knowledge recipients asynchronously. Codification is usually driven by the need to transfer knowledge to large number of people and results in better knowledge reuse.

Innovation

Damanpour and Evan (1984) perceived innovation as the adoption of idea or behaviour new to the adopting organisation. It is a means of transforming an organisation, either in response to changes in the external environment or as a pre-emptive action to make a difference in the environment. Innovation can be viewed as including different types, in addition to new products or services, new process technologies, new organisational structures or administrative systems, or new plans or programs pertaining to organisational members (Damanpour, 1996). A review of the literature indicates that organisational innovation can be divided into two distinctive types: (1) technical or technological innovation; and (2) administrative innovation (Chuang, 2005; Damanpour and Evan, 1984; Damanpour et al., 1989). However, Chuang (2005) has further categorized technical or technological innovation into secondary dimensions: product innovation and process innovation, while administrative innovation remains different from the other two. Since organisations adopt innovations continuously over time, it would be more accurate to depict innovations as comprising of multiple facets.

Theoretical Framework

The theory explains the effect of employee mobility components on innovation of selected oil and gas upstream companies in Nigeria. This study is anchored on Human capital theory. The theory of human capital is rooted from the field of macroeconomic development theory. The original idea of human capital can be traced back to Adam Smith in the 18th century (Schultz 1993). The modern theory was popularized by Gary Becker, an economist, and Nobel Laureate from the University of Chicago (Schultz, 1961, Becker, 1993). The emphasis of the human capital theory as argued by its proponents (Preffer, 1994; Boxall, 1998; Romer, 1990; Rosen, 1999; Kannarn and Akhilesh, 2002; Khandekar and Sharma, 2003;) is that human capital is knowledge gained through education and training in areas of value to a variety of firms such as generic skills in human resource development. Supporters of the human capital theory (Schultz, 1961, Becker, 1993, (Kannarn, and Akhilesh, 2002; Khandekar and Sharma, 2003) argued that human capital simultaneously includes both instrumental concepts to produce certain values and the endogenous meaning to self-generate it. To create values dependently/independently, there is no doubt that leaning through education and training can be an important term of defining the concept of human capital. Considering that experience can be included as a category of knowledge, the human capital is a synonym of knowledge embedded in individuals. It is noteworthy to say that performance is contingent to human capital development and as such (Weatherly, 2003) concluded that nothing happens unless human being makes a conscious decision to act.

Empirical Review

Numerous scholars such as Byukusenge and Munene (2017), Campbell, Granco, Franco and Agarwal (2012), Cornelius, Gokpinar, and Sting, (2016), Fayyaz, Chaudhry, and Fiaz (2021) and Seydi, (2020), Nawab et al. (2019) carried out researches that examined related studies on employee mobility components (knowledge sharing, reward system, hedge relationships, employee buy-in and knowledge transfer) and innovation and how these had brought about robust performance and profitability in the form of organisational outcome with new and novel ideas that ultimately position the organisation for better service delivery. Literatures had alluded to the fact that innovation and management are twin and inseparable.

Cornelius, Gokpinar, and Sting (2016), empirically investigate how moves between problems and sites affect the innovation value created by employee ideas for the organisation. The document that the dynamic effects of problem switches differ fundamentally from the effects of site switches: The innovation outcomes of problem switching employees follow a concave inverse u-shaped pattern, whereas the innovation outcomes of site switching employees follow a convex u-shaped pattern over time. The findings of the study first contribute to a more fine-grained understanding of workforce mobility and its effects on innovation outcomes. Furthermore, using an evolutionary lens, the study develops a search-based framework that coherently explains the dynamics of innovation outcome.

The foregoing findings alluded to Godart, Shipilov and Claes (2014), whose examined the impact of key personnel's loss to competition on their former employers' creative performance. Using archival data on the career histories of designers and the creative performance of their fashion houses between 2000 and 2010, we find that a house's outward centrality in the network of personnel mobility—resulting from personnel departures has an inverted U-shaped relationship with the house's creative performance. This relationship is moderated by the house's inward centrality in a network of personnel mobility stemming from hiring competitors' employees, the tenure of its creative directors, the accomplishments of these directors, and the house's status. The results suggest that organisations can enhance their creativity by relying on ideas obtained through relationships with their former employees long after these employees left to work for the competitors. However, this effect is contingent upon characteristics of the organisation that may be associated with its capacity to absorb these ideas and its ability to signal legitimacy of the resulting output to the external audiences.

