
**Challenges and Prospects of Research and Innovation in
Tertiary Education Institutions: Niger Delta University in Focus.**

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Abstract

Research and innovation contributes to knowledge generation geared towards solving societal problems and transforming the world into a technologically advanced place. It reveals the direct contribution of tertiary institutions to sustainable development and knowledge creation. The most competitive nations of the world have centralized research in driving their ambition for economic strength, sustainability and renewability of resources and innovation. The world has changed, and innovation is becoming the most important engine of growth and jobs in an emerging knowledge-based economy. For that reason, challenges inhibiting effective research and innovation need radical improvement, and better long-term planning. This paper examines research and innovation, challenges to research and innovation: Niger Delta University in focus and prospects for research and innovation for wealth creation in Niger Delta University. Finally some recommendations were made for strengthening research and innovation in tertiary institutions.

Keywords: Research, Innovation, Challenges, Prospects, Tertiary Education

Tertiary institutions are recognized as centers of knowledge generation and dissemination. It maintains triple mission of teaching, research and community service. The roles of these component aspects of tertiary education are all meant to develop the human society, be it at individual, national or international level. It is very evident that research occupies the main center stage in the mission of tertiary institutions.

Research is a scientific approach to the solution of problems. According to Imo (2015), it is the strategy adopted to answer questions raised about the world and the processes going on in it. In his view, Eric (2009) sees research to be the process of systematic inquiry by which humankind increases knowledge of how things are, why things are the way they are and how they could be improved. Research seeks to discover the truth about the world. It is goal – oriented, systematic and logical. It is becoming increasingly evident that research is extremely critical and important, if tertiary institutions are to serve as engines of development. Research is necessary for direct contribution of the universities for sustainable development and knowledge creation, (Michaela 2012).

A good researcher is one who develops new ideas in the minds of the students. Secondly, what makes a university unique is the special service it provides for its immediate community, such specialized serves are derived from results of researches conducted by universities. Odia and Omofonmwan (2014) stated that advancement in research has given rise to the growth of science and technology which in turn, has led to industrialization through the creation of job opportunities, increased income, production of goods and services, creation of wealth, improved quality of life, transportation/communication system, networking regions of the world, clustering of people and integrating nations of the world both socially, economically and politically. Research has helped people across the world to have better understanding of global issues which are becoming common to all nations. In the wind of global changes across national boundaries, Rugai (2005) maintains that research is a system of worldwide collaboration which accounts for the spread of modern learning which could result in transforming man's life. In this regard, the university provides the avenue of innovation and the desired changes of life.

Innovative ideas emerge as a result of research findings from research institutes. Innovation is defined as incremental, radical and revolutionary changes in thinking, products, processes or organization, (Akomolafe 2011). In the view of Oteh and Akuma (2011), innovation is a decisive operation carried out with a view to introduce a given change to be accepted and used. It is the process whereby, a new product is made available, spread through the system and infused into other operating practices. Innovation is therefore, a change that is deliberate, purposeful and can be on a small or large scale. It is a departure from an existing practice that can be sustained for some time, and is situational and relevant to a group in time or place.

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Innovation is very necessary in tertiary education institutions, because of the dynamic nature of knowledge. Knowledge is constantly growing and changing. There is knowledge explosion especially in the area of science and communicative technology. New scientific discoveries have rendered much of the existing knowledge obsolete. In the field of education, there have been new approaches to teaching, like team teaching, micro teaching, individualized instruction and computer assisted instruction among others. Since one of the functions of education is to expose learners to worthwhile and authentic knowledge, innovations help to fulfill such, (Oteh and Akuma 2011). Innovation has facilitated and promoted educational media that can facilitate teaching and learning and research presentations. Many soft ware and hardware media are now available in the market. Whenever there are new researches, innovation helps in using the findings to expose learners to problem-solving situations. Current researches in the fields of education, psychology of learning and development, intellectual development and much more have revealed new innovations on how learning occurs. The research findings in Niger Delta University have affected methods and techniques of teaching in the classroom for better performance. There is therefore the need for innovation to take care of relevant research findings.

