Research Support and Open Access: Notes from Nigeria

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Abstract

This paper examines the research environment in Nigeria in relation to the developing trends in the global research community and specifically regarding research funding by government as a viable way of ensuring access to research result. The paper is devoted to examining the support available for research and researchers and exploring the concept of open access to research articles by scholars in Nigerian institutions. Also, the paper examined the level of mobile device and Internet penetration in Nigeria. Using the conceptual approach, the paper started with a brief background and proceeded to examine research support in Nigeria. The remaining sections are on the World Wide Web and information sharing, Internet access in Nigeria, open access scholarly publications, and suggestions and conclusions, which synthesised the thoughts in the preceding sections. This paper argued that the current rate of mobile device and Internet penetration can only be seen as a benefit if access to scholarly work is freely available to all. The paper concluded on the need for increased funding for research by the Nigerian government as well as both for-profit and not-for-profit organisations within the country as a way to achieving any developmental objectives set by the government.

Introduction

In any academic setting, the primary activities revolve around teaching, research, and service with other peripheral functions (O'Banion, 2010). This applies to all the academic communities around the world, and the performance metrics used in the rating of institutions are usually around these parameters. Research, being the bedrock of innovation, is a critical area of emphasis for scholars in the university system, and major innovations around the world are products of research in the academe (Boulton and Lucas, 2008). Several countries are investing significant amount of resources on research, especially supporting research in the universities with diverse grants. The developed countries such as the United States, the United Kingdom, Canada, Australia and a number of European countries are investing heavily in research, and they consistently attract research students from different parts of the world, partly because they make resources available to the universities in a variety of ways (Ruiz, 2014; Fang, Roy, and Ortiz, 2015). Apart from government sources such as the National Science Foundation in the United States, National Research Council of Canada, Research Councils UK, several other non-governmental organisations are also involved in research funding in these countries.

In Nigerian institutions, however, there is concern on the type of support structures available for scholars in the country's universities and research institutes. Like any other academic settings, academic publishing is a major consideration in promotion of lecturers in the tertiary institutions in Nigeria. For example, in a recent promotion publication by the University of Ibadan, Nigeria's first university, it was expressly stated that "a candidate being put up for promotion to the grade of Senior Lecturer and up to the grade of Professor should have a reasonable number of journal articles published outside the country" (University of Ibadan, 2014). Another university, a private university, has the same criteria. One of Covenant University's rules regarding publication as a determining factor for promotion goes thus: "for promotion to the grade of Professor, not less than 70% of the articles shall be published in international journals" (Covenant University, 2010).

Based on these requirements therefore, it is easy to infer that majority of the scientific outputs from Nigeria are published in foreign or international journals.

Publishing in reputable international journals is a great thing, and it indeed places scholars alongside their colleagues in different parts of the world. However, this also has its own limitations which this article will consider alongside the merits. The remaining part of this paper will consider the structure and the support available for research in Nigeria and on open access to the result of scholarly works. In addition to the efforts of international organisations such as the World Health Organisation on making access to scholarly publications available to developing countries, the article will consider what should be done by Nigeria, as a country, to ensure that research is well funded and the results of are made available to enhance policy formulation. The next section will examine research support in Nigeria as it affects access to research output of scholars.

Structure and Support Available for Research in Nigeria

The research communities in the tertiary institutions serve a purpose: to provide novel results that will help in shaping policy for the wellbeing of the people (Shuttleworth, 2008). Hence, robust funding is a critical requirement for these scholars, especially for research It is evident today that majority of the support received by scholars in Africa and indeed Nigeria often come from foreign donors and organisations (Research Professional, n.d). Research support comes from agencies such as UK Department of International Development, World Health Organisation, MacArthur Foundation, United States Agency for International Development, and a number of other international bodies. Bako (2005)

wrote about the collapse of research in Nigerian universities, emphasising that there have been paradigmatic shift leading to teaching rather than research. Mention was made of the comatose nature of research funding within the Nigerian higher institutions of learning. According to the author, research has greatly been disconnected from the Nigerian economy, state, and the community at large.

