

Interaction Between Knowledge Management Practices, Innovation and Job Creation in the Niger Delta Development Commission (NDDC), Nigeria

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Abstract

Knowledge and its management are essential tools for job creation, economic growth, and development. Despite its importance, not many organizations are making adequate use of their knowledge assets. The current study examined the influence of knowledge management practices and innovation on job creation in the Niger Delta Development Commission (NDDC), Nigeria. The study adopted the survey research design. 440 out of the population of 879 employees of the commission was used for the study. Data analysis was done using descriptive and inferential statistics such as percentage distribution, mean and standard deviation as well as regression analysis. The findings revealed an overall moderate extent of job creation in the Niger Delta region of Nigeria, it indicates a high extent of knowledge management practices, it shows a high extent of innovation management practices. The study concluded that knowledge management processes were a significant predictor of job creation in the region (Adjusted $R^2 = .413$, $F_{(1,306)} = 217.418$, $P < .05$). It was recommended that authority of the Niger Delta Development Commission (NDDC) should strive to maintain their level of knowledge and innovation management practices with a view to improving employment generation and general development of the area.

Keywords: Knowledge management, Practices, Innovation, Job creation

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Introduction and Review of Related Literature

Knowledge and its management are essential tools for economic growth and development. Knowledge is the insights, understandings, and practical know-how that people possess. It is a fundamental resource that allows people to function intelligently. Knowledge refers to an invisible or intangible asset, in which its acquisition involves complex cognitive processes of perception, learning, communication, association and reasoning (Epetimehin & Ekundayo, 2011). Knowledge is considered the most important organizational resource needed for sustainable business and economic development. Knowledge management (KM) is systematic management that consists of the process of making, collection, arranging, disseminate and making use of knowledge to create business value and gaining a competitive advantage (Omotayo, 2015). It is an application which is modern and based on technological working and focusing on knowledge and alignment with decision making, evaluation and operative systems redesign (Kibet, Samuel, Magutu & Richard, 2010).

According to Wong and Aspinwall (2006), knowledge management is an important process in which knowledge existing in an organization is transformed into innovation and economic value. Innovation capabilities is conceptualized as the capacity of firm's to generate new ideas to improve their products, services, processes to enable them to enhance their organizational performance and attain competitive edge (Jantunen, 2005). With an innovative capability, a firm enhances their adeptness to gather and integrate knowledge to become rare, unique and difficult to imitate, thus enabling them to develop the capacity to sustain a high level of competitive advantage.

Pancholi and Amrata (2014) explained that the implementation of knowledge management in an organization involves the integration of knowledge from the domains of strategy, structure, processes, and technology, thereby making it a strategic tool for sustainable business process and product development for commercialization. However, to ensure an effective business process or product development, there is a need for a structured knowledge management process approach to be followed. Knowledge Management Process (KMP) entails the various stages of knowledge development, refinement, application, and utilization in an organization for the tactical or strategic accomplishment of specific goals and objectives. The World Intellectual Property Organization (WIPO) (2015) defines knowledge management as "a discipline that promotes an integrated approach for the identification, capture, retrieval, distribution, sharing, use and reuse of information and knowledge assets" (WIPO, 2015).

The United Nations Development Programme (UNDP) defines knowledge management as "the summary of all measures designed to address its knowledge-related challenges" and recognizes that knowledge is both "a key output that it delivers to its clients, as well as a key resource that the organization needs in order to deliver its results" (UNDP, 2014) For the United Nations Educational, Scientific and Cultural Organization (UNESCO),

“the establishment of a knowledge management system involves enhancing knowledge generated during project and programme implementation under a systematic, coherent and predefined approach” (UNESCO, 2012). IAEA (2013) considers that “corporate knowledge management is an essential component of quality management and the key to quality performance in the Agency”. The corporate knowledge management policy “enables the Agency to create, acquire, capture, codify, store, retain, share, use and transfer knowledge”.

