THE POTENTIAL OF RESEARCH AS A SOURCE OF FUNDING OF NORTHWEST UNIVERSITY, KANO, NIGERIA

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INTRODUCTION

Universities are recognised globally to perform the triple function of teaching, research and community service (Boulton and Lucas, 2008). Among the three recognised functions, research is universally singled out as the most fundamental since research improves the quality of the teaching not only in terms of its currency, but also relevance as new information from its outputs is included in the teaching (Sambo,2012). In addition, because research outputs manifest in solving societal problems, it directly provides services to the community. Further, universities in the course of their research contribute to their local economies. As shown by Agrawa and Cockburn (2002), talent and knowledge produced by academic research are crucial building blocks to innovation that improves the quality of life for a Nation's citizens, create jobs and in some cases even new industries.

However, despite the recognition of its valuable contribution to human society, research in any discipline as an enterprise requires resources that translate into money. The need for money in research is very clear as it is predicated at all times and in all climes on the availability of appropriate facilities and enabling environment (Douglass, 2010). For research to be effective, the state of the art equipment is needed as well the trained personnel to handle them. In addition, research need timely information - all of these have to be procured with money!

In recent years, globalisation, demographic change and the demands of the knowledge economy imply an increased demand on high-quality research activities (De Aenlle, 2010). In turn, this is forcing universities to respond in a number of ways: by attempting to differentiate their sources of funding, and by re-examining their mission and operations, in a search for new and expanding markets (Corbyn, 2010). As governments globally are no longer the only financial source for research, universities have to look for diversified funding sources and often adopt more entrepreneurial approaches and flexibility in their activities (Derbyshire, 2010).

In Nigeria, increased autonomy that is enjoyed by universities is often translated into "global" budgets with less public funding. The changing national and international environment associated with sluggish economic growth in Nigeria in recent years has meant that government and its agencies are more focused on outputs and on giving universities greater responsibility for their own long-term financial sustainability, particularly in research (Review on higher education in Nigeria, 1991). At the same time, both universities and public authorities increasingly understand the need to communicate and exploit the relevance of university activities, particularly those related to research, by having a greater engagement with industry and sharing knowledge with society and by reinforcing the dialogue with all stakeholders (Bernstein, 2012).

Due to the large capital outlay needed for research, and the massive reduction in government funding, it is often considered that the vane of research in the Nigerian university system is a lack of adequate fund (Sambo, 2012). There is little argument that Nigerian Universities have made a major contribution to the research effort. However, among the many setbacks in assessing research in Nigerian universities is that very little compiled information on research funding exists in institutional contexts and the issues facing institutions as they seek to consolidate the link between teaching and research (Ugwu, 1998). Awareness of this challenge is more germane at this time of increasing competition for public funds and when society is expecting more and more from universities in becoming more competitive in their research activities and in contributing to the dissemination and transfer of knowledge (Hicks, 2012). Thus, the long-term financial sustainability of universities is thus, one of the key challenges they have to face today, in particular, when it comes to their research activities. It implies a diversification of their funding sources (Omotola, 1998). It is in this context that it is imperative to assess the potential of different sources in funding research in Northwest University, Kano.

RESEARCH AS A SOURCE OF FUNDING

Due to the pivotal function of research in innovation, problem-solving and development of goods and services, research are properly organised and pursued as a major source of income to universities (Argyres and

Liebeskind, 1998). The realisation of the potentials of research as a major source of fund and enhancement of the reputation of the university has made many universities in Nigeria notably- Ibadan, Ife and Ilorin to create a third position of Deputy Vice chancellor for Research, innovation and partnership.

SOURCES OF RESEARCH FUND

Funds for research, in general, come from the followings:

a) Government/Public sector

b) Private/Industry

c) Endowments/philanthropy by individuals, corporations and foundations; grants From National and International agencies such NEMA, NESREA, NIMET, NEPZA, World Bank, UNICEF, UNDP, UNPF etc, and other research facilities and Universities

d) Postgraduate programmes.

Government/Public Sector

Governments' expectations for research globally have evolved as the economy has shifted from material and labor- intensive products to knowledge - intensive products and services as illustrated in the book *Knowledge Matters: The Public Mission of the Research University*, where Diane Rhoten and Walter Powell (2014) noted that public research

universities emerged in the United States in the nineteenth century as core social organizations designed to deliver higher education teaching and research as well as other public services, and this mission was further formalized in the twentieth century. In the twenty-first century, the authors suggest that the public university is a contributor to and competitor in an increasingly intertwined global marketplace of knowledge production and innovation.