The progress of the nation, according to Odia and Omofonmwan (2013), is a function of the efficiency of research administration in the nation's higher institutions of learning. Also, in their opinion, scientific and technological development requires that the country has in place a clear cut philosophy of national development, especially regarding research. Odia and Omofonmwan (2013) noted a few problems affecting research development in Nigeria, similar to what other researchers have considered which include mentoring, quality funding, functional leadership capacity of political leaders, competencies to drive innovative ideas, leaning towards consumption more than creation and a number of others. Despite current statistics showing over 30 research institutes in the country aside the higher institutions of learning (Okoruwa, 2013; National Bureau of Statistics, n.d; Nexus Strategic Partnership Limited, n.d), the low level of research output in comparison to other countries with similar attributes as shown in Table 1 and Table 2 depicts that the country requires tenacious act obviously by the government and other research funders within the country in order to scale up its investment in research.

In Table 1 for example, Nigeria is ranked in the eighth position in research expenditure among the world's top ten countries by population. Similarly in Table 2, among the four Countries named as the next emerging economies by O'Neill (2013) which referred to the acronym MINT, Nigeria is also third in research expediture.

Table 1: Top 10 Countries by Population Size and their Research Expenditure

S/N	Country	Polulation	Researcher (full-time equivalent per million people 2005 - 2014)	Scientific and technical journal articles (2011)	Expenditures for R and D (% of GDP 2005 - 2014)	Ranking by Research Expenditure
1	China	1,393,783,836	1,089	89,894	2.01	2
2	India	1,267,401,849	157	22,481	0.82	6
3	USA	322,583,006	4,019	208,601	2.81	2
4	Indonesia	252,812,245	90	270	0.08	9
5	Brazil	202,033,670	698	13,148	1.15	4
6	Pakistan	185,132,926	167	1,268	0.29	7
7	Nigeria	178,516,904	39	439	0.22	8
8	Bangladesh	158,512,570	N/A	291	N/A	N/A
9	Russia	142,467,651	3,073	14,151	1.13	5
10	Japan	126,999,808	5,201	47,106	3.47	1

Table 2: The MINT Countries as Coined by Jim O'Neill in 2013

1	Mexico	123,799,215	383	4,128	0.5	2
2	Indonesia	252,812,245	90	270	0.08	4
3	Nigeria	178,516,904	39	439	0.22	3
4	Turkey	75,837,020	1,169	8,328	0.94	1

Data Source: worldometers.info and wdi.worldbank.org

Considering the sharing of research experience among researchers in the country and those from other countries, Okoruwa (2013) has reported that there is slow adoption of research materials and methods from already developed researches which could be a result of restricted access to such materials. Some of the drawbacks noted by Okoruwa include little value addition to industries and relevant fields in Nigeria by the current low level of research output, inadequate funding, and poor collaboration between and within relevant research agencies. Compare to Nigeria regarding support for research, South Africa has national bodies with research as sole concern. For example, The South African National Research Foundation (NRF) has its priorities stated on its website as follow: *The mandate of the NRF is to promote and support research through funding, human resource development and the provision of the necessary research facilities in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge, and thereby contribute to the improvement of the quality of life of all South Africans* (National Research Foundation, n.d.). Additionally, in South Africa, there is another national body called the Medical Research Council with a *mandate to promote the improvement of the health and the quality of life of the population of South Africans through research, development and*

technology transfer (South African Medical Research Council, n.d.).

Other than the review of the preceding articles showing the drawback within the research community in Nigeria, a number of authors have written promising papers based on empirical studies to show that Nigerian scholars in spite of the challenges of funding and other impediments to their efforts are still making great contributions to the scientific community. For example, Chiemeke, Longe, Longe, and Shaib (2009) reported that some studies about declining nature of research in Nigeria lack empirical evidence and construct validity. Chiemeke et al (2009) concluded based on their empirical study that research output is still on the rise although more within the university system where research and publications are key component of the criteria for promotion. Their report however indicated that the polytechnics, a major component of the nation's higher education system, are still laden with low research output. In addition, the efforts of the universities toward building adequate capability for research funding have been reported by Opara (n.d.). According to Opara, some of the higher institutions in Nigeria have been able to receive support by using an online platform called Research Professional through which researchers are able to access funding for their research from different sources. Some other promising development was also reported by Evans (2014) about the agreement between Nigerian univeristies and Elsevier which gives 79 institutions first time access to research management and analytic tools. Through the agreement, it was reported that Nigerian scholars will have access to research, training workshops, research analytic tools and journal production and hosting. However, some of the progress and support reported here are foreign intervention, and it is expected that Nigeria as a country will put adequate support system in place towards the development of the research community in the country.