The need for KM in job creation is the realization that an organization must manage its knowledge if it is to survive in today’s dynamic and competitive marketplace. Desouza (2011) posited that without adequate care in how knowledge is recruited and managed, organizations will not be operating optimally and this will result in the ineffective and inefficient creation and delivery of products and services leading to unsatisfied customers. The link between knowledge and innovation in job creation cannot be overemphasized. Innovation management describes the decisions, activities, and practices that move an idea to realization for the purpose of generating business value. Innovation management is basically the combination of the management of innovation processes and change management in an organization. This management refers both to the product, business processes and organizational innovations aimed at developing the organization strategic assets. Innovation management allows the organization to respond to external or internal opportunities, and use its creativity to introduce new ideas, processes or products.

The innovation processes include idea identification and generation, concept development, concept feasibility determination, exploitation and execution, feedback and refinement, and deployment and launch. The Innovation management processes use a form of project/product development life cycle method as an approach to develop a new project/product or to modify an existing one. Khurana and Saini (2017) described innovation as the introduction or launching of something new into socio-economic spheres for some use or application that will provide sustainable business growth. Innovation is essential in an effort to develop a product or process and services that will revolutionize the business process of any organization. Also, Saini & Khurana (2018) asserts that in the last few decades, business model innovation has assumed increasing significance which fosters innovation in two ways: (a) allowing managers and entrepreneurs to connect innovative products and technologies to realize output in the market; (b) it may be also a source of innovation in itself. Business model innovations have the potential to revolutionize an entire industry.

Studies from Nigeria have shown that the innovative capability of firms is partly dependent on the educational qualification, experience and the technical improvement as a result of ‘on-the-job’ learning of its workforce (Romijn & Albaladejo, 2002). In particular, firms could be seen as being able to learn faster and innovate more proficiently when their staffs are highly qualified and professionally experienced. A national innovation survey conducted by the National Centre for Technology Management (NACETEM, 2011) revealed that the rate of innovation in Nigeria was about 84%. Their study indicates a higher rate of innovation within the service sector than manufacturing. This is not surprising considering the recent increased economic importance of services. It is projected to contribute about 35% of Nigeria’s GDP in 2011 (NBS, 2010) from 27% in 1998. In all, about 83% of manufacturing enterprises in Nigeria were innovative, compared with about 87% of service enterprises. About 53% of all enterprises had both product and process innovations, while of the four types of innovations the non-technological innovations (marketing and organizational) appeared more pronounced in Nigerian enterprises. A total of about 58% of innovative enterprises reported ongoing innovation activities during the period (NBS, 2010).

With reference to innovation types, the Nigeria National Innovation Survey revealed that about 53% of firms in the manufacturing sector and 67% in the service sector had product innovations. About three-quarters of these originated within the country and were mainly developed within the firms (NACETEM, 2011). The same study revealed that less than 20% of the enterprises collaborated with other enterprises or institutions to develop product innovations, while less than 11% relied on other enterprises or institutions to develop their innovations. This implies that most enterprises in Nigeria are capable of developing their own products, services, and processes using available technologies instead of depending on foreign ones. It also shows a high internalization of a firm’s innovation efforts. Investing in a firm’s innovation capability is key to economic prosperity and business sustainability. To develop a firm’s innovation capability, efforts must be made in managing all the innovation processes. The processes include idea generation, concept development, concept feasibility determination, exploitation, feedback, and implementation. Developing the innovation capability of a firm requires managing the innovation processes from ideation to product development and implementation. The aim of the innovation management process is to manage innovation from every stage to develop a new product, process or improved service that have the capability to expand the business process of the firm and to provide opportunities for gainful employment through job creation.

The first stage of the process of innovation management is idea identification and generation. At this stage, creative ideas are identified and generated within the organization and outside the organization in line with the organization’s strategic business objective. The objective could be to develop a new project, or a new product, or a new process and even modification of an existing system. The ideas can be generated through Research and

Development (R&D), through brainstorming sessions and expert knowledge sharing, through open innovation practices, through extra-organizational knowledge sharing and through strategic alliances with innovative firms. This stage of the innovation management process requires strategic and creative thinkers, R&D experts, knowledge managers and professionals in various fields of study related to the business objective.