Igbongidi (cited in Nateinyin, Moses & Arikawei 2014), observes that for the mission of innovation to be achieved, tertiary education through research must respond to the pressure brought by globalization and commercialization of education in a knowledge driven economy in all sectors of human activities. Niger Delta University has institutionalized a research culture into her university programmes with virtually all faculties undertaking research and innovative activities. Jimoh (2012) highlighted that research activities in Nigerian universities are sponsored by departments or units, faculty grants (both of which are few), senate grants, endowments, foreign aids, fellowships, and so on. Despite these provisions, individual researchers and students make concerted efforts to undertake and fund research activities on their own. Within the Niger Delta University campus, a number of arrangements have also been put in place to stimulate research in various fields of endeavor, through the development of research centers. It is yet to secure a breakthrough in research and innovation due to very eminent challenges in the institution.

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It is evident that over the years, Niger Delta University education has not achieved the desired goals of research and innovation due to several teething challenges, among which are, funding, absence of unified educational research guideline, accessibility of statistical package (SPSS – Statistical Package for Social Science), and partnership.

Funding: Fadokun (2000) expresses the fact that, the bulk of university based research has been self funded by graduate students, staff-in-training, and academic staff, in fact over 80 percent has been from salaries and parents, less than 10 percent of the

university based research is funded extremely by foreign bodies and the same percentage by the university research boards. Virtually, no improvement can be made in any segment of the tertiary education institution without adequate funding. Research and innovation require huge financial investment which is often lacking in Niger Delta University. Barikor (2005) lamented that educational research in Nigeria often suffers from meager financial and material support. Quite worrisome is the lack of access by Nigerian researchers especially the academia to benefit maximally from funding agencies like the Tertiary Education Trust Fund (TETFUND). Sometimes, interested researchers who apply for funding for research activities are frustrated on account of disbursement lag and bureaucratic bottlenecks thereby making financing procedures for research development a frustrating reality. Despite the increasing value of research in the world economy based on the supremacy of knowledge and constant innovative change, budgetary constraints and the belief that research is costly have resulted in the virtual underutilization of research centers in Niger Delta University.

The setting up of Niger Delta University was an attempt to provide needed high-level manpower, encourage, promote and conduct research in all fields of learning and human endeavor. The university was established through a law on 15 May, 2000. The law stated that “the mission of the university shall be to create a centre of excellence directed towards the design of well-articulated research that could produce creative and innovative human resources, among others, (Ikporukpo 2012). But against this background, the Niger Delta University has not achieved its mission of research and innovation as a result of funds. No dedicated funding body currently exists in the university environment, and national government funding for R&D remains low compared with what is spent on the state infrastructure, neither has the Bayelsa State Government contributed to funding which has incapacitated the school towards translating research findings into innovation and innovation has become stagnant, the centre piece of research.

Absence of Unified Educational Research Guideline: Research is supported by guidelines by which all researchers must be guided upon. Research guidelines are developed to guide and support educational researchers, in conducting research to the highest ethical standards in whatever context it is needed. Research guidelines are offered as set of principles, and advice that will be subject to continuing review as knowledge, understanding and practice of educational research continue to evolve, (British Educational Research Association 2011). The conduct of educational researchers and the writing of publishable articles in education are aimed at unifying educational research across the different research interest in education. For example the Britain British Educational Research Association (BERA), is a member-led charity which exists to encourage educational research and its application for the improvement of practice and public benefit. It is dedicated to promoting a research culture within the academic field, and shape guidance on policy and practice within the educational research field. It seeks to encourage educational research and its application for the

improvement of practice and public benefit. It strives to ensure that the best quality evidence from educational research informs policy makers, practitioners and the general public and contributes to economic prosperity, cultural understanding, social cohesion and personal flourishing, (British Educational Research Association 2011).