Current National Efforts Regarding Funding

The Tertiary Education Trust Fund (2015) was set up by the Nigerian government to meet variety of needs in the nation's tertiary education system. The 2011 TETFund Act imposes a two per cent education tax on the assessable profit of all registered companies in Nigeria, and this fund is disbursed to the tertiary institutions for various purposes which include research. The coverage area of this fund was stated on the agency's website as follow:

- *Providing essential physical infrastructure for teaching and learning*
- *Provision of instructional material and equipment*
- *Research and publication*
- *Academic staff training and development*
- *Any other need which, in the opinion of the Board of Trustees, is critical and essential for the improvement of quality and maintenance of standards in the higher educational institutions.*

The above stated objectives seem overwhelming considering the demand in the tertiary education system. Research on its own demands significant investments as seen by the commitment of many developed countries in setting up independent agencies for the sole purpose of providing support for research. It is obvious in the light of resource demand for world class research support that TETFund cannot support all the stated objectives and effectively provide support for research all over the tertiary institutions in Nigeria. In the past, some efforts have been geared towards creating separate agency for research support, in addition to the effort of TETFund within tertiary institutions in the country. For example, there was a research fund proposal in 2006 with a planned endowment of $5 billion from the proceeds of oil which was not a success. Additionally, another fund was announced in January 2012 called the National Science Research, Technology and Innovation Fund which was to be administered by an independent board headed by the President. This fund was to replicate the United State's National Science Foundation (*JohnKingsley, 2012)*. The current status of this initiative cannot be verified at the moment due to the fact that it was an initiative under the former president of the country.

However it is needful to ask how research support and funding may significantly affect access to research results. This is a question that must be examined in order to provide the basis for the need

to provide adequate support for scholars within Nigerian tertiary institutions. In a number of the developed countries, scholars that are funded by national research bodies are mandated to make the result of their research available via open access platforms. For example, funded research by the National Institute of Health in the United States is made available on PubMed Central, an open access journal, as a matter of policy (National Institute of Health, 2014; Matheka, Nderitu, Mutonga, Otiti, Siegel, and Demaio, 2014). Also, in Africa, South African scholars are favoured to publish locally than in foreign journals largely because of the funding the research community receives from the government (South Africa Higher Education and Training, 2015).

World Wide Web and how it has affected sharing

It is unlikely that Berners-Lee in his 1989 proposal tagged *Information Management* would imagine the widespread effect the World Wide Web has generated today. Working with the European Organisation for Nuclear Research (CERN) at the time, Berners-Lee critically examined the changes that occur within the organisation regarding high turnover of staff; two years being a typical length of stay. Trying to see how technical details can be mapped and retained for successive workers, Berners-Lee came up with this idea that has now changed the world of information sharing. As part of the conclusion in the document, he asserts *"the aim would be to allow a place to be found for any information or reference which one felt was important, and a way of finding it afterwards."* A solution envisaged to help an organisation has now become the point of connections that breaks the boundary barriers between nations and makes sharing prevalent. The World Wide Web has made sharing of information and ideas possible on a very large scale. Its emergence has led to rapid increase in the amount of information available to an average individual. The impact of the Web on knowledge sharing has been well researched (see Engelbrecht, 2008; Kobayashi and Ari, 2006; Shaffer and Hussey, 1992; Tedd, 1995; Wang and Wei, 2011). The Web is a significant part of the Internet and hence the most widely used. The population of Internet users per country across the world is rapidly approaching the total population of individual countries as shown in Table 3. According to Internet live stats (2014), there has been tenfold increment in the number of Internet users from 1999 to 2013 with Internet users reaching the first billion in 2005, second in 2010, and third in 2014.

Table 3: Top 10 Internet Users by Country (2014)

	Country	Internet Users	Total Country Population
1	China	641,601,070	1,393,783,836
2	United States	279,834,232	322,583,006
3	India	243,198,922	1,267,401,849
4	Japan	109,252,912	126,999,808
5	Brazil	107,822,831	202,033,670
6	Russia	84,437,793	142,467,651
7	Germany	71,727,551	82,652,256
8	Nigeria	67,101,452	178,516,904
9	United Kingdom	57,075,826	63,489,234
10	France	55,429,382	64,641,279
	Total	**1,717,481,971**	**3,844,569,493**