Research objective

This study examined the following specific objectives:

1. determine the extent of job creation in the Niger Delta region by NDDC;
2. find out the extent to which knowledge management is practiced in the region by NDDC
3. investigate the extent to which innovation management is practiced by NDDC
4. ascertain the influence of knowledge management practices on job creation activities by the Niger Delta Development Commission

Research questions

1. What is the extent of job creation activities employed in the Niger Delta region by NDDC?
2. To what extent is knowledge management practiced in the Niger Delta region by NDDC?
3. To what extent is innovation management practiced in the region by the NDDC?
4. Knowledge management Practices have no significant influence on job creation by the Niger Delta Development Commission,

Research setting

This study was carried out in the Niger Delta region of Nigeria. The area which is described as the Niger Delta region of Nigeria lies between latitudes 4o and 6o North of the Equator and 4o and 8o east of the Greenwich. It comprises the states of Akwa Ibom, Cross River, Edo, Imo, Rivers, Bayelsa, Delta, Abia, and Ondo, making it coterminous with all of Nigeria's oil-producing states. Stretching over 20,000 km² of swamp land in the littoral fringes of the country, it embraces one of the world's largest wetlands, over 60% of Africa's largest mangrove forests, and one of the worlds' most extensive (Eyinla & Ukpo, 2006). The Niger Delta region in Nigeria is well-known for its huge presence of crude oil, the exploration of which has contributed to the nation's gross domestic products (GDP) on a large scale for the past six decades. In addition, more than 80% of the nation's infrastructural investments in the various sectors of our national economy depend largely on the income generated from the sales of oil exported from the Niger Delta Region. However, the deplorable state of the region led to the creation of the Niger Delta Development Commission (NDDC) as an agency of government in 2000. Its mission is to facilitate the rapid and even development of the well-endowed but highly beleaguered Niger Delta region of Nigeria (Ughakpoteni, 2012).

Methodology

This study adopted the survey research design. The method is considered appropriate in order to specify the accurate description of how knowledge management practices and innovation interact with (Job creation) in the Niger Delta Development Commission, Nigeria. The population for this study is made up of all staff in the head office and those in branches of the commission cutting across the directorates, the management staff, the senior non-management staff, and junior staff across the various departments of the Commission. In determining the sample size, a proportionately stratified sampling technique was used to obtain a representative sample from each level (management, senior-non management, and junior staff) in the commission. Thereafter, 440 out of the population of 879 employees of the commission was used for the study. The main instrument for data collection was a structured questionnaire. Ensuring face and content validity of the questionnaires involved a pilot study which was conducted among 30 Officers of the ministry of labor and productivity, Edo State. Reliability of the instrument was determined using a Cronbach's alpha of 0.7 and above was considered adequate for inter-item consistency among the items in the research instrument. The data collected were analyzed using descriptive and inferential statistics such as percentage distribution, mean, median and standard deviation. Regression analysis was used to establish the influence of the independent variable on the dependent variable. Specifically, regression analysis was used to test the hypothesis stated in the study. Statistical Package for Social Sciences (SPSS version 20.0) was used to analyze the collected data gathered in the course of the study.

Results and Discussion

The extent of job creation in the Niger Delta region by NDDC

Table 1 shows an overall moderate extent of job creation in the Niger Delta region of Nigeria with a mean of 2.49 on a scale of four points. Employment generation has the mean of (2.59) infrastructural investment and development (mean = 2.56), investment in small and medium enterprises (mean = 2.39), government hiring and recruitment (mean = 2.68), private sector recruitment (mean = 2.56) outsourcing of equipment (mean = 2.52).

Others include investment in basic infrastructure (mean = 2.56), interest rate (mean = 2.44) youth empowerment programmes (mean = 2.46) while interest rate reduction came has the mean of 2.44 on a scale of 4 points. The findings of this study agree with the study of the International Labour Organization (2017), which indicates that employment creation, the protection of workers' rights, social dialogue and social protection have long been issues of major concerns, and securing decent jobs for everyone remains the key strategic goal of every government. However, it has become increasingly clear that to achieve this goal, government and organizations will have to engage in active investments in the areas of infrastructure and human capital developments.