Educational research aims to extend knowledge and understanding in all areas of educational activity and from all perspective including learners, educators, policymakers and the public. The Association recognizes that the community of educational researchers is multi-disciplinary and that within the paradigms and methodologies espoused by the various disciplines, and often variously by their sub-disciplines, a variety of concepts may be problematic. Example, among these are the concepts of 'data', 'reliability', 'validity', 'subjectivity and 'objectivity', (British Educational Research Association 2011). Hamilton (2013) identified the fact that there is no unified educational research guideline or association to guide the conduct of researchers in Nigerian educational research as research methods especially mixed methods and quantitative methods using questionnaire are used by most researchers in our educational research process, irrespective of the array of research methods and instrument available for research. The absence of an association research guideline has been a challenge because most research materials does not abide by the guidelines and principles of research ethics.

Accessibility of Statistical Package (SPSS – Statistical Package for Social Science): SPSS is an entirely new innovation that is a challenge to most researchers. SPSS is a professional statistical analysis software package. It involves the analysis of statistical methods like linear regression, t-test and Anova, involves complex formulas and calculations, (Steve 2013). The company that developed SPSS as a new innovation employs high level statisticians that work with software developers to implement these complex formulas and calculations. SPSS software has been in existence for many years and has a very good reputation for the integrity of the calculations. Although SPSS is a graphical user interface (i.e it is easy to point and click your way through the software), specifying the correct options is essential to performing the right analysis, (Steve 2003). Beyond that, the other challenge is in learning how to properly interpret and report the results of the SPSS output. Many researchers wish they had avoided the lost time and frustration they encountered trying to learn how to use SPSS to analyze the data by themselves.

Partnership: University-industry partnership is a very crucial logical strategy for building technological capacity and promoting economic development of our dear country. There are numerous national policies related to university-industry partnerships in the country and the role for the university in the society, including its contribution to national development. It is envisaged that if there is an effective policy on university-industry partnerships, backed up with legislation, but there are no indication that this partnership is yielding much dividend in research and innovation, ((Suleiman 2015).

University –industry partnerships are constrained by a number of factors, among which is cultural difference between academia and the industry. Also, there is lack of confidence of the population in general and industry in particular, in the ability of universities to contribute to economic development. This lack of confidence seems to have been exacerbated by weak investments in research infrastructure, as well as the prevalence of poor governance practices. In addition, the lack of strong leadership capabilities of university administrators serves as a major hindrance to effective partnership. On the part of the industry, it appears to have limited financial capacity to partner with university, mainly because of the size and nature of the economy, (Suleiman 2015).

Prospects of Research and Innovation in Niger Delta University

The 21st century is marked with challenges brought about by globalization and advancement in technology in all aspects of human development, including tertiary education. Globalization has brought with it the growth of “transnational,” cross border or borderless education and the development of new international partnerships and new networks, ((Nateinyin, Moses and Arikawei 2014). Therefore Niger Delta University needs to be repositioned to cope with the pressures brought about by globalization and commercialization of education in a knowledge driven economy and new challenges in information and communication technology. The most competitive nations of the world have centralized research in driving their ambition for economic strength, sustainability and renewability of resources and innovation. The world has changed. Innovation is becoming the most important engine of growth and jobs in an emerging knowledge-based economy. For that reason, challenges inhibiting effective research and innovation need radical improvement, and better long-term planning.

Niger Delta University defines and limits their roles in the development process to teaching and production of manpower at the total exclusion of research in order to advance and improve society. Though man-power production is central to modern development, as it facilitates the decolonization and Nigerianisation of the Nigerian state, economy and even the universities, (Olukojo 2004). The whole consciousness, policy, conduct and business of making research in the Niger Delta University and research centers is essentially an indispensable academic component of the institution and also the necessary tool for development in the country. At the national level, the school should be able to develop its own research priority, agenda and strategic plan which all researchers must abide to and execute. This should lead to creating research institutional framework within the Niger Delta University and dedicated research centers. There should be an undertaken in the conduct and functions of research itself. Research as it exists should not simply be as exercise in acquiring of degrees and career development for teachers, but should be subordinated and dictated by the national research priorities and goals.