Rajagopal (2019), in a study titled "Relationship between employee mobility and organisational creativity to improve organisational performance: A strategic analysis" discovered that there is relationship between employee mobility and creativity and that it is an upcoming trend that emerged out of globalisation to improve organisational performance. The findings show positive relationship between employee mobility and creativity through process of knowledge dissemination within organisation motivates employee. AL-Hakim, and Hassan (2011), found that middle managers role is indeed very imperative in determining the successful implementation of knowledge management, which is directly correlated to innovation enhancement.

Nawab, Nazir, Zahid, and Fawad (2019), in a research study on "Knowledge management, innovation, and organisational performance" The study concludes that the Knowledge Management processes which are Knowledge Creation, Knowledge organizing, Knowledge Storage, Knowledge Sharing & Knowledge Utilization have significant but indirect impact on banking industry, and the results showed that these processes are contributing to the enhancement of innovation in banking industry. Godart, Shipilov, and Claes (2014), investigated a study title "Making the most of the revolving door: The impact of outward personnel mobility networks on organisational creativity" The study applied a quantitative method and revealed that mobility network can be an important source of information and influence when organisations maintain tie with their former employee for ideas.

A study by Cornelius, Gokpinar, and Sting, (2016), conducted research titled "Workforce mobility and innovation outcome" The study identified a clear structural problem in the firm operation, indicating significant number of locations and job switches within the company that brings significant variation in terms of employee's ideas that impacts employee innovation. Another study by Fabling, Stillman, and Maré (2011), on the Immigration and Innovation showed a positive relationship between local workforce characteristics and average innovation outcomes in labour market areas, but this is accounted for by variation in firm characteristics such as firm size, industry, and research and development expenditure.

A study by Nasiripour, Radfar and Badpa (2013), assessed knowledge-sharing role in innovation (case study: Isfahan R&D scientific small city, the study revealed that it can improve understanding and practice of organisational management of knowledge sharing. The study of Krstićand Petrović (2012) sought out the role of knowledge management in increasing enterprise's innovativeness and pointed out the need for a change of managing practice in contemporary enterprises in the era of knowledge economy in the direction of consistent implementation of the concept of knowledge management.

A study by Pérez and Mesías (2015), on the relationship between knowledge management maturity and innovation in leading companies in research and development established the evidence of an association between Product innovation and Meaning Management. This reveals that there is a complementary relation between the knowledge management Functionalist and Interpretative perspectives. Another study by Schutz, Dante, and Kim (2016) researched on: Leveraging Enterprise Mobility Innovation for Knowledge Sharing in the Airline Industry with Implications for Engineering Education found that organisational learning mediates the relationship between knowledge management and sustainable organisational innovation.

Waribugo, Ofoegbu and Akpan (2016), in a study on the impact of knowledge management on product innovation of manufacturing firms in Nigeria found that all the dimensions of Knowledge Management influenced Product Innovation of the firms. However, it was revealed that knowledge acquisition has the most impact on product innovation. Another study by Ibidunni, Kolawole, Olokundun, and Ogbari (2020) on the links between Knowledge transfer and innovation performance of small and medium enterprises (SMEs): An informal economy analysis found that knowledge transfer dimensions, such as R&D and social

networking, have varying levels of impact on innovation performance of informal sector SMEs. Knowledge transfer from training showed an inverse and insignificant relationship with innovation performance.

On a contrary note, Sharmila (2018), carried out an empirical study on internal mobility of employees and organisational effectiveness in commercial banks. The study analysed the impact of the independent variable on the dependent variable through a descriptive survey design and using a random sample size of 100 employees from the commercial banks in Coimbatore city using simple percentages and regression analysis as tools. Results revealed a collision between internal mobility and organisational effectiveness. Considering all these contradictory findings and submissions about employee mobility and innovation, there is need to further look into the relationships between these variables, and then, the impact of one upon the other. Also, in the study carried out by Altindaq and Akturk (2020), that examined how and to what extent a company's performance is affected by the new generation management approaches through strategic HR applications using organisational ambidexterity, learning organisation and innovation capability as proxies of new generation management approaches. While the result revealed that innovation capabilities have positive effects on the firm performance by the effect of the moderating variables, a striking weakness was found in the relationship between the performance of a firm and innovation ambidexterity. It was also found that talent management plays no moderating role in the effects of new generation management approaches on the firm performance. To the best of the researcher's knowledge, few studies have investigated the relationships or effects of employee mobility variables on innovation in oil and upstream sector.

The following hypothesis was therefore formulated:

H_0: Employee mobility components have no significant effect on innovation of selected oil and gas upstream companies in Nigeria.