Data Source: adapted from *Internet Live Stats (www.InternetLiveStats.com)*

While less than one percent of the world's population were on the net in 1995, there are about 40% of the world's population on the Internet today (Internet live stats, 2014). This rapid growth has enabled sharing of information across geographically dispersed boundaries. Social media sites such as Facebook, Twitter, Instagram and a whole lot of others have seen massive sharing of text, images and videos, and the growth is ongoing. Blogs and other platforms are used by individuals and organisations to propagate their interests, contributing to the world of digital content sharing. Google, one of the world's leading digital companies has made sharing mostly free, albeit for an intrinsic business value. Millions of videos are available through YouTube, while a great number of people are using Google Search, Google Scholar, Google+, Maps and deluge of other products and services by the digital giant. Obviously, sharing has been greatly multiplied through the instrumentality of the World Wide Web. But has the World Wide Web led to more sharing of scholarly work? More specifically, has the World Wide Web aided free access to scholarly publications?

The advent of the Internet has led to innovation on how research outputs are reported, and the Internet is now a strong medium (by all means the most popular medium) for sharing research findings. The general concern of late has been agitation surrounding open access to research results. These agitations have been mapped in a number of initiatives from Budapest to Bethesda, Berlin, and Lyon. These initiatives will be discussed subsequently. But of what use will great access to the Internet be if the contents of the Internet that will enhance productivity and human progress are not freely available to all? The next section takes a look at the Internet access in Nigeria vis-a-vis access to scholarly works.

Internet Access in Nigeria

Nigeria is currently the seventh largest country in the world with regard to population size and also ranked among leading consumers of digital and technological products in the world (Internet world stats, 2015). In the mobiThinking (2014) report, Nigeria was ranked tenth among the countries with the largest number of mobile subscription in the world.

With an estimated population of 178 million, according to World Bank (2014), the country has active mobile subscription of about 148 million (NCC, 2015). This implies that about 83% of Nigerians have active mobile subscription. This is an achievement over pre mobile era when access to telecommunication services was a luxury. Like access to mobile devices, Internet access in Nigeria is also on the rise. A few years ago, accessing the Internet was mainly through business-oriented cybercafés that provided timed access to Internet for the teaming populace. However, with increased improvement over the years, mobile Internet access has greatly increased, with the latest estimation of Nigeria's mobile Internet users being 93.4 million (Azeez, 2015).

If approximately 53% of Nigerian mobile users have access to Internet as it is currently being reported, what benefit is this figure to the country's development? What will be the benefit of increased Internet access without free access to scholarly works? How can the increased access to the Internet benefit the country if measures are not taken to ensure that the scientific community and business community have access to quality scholarly works whenever the need arises? Advancement in Internet access should definitely lead to critical evaluation of the benefit that such increase can present, most especially regarding free access to scientific information of which Nigerian institutions are contributors.

Academic institutions in the country continue to place demand on scholars to publish in international journals as a criterion for career advancement, but the works published are rarely available when needed without having to pay some level of subscription fees or outrightly buying the articles. While the business models of the organisations involved in the scientific publishing may not be faulted (for all it is, they are business minded), Nigeria as a country needs to put strategies in place that will ensure improved or increased access to scientific publications for a more robust growth and development. As was observed by Ghosh and Das (2007), majority of the top publishing organisations are located in the developed countries and access to the publications does not come cheap especially to developing countries that often need the results from scientific research for developmental planning. There have been worldwide call for increased access to scholarly materials, and

some of the initiatives are briefly explored in the following section as it relates to Nigeria and other developing countries.

The Drive towards Open Access to Scholarly Publications

Open access to scholarly publication has been an ongoing concern around the world. Several initiatives have been geared towards this cause and a number of them are receiving support on a daily basis. One of such earliest initiatives is the Budapest Open Access Initiative (BOAI) ratified on St. Valentine's Day, February 2002. The BOAI acknowledged that price is a barrier to accessing quality scientific results and made a few propositions. Price being a barrier as noted by the BOAI was initially a barrier conceived to be concerned with accessing scientific results – users' access. Today, price is still a barrier in two significant ways: to the population of research users and to the scientists looking for avenue to publish their findings. Though a number of open access journals are now available, price is still a major factor, especially to scientists who have no major funding for their research. Majority of researchers

in Nigeria fall into this category. Yet, they would prefer to publish in top-notch open access journals in their fields that charge from a thousand US Dollars upward per article (Elsevier, 2015; Macmillan Publishers Limited, 2015; MDPI journals, 2008).