The extent of knowledge management practices in the Niger Delta Region

Table 2 shows a high extent of knowledge management practices (grand mean = 2.51) on a scale of four points. The table It shows that the mean of Knowledge Utilization was (2.58), Knowledge Sharing/Dissemination (2.53), Knowledge Creation/Sensing Processes (2.46), Knowledge Capture/Organizing (2.46). It shows that knowledge utilizations contributed most to the knowledge management practices in the region with a mean of 2.58. This tallies with the report of the United Nations Educational, Scientific and Cultural Organization (UNESCO) which stipulated that "the establishment of a knowledge management system involves enhancing knowledge generated during project and programmes implementation under a systematic, coherent and predefined approach" (UNESCO, 2012). Similar findings were reported in the study of IAEA (2013) which revealed that "corporate knowledge management is an essential component of quality management and the key to quality performance in the Agency". According to them, the corporate knowledge management policy "enables the Agency to create, acquire, capture, codify, store, retain, share, use and transfer knowledge". In a related study, Rodrigo & Manoel (2017) asserted that knowledge sharing and dissemination provide tools to collaborate, access and share the knowledge to develop into innovative projects that will fulfill specific objectives.

The extent to which innovation management is practiced in the Niger Delta Region

Table 3 shows a high extent of innovation management practices with a grand mean of 2.54 on the scale of 4 points. The observed innovation management practices include feedback/refinement which involved project monitoring and evaluation in the region, feedback on project progress and development, refinements and modification of projects for development and for empowerment in the region. The findings tallies with the study of Khurana and Saini (2018) which claimed that in the last few decades, business model innovation has assumed increasing significance that has fostered innovation in two ways: (a) allowing managers and entrepreneurs to connect innovative products and technologies to realize output in the market; (b) it may be a source of innovation in itself. The findings of this research show that innovation management is critical to organizational sustainability. Besides, the firm's innovation management provides corporate support functions in value chain management. Investment in a firm's innovation is widely publicized as the key to long-term economic prosperity, with the potential to drive future growth (Hamm, 2009).

It has been argued that without innovation, the economic and social pay-off of hardcore science and technology efforts of a nation would be diminished (NACETEM, 2011). Without innovation, science and technology become a mere academic exercise that lacks societal impact. The findings of this study agree with a study by Niek and Louis (2008) which investigated innovation management, using the innovation funnel as a tool to measure the innovation processes required for business growth and sustainable economic development. The study concluded that innovation management provides structure and discipline that facilitates the innovation process that allows faster development of innovations that drives growth and the development of new business areas that will create quality jobs for the unemployed. The findings also identified the innovation funnel as a strategic innovation management tool that top management can use in developing new processes or products and modifying existing processes for business growth and competitiveness.

Knowledge Management Practices and Job Creation Activities in the Niger Delta Region

Table 4 indicates that knowledge management processes was a significant predictor of Job Creation (Adjusted $R^2 = .413$, $F(1, 306) = 217.418$, $P < .05$). It reveals that 41.3% of the variation in the dependent variable (job creation) was accounted for by the independent variable knowledge management processes ($R^2 = .415$, $P < .05$). The result also indicates that an additional increase in knowledge management processes will lead to 0.648 unit of increase in Job Creation ($\beta = .648$, $p < .05$).