Methodology

This study employed survey research design. This design has been considered adequate and used by other scholars such as Ogueyungbo et al. (2020), Oni-Ojo, et al. (2014), Rajagopal (2019), and Somaya et al. (2008). The population of the study is nine thousand four hundred and thirty-seven (9,437) regular and contract employees in the selected three (3) major upstream oil and gas companies, operators of Nigeria National Petroleum Corporation, Joint Ventures (NNPC, JVs) with operating headquarters in Lagos State, Nigeria as of December 2021. The three oil and gas exploration companies are selected based on their highest records of regular employees and contract workers in the oil and gas upstream industry in Nigeria and their record of highest crude oil production above 350,000BOPD in Nigeria with administrative headquarter located in Lagos State. These upstream oil and gas companies are Chevron Nigeria Limited (CNL), Mobil Producing Nigeria Unlimited, and Shell Petroleum Development Company of Nigeria Limited (SPDC). Sample size of eighty hundred and seven was ascertained using Cochran (1977) formula. An adapted and structured questionnaire was used to gather information from respondents. Validity of the instrument was determined using content and construct validity while the Cronbach alpha was used to

ascertain the reliability of the instrument which yielded coefficient alpha of 0.726, 0.770, 0.759, 0.780, 0.791, and 0.788 for Innovation, Knowledge sharing, Reward system, Hedge relationship, Employees buy-in, and Knowledge transfer respectively. All the variables were measured with six items each; on a six-point Likert scale ranging from Very High (VH) = 6, High (H) = 5, Moderately High (MH) = 4, Moderately Low (ML) = 3, Low (L) = 2, Very Low (VL) = 1 similar to the one adopted by Rayat and Kelidbari, 2017, Santos, Barriga, Jugend, and Cauchick-Miguel (2019). Multiple Regression Analysis was used to analyze the hypothesis with the aid of Statistical Package for Social Sciences (V26.0). This technique was used because the data for the study is measured on ordinal scale (Edeh, 2019).

Results and Discussion

The study collected data on employees from Chevron Nigeria Limited, Mobil Producing Nigeria Unlimited, and Shell Petroleum Development Company of Nigeria Limited. The researchers distributed a total of 807 copies of questionnaire to the respondents, out of which 750 copies were rightly filled and returned to the researcher. The response rate of the participants to the questionnaire administered is 92.9%. The high response rate was traced to the data collection method of prior notification of the selected oil and gas upstream companies, use of online google form, research assistants, and researcher's personal follow up calls to clarify issues and prompt the participants to fill and return the research instrument early. The analysis was conducted by using the inferential statistics and the results of the analysis are presented in Table 1.

Table 1: Summary of multiple regression of employee mobility components and innovation of selected oil and gas upstream companies in Nigeria

N	Model	B	Sig.	T	ANOVA (Sig.)	R	Adjusted R^2	F (5,744)
750.	(Constant)	-.112	.901	-.124	0.000[b]	0.747[a]	0.556	188.303
	Knowledge Sharing	.473	.000	13.092				
	Reward System	-.187	.000	-7.521				
	Hedge Relationships	.391	.000	15.634				
	Employees Buy-in	.018	.674	.420				
	Knowledge Transfer	.283	.000	5.920				
	a. Predictors: (Constant), Knowledge Transfer, Hedge Relationships, Knowledge Sharing, Reward System, Employees Buy-in							
	Dependent Variable: Innovation							

Source: Researchers' Field Results, 2022

The above results showed that Knowledge Sharing ($\beta = 0.473$, $t = 13.092$, $p<0.05$), Hedge Relationships ($\beta = 0.391$, $t = 15.634$, $p<0.05$), and Knowledge Transfer ($\beta = 0.283$, $t = 5.920$, $p<0.05$) have positive and significant effect on innovation of selected oil and gas upstream companies in Nigeria, while Reward System ($\beta = -0.187$, $t = -7.521$, $p<0.05$) showed a negative and significant effect on innovation. The result further shows that employee Buy-in ($\beta = 0.018$, $t = 0.420$, $p>0.05$) has a positive and insignificant effect on innovation. The results

of the analysis revealed that four of the components of employee mobility (knowledge sharing, hedge relationship, employee buy-in and knowledge transfer) have significant effect on innovation of selected oil and gas upstream companies in Nigeria. This implies that, knowledge sharing, hedge relationship, employee buy-in and knowledge transfer are important factors in the oil and gas industry which in turn yields an increase in innovation.