The Budapest Open Access Initiative (BOAI) made two critical suggestions in ensuring open access to scientific publications. The first was self-archiving of accepted manuscript, and this should be of significant interest to Nigeria and other developing countries. The second was a call for open access journals. In addition to business-oriented open access journals, there are also a few that make published articles accessible online without any cost to the users and the scientists who publish in them (Crotty, 2015; Suber, 2015). Major institutions around the world have also embraced the establishment of institutional repositories (Bepress, n.d.). Though a few Nigerian institutions have started this initiative as seen in Table 4, it is expected that more tertiary institutions in the country will follow in this stead by investing in the establishment of institutional repositories that will ensure that copies of the articles published by the scholars in international journals are also available locally through such repositories.

Table 4: Available Nigerian Universities' Institutional Repositories via Opendoar.org

	Name of Institution	Name of respiratory	Respiratory link
1	Ahmadu Bello University	ABU Zaria Research Publications	http://www.abu.edu.ng/pages/ researchworks.php?pageNum_rsPaperSearch=422 andtotalRows_rsPaperSearch=8449
		Ahmadu Bello University Institutional Digital Repository	http://kubanni.abu.edu.ng:8080/jspui
2	Covenant University	Covenant University Electronic Theses and Dissertation Repository	http://www.covenantuniversity.edu.ng/~/ clr_cu/library/readonline/docsExplorer/#
		Covenant University Repository	http://eprints.covenantuniversity.edu.ng/
		Theses and Dissertations	http://theses.covenantuniversity.edu.ng/
3	Federal University Ndufu-Alike Ikwo	dspace.funai.edu.ng	http://dspace.funai.edu.ng/
		Federal University Ndufu-Alike Ikwo Repository Archive	http://dspace.funai.edu.ng/xmlui/
4	Federal University of Technology, Akure, Nigeria	Institutional Repository of the Federal University of Technology	http://dspace.futa.edu.ng:8080/jspui/
5	Federal University, Oye Ekiti	Federal University Oye Ekiti Repository	http://www.repository.fuoye.edu.ng/
6	Landmark University	Landmark University Repository	http://eprints.lmu.edu.ng/
7	University of Jos	University of Jos Institutional Repository	http://irepos.unijos.edu.ng/jspui
8	University of Lagos	University of Lagos Institutional Repository	http://repository.unilag.edu.ng:8080/xmlui/
9	University of Ilorin	UILSPACE	http://uilspace.unilorin.edu.ng:8080/jspui/
10	University of Nigeria Nsukka	Open Resources	http://unn.edu.ng/chart/repo
		University of Nigeria Institutional repository	http://repository.unn.edu.ng:8080/jspui/

Source: University of Nottingham (2015). Directory of Open Access Repository

Institutional repositories and personal or self-archiving as suggested by BOAI will be a great way to enhance access to the result of findings emanating from Nigeria and other countries which are being published in peer-reviewed international journals that may be difficult to access when needed. As seen in Table 4, only a handful of tertiary institutions in Nigeria have institutional repositories and most of the repositories are hosted by the Directory of Open Access Repository (University of Nottingham, 2015). Christian (2008) reported a number of problems relating to putting such resource in place. Some of the drawbacks reported by Christian include lack of awareness of open access institutional repository, inadequate information and communication technology infrastructure to support such resources, inadequate funding and low level of advocacy in these directions. While Christian's report dates back seven years, it is expected that some of these hurdles are already or are in the way to becoming a thing of the past.

In addition to the BOAI, there have been other initiatives towards open access, some of which include the Bethesda Statement on Open Access Publishing endorsed on June 20, 2003; The Berlin Declaration on Open Access to knowledge in the sciences and humanities, October 22, 2003; and The Lyon Declaration on Access to Information and Development of August 2014. The Lyon declaration, being the latest, sought to engage the United Nations in the consideration of making access to information a major goal as it formulates the next developmental agenda for the world as the Millennium Development Goals come to an end. If the Lyon declaration gets the target support it is currently seeking from the United Nations, that can be a signpost to better days for both the developing and the developed countries in terms of access to information for development (IFLA, 2014; Max Planck Gesellschaft, 2003; Suber, 2003).