Table 1: Extent of Job Creation activities in the Niger Delta

Job creation activities	Very high extent	High extent	Moderate extent	Low extent	Mean	SD
Employment						
Government hiring (recruitment)	58(18.8)	124(40.30)	95(30.8)	31(10.1)	2.6786	.89366
Private sector hiring recruitment	54(17.5)	111(36.0)	97(31.5)	46(14.9)	2.5617	.94787
Outsourcing of equipment purchase and supply to vendors/contractors	36(11.7)	126(40.9)	109(35.4)	37(12.0)	2.5227	.85198
Average Mean Score = 2.59						
Infrastructure Investment and Development						
Investments in basic infrastructure	65(21.1)	111(36)	88(28.6)	44(14.3)	2.6396	.97024
Provision of educational facilities	65(21.1)	98(31.8)	94(30.5)	51(16.6)	2.5747	1.00046
Provision of ICT Facilities	42(13.6)	107(34.7)	127(41.2)	32(10.4)	2.5162	.85594
Provision of medical facilities	34(11)	108(35.1)	126(40.9)	40(13)	2.5000	.85610
Average Mean Score = 2.56						
Youth Empowerment Programs						
Entrepreneurship Development Programs (EDP).	42(13.6)	112(36.4)	119(38.6)	35(11.4)	2.5227	.86714
Rural agricultural development and training programs (RADTP)	41(13.3)	100(32.5)	120(39.0)	47(15.3)	2.4383	.90570
Vocational skills development programs (VSDP)	49(13.3)	120(39.0)	98(31.8)	49(15.9)	2.4253	.91189
Average Mean Score = 2.46						
Interest Rate Reductions						
Task free business operating for indigenes	69(22.4)	74(24.0)	97(31.5)	68(22.1)	2.4675	1.06877
Given local business operators in the Niger Delta reduced interest rate on business transaction with the commission	56(18.2)	84(27.3)	109(35.4)	59(19.2)	2.4448	.99847
Provision of low costs loans to indigenous business operators	57(18.5)	71(23.1)	122(39.6)	58(18.8)	2.4123	.99614
Average Mean Score = 2.44						
Investment in Small and Medium Enterprise						
Corporate investment into SMEs generally in the zone	43(14.0)	90(29.2)	122(39.6)	53(17.2)	2.3994	.93062
Provision of funding to SMEs in the Niger Delta Region	39(12.7)	97(31.5)	116(37.7)	56(18.2)	2.3864	.92561
Procurement of basic operational materials in the commission through SMEs	29(9.4)	97(31.5)	144(46.8)	38(12.3)	2.3799	.82025
Average Mean Score = 2.39						
Grand mean = 2.49						

Table 2: Extent to which knowledge management is practiced in the region by NDDC

KMP employed	Very high extent	High extent	Moderate extent	Low extent	Mean	SD
Knowledge Utilization						
Determination of concepts feasibility for developments	54(17.5)	119(38.6)	99(32.1)	36(11.7)	2.6201	.90700
Research and development project	44(14.3)	129(41.9)	95(30.8)	40(13.0)	2.6201	.90700
Development of creative ideas into products/projects concepts	42(13.6)	129(41.9)	99(32.1)	38(12.3)	2.5682	.87597
Utilization of knowledge combined and externalized for competitive business process improvement in the commission	62(20.1)	96(31.2)	100(32.5)	50(16.2)	2.5519	.98881
Average Mean Score = 2.58						
Knowledge Sharing/Dissemination						
Knowledge sharing through non- media (face-to-face, etc.	65(21.1)	110(35.7)	90(29.2)	43(14.0)	2.6396	.96687
Socialization (knowledge sharing/dissemination through discussion groups and mentoring)	38(12.3)	126(40.9)	98(31.8)	46(14.9)	2.5065	.89331
Knowledge sharing through electronic media	38(12.3)	116(37.7)	117(38.0)	37(12.0)	2.5032	.85989
Knowledge sharing culture	34(11.0)	124(40.3)	109(35.4)	41(13.3)	2.4903	.85984
Externalization (knowledge sharing through documentation and dissemination)	32(10.4)	126(40.9)	110(35.7)	40(13.0)	2.4870	.84835
Average Mean Score = 2.53						
Knowledge Creation/Sensing Processes						
Individual/group knowledge creation through brainstorming	47(15.3)	110(35.7)	107(34.7)	44(14.3)	2.5195	.91830
Mentoring programs for human capacity development and youth empowerment	30(9.7)	119(38.6)	117(38.0)	42(13.6)	2.4448	.84665
Extra-organizational knowledge creation to support innovation and development	31(10.1)	111(36.0)	119(38.6)	47(15.3)	2.4091	.86641
Average Mean Score = 2.46						
Knowledge Capture/Organizing						
Research and development projects	32(10.4)	142(46.1)	105(34.1)	29(9.4)	2.5747	.80163
Knowledge repository management	27(8.8)	117(38.0)	132(42.9)	32(10.4)	2.4513	.79549
Expert knowledge capture for strategic development	25(8.1)	120(39.0)	122(39.6)	41(13.3)	2.4188	.82108
Open innovation and externalization of knowledge	28(9.1)	110(35.7)	130(42.2)	40(13.0)	2.4091	.82796
Average Mean Score = 2.46						
Grand mean =2.51						