The R value of 0.747 supports this result and it indicates that employee mobility components have a strong positive relationship with innovation of selected oil and gas upstream companies in Nigeria. The coefficient of multiple determination Adj. $R^2 = 0.556$ indicates that about 55.6% variation that occurs in the innovation of selected oil and gas upstream companies in Nigeria can be accounted for by the components of employee mobility while the remaining 44.4% changes that occurs is accounted for by other variables not captured in the model. This results further means that the model applied to link the relationship of the variables was satisfactory. The predictive and prescriptive multiple regression models are thus expressed as:

$IN = -0.112+0.473KS+-0.187RS+0.391HR-0.018EB+0.283KT+U_i$ ...Eqn i (Predictive Model)

$IN = -0.112+0.473KS+0.391HR-0.018EB+0.283KT + U_i$----------Eqn i (Prescriptive Model)

Where:
IN = Innovation
KS = Knowledge Sharing
RS = Reward System
HR = Hedge Relationships
EB = Employee Buy-in
KT = Knowledge Transfer

The regression model shows that holding employee mobility components to a constant zero, innovation would be -0.112 which is negative. In the predictive model it is seen that of all the variables only reward system is negative and insignificant so the management of the firm can downplay that variable that is why it is not in the prescriptive model. The results of the multiple regression analysis as seen in the prescriptive model indicate that when all other variables of employee mobility (knowledge sharing, hedge relationship, and knowledge transfer) are improved by one unit, innovation would also increase by 0.473, 0.391, and 0.283 respectively. However, a unit change in employee buy-in leads to a decrease in innovation by 0.018 units. On the other hand, a unit change in reward systems will lead to a decrease in innovation of selected oil and gas upstream companies in Nigeria given all other factors are held constant. This implies that an increase in knowledge sharing, hedge relationship, and knowledge transfer would lead to an increase in the rate of innovation of oil and gas upstream companies in Nigeria. Also, the F-statistics ($df = 5, 744$) = 188.303 at $p = 0.000$ ($p<0.05$) indicates that the overall model is significant in predicting the effect of employee mobility components on innovation, which implies that employee mobility components except reward system are important determinants in the innovation rate of selected oil and gas upstream

companies in Nigeria. The result suggests that upstream oil and gas upstream companies should pay more attention towards developing the components of the employee mobility especially knowledge sharing, hedge relationship, and knowledge transfer to improve innovation. Therefore, the null hypothesis (H_0) which states that employee mobility components have no significant effect on innovation of selected oil and gas upstream companies in Nigeria was rejected.

Discussion

Based on the result above the study found that employee mobility components have significant effect on innovation of selected oil and gas upstream companies in Nigeria. Specifically, the following discussion of findings were drawn from the literature. Knowledge sharing, hedge relationships, and knowledge transfer were found to have positive and significant effect on innovation of selected oil and gas upstream companies in Nigeria. This implies that as knowledge sharing, hedge relationships, and knowledge transfer increases, innovation will also increase. This is in line with Cornelius, Gokpinar, and Sting, (2016) investigation on Workforce mobility and innovation outcome. Cornelius et al. (2016) finding shows a clear structural problem in the firm operation, indicating significant number of locations and job switches within the company that brings significant variation in terms of employee's ideas that impacts employee innovation. The last result revealed that reward system showed a negative and significant effect on innovation. This means that when reward system is given positive consideration by the upstream oil and gas companies, innovation will be less advance in the oil and gas upstream companies. The finding corresponds with previous research works in Nigeria which showed that approximately between 70 percent and 82 percent of employees in the oil and gas sector in Nigeria recognized job dissatisfaction is a serious problem confronting employee performance (Ajayi and Abimbola, 2013; Agwu, 2013). The major challenge is the low output in oil production in Nigeria.

Conclusion and Recommendations

Drawing from the discussion of findings, this study concludes that employee mobility measured in terms of Knowledge Transfer, Hedge Relationships, Knowledge Sharing enhances innovation in selected oil and gas upstream companies in Nigeria. Despite the high pay rate and other non-monetary benefits in oil and gas industry as compared to other production companies that could bring about long stay on employment has not suggested high innovative performance. However, trust level, employee commitment and willingness to share knowledge among other factors will enhance innovativeness and the craving to acquire new knowledge among workers. Following the findings of the study the following recommendations were made.

The oil and gas upstream companies should take advantage of knowledge sharing, hedge relationships and knowledge transfer with high reward system to enhance innovation within the companies. Upstream oil and gas companies must increase employees buy-in particularly to enhance innovation, which is clearly needed for transformation. Innovation models need to be reassessed and redirected to focus on human capital development that covers a couple of things such as non-financial benefits policies and administration.

Suggestion for Further Studies

The study recommends that further study should be carried out to investigate the effect of employee mobility on innovation in the upstream oil and gas industry in Nigeria using variables other than the ones used in this study. Furthermore, this study has only tested the research model in manufacturing companies in Nigeria, consequently other researchers may validate the model in other sectors in Nigeria.

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