It is important to review a number of open access projects that are directed toward developing countries. Chan and Costa (2005) reviewed a number of these initiatives. Some of them include Access to Global Online Research in Agriculture (AGORA) by the Food and Agricultural Organisation of the United Nations; Online Access to Research in the Environment (OARE) by United Nations Environment Programme; Access to Research for Development and Innovation (ARDI) by the World Intellectual Property Organisation; and World Health Organisation's Health Internetwork Access to Research Initiative (HINARI). These four initiatives are under the research4life (n.d.) umbrella, and they are providing countries in the developing region of the world with free or low cost access to academic and professional peer-reviewed content online. Other than these initiatives, other sources include the PubMed Central, World Digital Library, UNdata, Directory of Open Access Repositories, High Press, Directory of Open Access journals, African Journals Online, and so on (International Institute of Social Studies, n.d.). These sources offer some form of access to scholarly materials, majority offering free access while some access attract low cost than they would have attracted. As seen from the review of literature, there are a number of outside initiatives that provide the developing countries (of which Nigeria is one) with free access to scholarly works. As the next section will discuss, it is important that the Nigerian government makes it a duty to make resources available that will empower the academic communities in the country to put up their own support infrastructure, in addition to receiving foreign help.

Suggestion and Conclusion

In the preceding sections, this article has considered two main themes: funding for research in Nigeria and open access to research, believing that adequate funding of research can enhance access to research result. Based on the literature reviewed, this concluding section will make some recommendations regarding increasing research funding as a major way to achieving more access to scholarly publications. As it is at the moment, majority of the support in the tertiary education system is concentrated on a single agency of the government which is the Tertiary Education Trust Fund (TETFund) whose objectives cut across more areas than research. It is advised that the government sets apart an autonomous research agency with significant funding to provide research support for the nation's higher institutions which will in turn help with the country's developmental goals.

For example, for Nigeria to develop capacity in the area of putting together and managing such facilities as institutional repositories, the government

must be willing to invest significant resources in the research environment. As noted earlier, most organisations involved in research funding in the developing countries, especially, Nigeria are not-for-profit international organisations. It is important that both for-profit and not-for-profit indigenous establishments in Nigeria get involved in the research funding challenge. Support received from any of these sectors will definitely help with the backlog of resources needed in research support and take some burden off the government. There is the need to build active mutual relationship between the academic community and the business community. The business community can turn to research community to help with critical business need and in turn support the research community in the country with resources that could enhance their progress.

As seen in Table 4, just ten Nigerian institutions are currently having institutional repository on the Directory of Open Access Repository by University of Nottingham (2015) except for those who may already be building one in-house. Computing storage facilities are becoming cheaper as new technologies emerge, and so are the core technologies required for putting together such repositories. Hence, other universities may want to follow this lead. Institutions may also choose to develop and host their own in-house repository which may offer a form of local status to the stored resources unlike the ones hosted by the UK institution. On the other hand, an alternative to having institutional repository may include having a national research repository that will be managed by an independent body within the country that is commissioned by the government – a sort of national research clearing house. This national repository will act as a conduit for depositing referred articles and other published projects including students' theses and dissertation contents from the universities in the country. This centralised repository will enhance resource sharing among the nation's many tertiary institutions and ensure that the allocation of resources is centralised unlike when individual institutions try to put together their own disparate institutional repository. Cost will also be saved on manpower development through this centralized approach.

Librarians and information management professionals in tertiary institutions in Nigeria also need to be trained in the required skills to manage information in today's technology-driven information environment. Information management skills of yesteryears are inadequate in the conception and management of today's digital library environment. Efforts must be made towards training and retraining of these information workers, as well as researchers in core information literacy skills required for research effectiveness. As part of the institutional repository initiative, there must be a framework to ensure that scholars can easily archive their own work either on the institutional repositories or on their personal website for easy access. However, such institutional policy can be put in place only when the government is ready to be involved in committing resources to the research course of the scholars. Once such policy becomes a part of the promotion criteria and incentives are available for scholars to pursue their research, it becomes easy for these objectives to be achieved.

This paper concludes that the progress of the research communities across Nigeria's higher institutions is centred on the provision of appropriate funding. This obviously is a global problem, as funding is required in all research communities around the world. However, Nigeria as a nation of 180 million people needs to step up efforts towards supporting this course. Research and innovation are the bedrock for a country's development. Building the research capacity and developing infrastructure across Nigeria's higher institutions should be a priority for the country in order to meet any set objectives regarding the overall development of the country.

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