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Nations all over the world have recognized that for, national growth and competitiveness (in the context of a globalized economy) depends very much on continuous technological improvement and innovation, driven by a well-organized vibrant research and development system, which integrates the research and training capacities of higher education with the needs of industry and larger society which can be ensured through a vibrant research center, (Okebukola 2004). Niger Delta University research centers should be dedicated to enhancing the Nigeria's research capacity and output to harness, domesticate and utilize global knowledge as well as explore and develop the indigenous knowledge systems for the rapid socio-economic development, independence, integration and prosperity of Bayelsa state, Nigeria and Africa. Niger Delta University has succeeded in establishing a research center which is geared to meeting the development needs of the institution but its effort is minimal compared to what it requires to transform the institution into a global research and innovative center. Nations that fund higher education institutions adequately benefit immensely from their intellectual products. Industry can also be a supportive partner in the creation, support, and staffing of research laboratories through gifts, donations, and research funding. Through these kinds of practices, industry can be a stronger partner in the process of strengthening the academic quality and relevance of the institution, (Teshome 2008). Industry participation in Niger Delta University research efforts is limited, though there are very few industries in the state. But out of these few, if the institution can collaborate and partner with the industry, an industry can decide to dedicate a measure of its investment to enhance the institution's research and innovative base and the dividend will be experienced by that industry.

If Niger Delta University is to contribute more actively to research and innovation, there is a need to support closer interactions among governments, universities, the industry, and other relevant actors. The various national policy frameworks are not in themselves sufficient, but provide a start as well as incentives and help clarify the role of each stakeholder in advancing innovation. There is no shortcut to promoting strong university-industry linkages without strengthening the academic and managerial capacity of universities.

Niger Delta University needs a larger base of continuing, long-range academic research programs in areas that interface with national, regional, local economic and social contexts, (Teshome 2008). University research cannot be expected to deliver prompt solutions to immediate problems. Rather, it is through sustained research and innovative efforts that expertise is built in disciplinary and interdisciplinary fields. Such expertise, if aligned with the knowledge needs and demands of national and local industry, can have a meaningful impact in economic activity.

Conclusion

For tertiary education institutions to remain vibrant, competitive and justify their enormous costs, there is an urgent need of a reform package, which should have components dealing with funding and strategy. The products of higher education institutions need to be creators of knowledge and innovation, it is simply impossible for Niger Delta University to thrive with the present funding arrangements and too much emphasis on teaching and less of research. Already quality has been declining largely because of underfunding of the institution. An effective and mutually beneficial linkage between the institution and industry can go a long way in ensuring robust academic activities, innovative practices and increased inflow of financial resources to the institution, and only then can Niger Delta University compete favorably with sister institutions across the world.

Higher investment in Education, research development in particular are the key factors that will spin off the benefits to the country especially with the convergence of innovation and creativity with requirements of the industry and economy which compliment themselves naturally for national development and sustainable growth.

Recommendations

The following recommendations are made towards a prospective research and innovation advances in Niger Delta University.

1. There should be a decisive shift at the funding of research and innovation, in which public and private contribution should be clearly designated and earmarked in terms of volume and investment capital.
2. More research and innovative centers should be developed and the already existing ones should dedicate their efforts towards an efficient and vibrant research and innovative activities.
3. The Educational Trust Fund should return to its original idea of being solely a research fund and be dedicated to their functions.
4. A committee of experts in education could be set up to draft a guideline that will unify educational research across the different research interests in education; it will go a long way to harmonize the conduct of research in tertiary education institutions.
5. All researchers need to learn how to use properly interpret and report the results of the SPSS output, this learning/training can be organized by consultants in form of workshop and conferences within the institutions environment.
6. An effective policy on university-industry partnerships, backed up with legislation, should be invoked.

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