Table 3: Extent of Innovation Management practices in the Niger Delta

Survey items	Very high extent	High extent	Moderate extent	Low extent	Mean	SD
Feedback/Refinement						
Project monitoring and evaluation	81(26.3)	106(34.4)	84(27.3)	37(12.0)	2.7500	.97818
feedback on project progress and development	84(27.3)	95(30.8)	79(25.6)	50(16.2)	2.6916	1.04258
Refinements and modification of projects where necessary	47(15.3)	118(38.3)	93(30.2)	50(16.2)	2.5267x0	.93918
Average Mean Score = 2.66						
Exploitation/execution						
Project completion and documentation	51(16.60)	129(41.9)	97(31.5)	31(10.1)	2.6494	.87329
Implementation and actual development of concepts into projects, products and services	58(18.8)	125(40.6)	81(26.3)	44(14.3)	2.6396	.94644
Project execution and development	45(14.6)	128(41.6)	100(32.5)	35(11.4)	2.5942	.87355
Average Mean Score = 2.63						
Implementation						
Project/product commissioning	83(26.9)	101(32.8)	54(17.5)	70(22.7)	2.6396	1.10815
Project/product launch and deployment	65(21.1)	113(36.7)	83(36.9)	47(15.3)	2.6364	.98071
Project/product management and maintenance	43(14.0)	112(36.4)	100(32.5)	53(17.2)	2.4708	.93561
Project/product commercialization	40(13.0)	99(32.1)	109(35.4)	60(19.5)	2.3864	.94304
Average Mean Score = 2.53						
Concept feasibility						
Appraisal of projects concepts	50(16.2)	102(33.1)	114(37.0)	42(13.6)	2.5195	.92184
Determination of return on investment of concepts and projects	47(15.3)	107(34.7)	111(36.0)	43(14.0)	2.5130	.91486
Determination of concept feasibility determination	38(12.3)	109(35.4)	128(41.6)	33(10.7)	2.4935	.84458
Determination of cost and benefit of concepts	31(10.1)	124(40.3)	113(36.7)	40(13.0)	2.4740	.84420
Average Mean Score = 2.5						
Idea generation definition						
Mentoring and brainstorming programs employed to enhance idea generation and product development	41(13.3)	114(37.0)	126(40.9)	27(8.8)	2.5487	.83152
Utilization of R&D results/report for projects and products development	38(12.3)	103(33.4)	132(42.9)	35(11.4)	2.4675	.85166
Creativity and strategic thinking	43(14.0)	108(35.1)	107(34.7)	50(16.2)	2.4675	.92500
Average Mean Score = 2.49						
Concept development						
Development of creative idea into products concept	41(13.3)	128(41.6)	98(31.8)	41(13.3)	2.5487	.88467
Strategic alliance from open innovation	37(12.0)	113(36.7)	118(38.3)	40(13.0)	2.4773	.86714
Development of expert knowledge from mentoring and brainstorming sessions into concept	36(11.7)	116(37.7)	105(34.1)	51(16.6)	2.4448	.90251
Implementation of R&D projects	31(10.1)	116(37.7)	112(36.4)	49(15.9)	2.4188	.87486
Average Mean Score = 2.47						
Grand Mean =2.54						

Table 4: Influence of Knowledge Management Processes on Job Creation in the Niger Delta

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	13.986	1.804		7.755	.000
KM Processes	.648	.044	.645	14.745	.000

R² = .415,
 Adjusted R² = .413,
 F (1, 306) = 217.418, +
 P < .05

Dependent Variable: Job creation

Conclusion and practical applications

The study revealed that the level of knowledge management practices in the Niger Delta region was high and knowledge utilization contributed the most to it. We found that knowledge management practices influenced job creation in the region through at a slow paced. The extent of innovation management practices was also high and this has contributed to employment creation in the region. It was recommended that authority of the Niger Delta Development Commission (NDDC) should strive to maintain their level of knowledge and innovation management practices with a view to improving employment generation and general development of the area.

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