What do Governments want from Research?

Governments' all over the world put money into research because the output generally leads to among others the production of goods and services needed by society; and in other spheres, to social transformation of society. These eventually leads to job creation and economic development (ibid) that allows governments to fulfill their major obligation of satisfying the social responsibilities of transferring knowledge to the people, hence governments are often the major source of research funding. For example, in 2009, academic institutions performed 53 percent of the U.S. total basic research and 36 percent of all U.S. research (State Higher Education Finance, 2014). Also, of the $32.6 billion of academic spending on research and development by the US government, public research universities received over 60 percent. The outputs of these researches have yielded a number of potential gains for state and local economies. According to FY 2010 data from the Association of University Technology Managers, research at public

universities led to 436 new start-up companies, 2,654 new technology licenses, and 10,904 applications for new patents (Council on Government Relations, 2008).

In general, governments' expectations from research are often dependent on the national interest. For instance, in Nigeria, the priorities of governments and their agencies at all levels include:

(a) Enhancing the reputation and ranking of the universities to enable them to harness external grants

(b) Governments require research outputs that would facilitate National development that spread across most discipline. Important priorities in Nigeria include:

- Agricultural value chain in the production of Cassava, Rice etc.
- Economic diversification
- Gender, Girl child education
- Terrorism and Insurgency control
- HIV/AIDS, malaria
- ICT
- Poverty alleviation
- Job creation

Types of Government/Public Research

Consultancy

Nigerian Universities have established consultancy outfits to provide services to both private and government agencies at a fee. The type of services depends on the staff strength and competencies as well as the focus of the university. For instance, the KUST Wudil Consult provides project consultancies in construction in addition to other educational services.

Commissioned research

A commissioned research is where government or its agency enters into a contract with a university to carry out a research project often at a very high cost. For instance, the Nigerian government through the Federal Ministry of Environment has contracted out research to Ahmadu Bello University (Northwest region) and University of Maiduguri (Northeast region) on the initial baseline survey for the Great Green wall (GGW) project.

Private Sector

The major motivation for private sector funding of research is to get service for their money through a contract or collaboration. They give the funds, and in return, they want products or results (Dasgupta and David, 1994).

Types of Funding from the Private Sector

There are many types of funding from the private sector, some of which include the following:

(i) Consultancy

(ii) Commissioned research

(iii) Licensing of intellectual property (IP)

(iv) Prizes for Invention/ solving specific problem

(v) Science/technology/commerce/exhibition parks

Consultancy

Nigerian Universities have established consultancy outfits to provide services to both private and government agencies at a fee. The type of services depends on the staff strength and competencies as well as the focus of the university. For instance, the KUST Consult provides project consultancies in many commercials, construction and related projects.

Commissioned research

A commissioned research is where a company or organisation enters into a contract with a university to carry out a research project for a fee.

Licensing of Intellectual Property

Patents and copyrights with commercial potential that have emanated from the research of a university are registered and may then be developed for commercial purposes by the university or by an external enterprise (Baldini, 2006). The intellectual property is normally owned jointly by the researchers and the University.

There is a flood of intellectual property being developed in Nigerian universities. The problem is lacking the capacity to develop them commercially. Apart from the need of ensuring that universities register inventions and intellectual property under intellectual property provisions

(patents and copyrights), there is also the need for the business skills to develop and market them.

Science and Technology Parks

One method of collaboration between universities and the industrial and commercial sector is through the development of business, science and technology parks, whereby the university through the private sector support, develops a site where commercial/industrial enterprises can set up a shop, where research and development, as well as manufacturing activities can take place. Through this, the entrepreneurs will have access to the expertise of the University.

Prizes

Since 2000, more than 60 prizes with a value representing almost $250 million in prize money have been debuted across the world (Eggins and West, 2010). Today, prizes are shifting away from traditional areas, such as the arts and humanities, toward technologically complex ones – climate change, space travel, and biotechnology, to name just a few. This renaissance is driven by the simple fact that prizes work- almost by definition – since they pay only for desired results. Furthermore, innovative prize forms are emerging that has the power to build skills, strengthen networks, or even create markets.

In Nigeria, there are many prizes for different purposes such as:

NLNG – Literature and Humanities

NNPC- Engineering, Accounting and Management

NAS – Sciences

PTDF – Oil and Gas, Mining, Sciences, Engineering and Management sciences

Benefits of University/Organized Private Sector (OPS) Collaboration

(i) It leads to commercialization of research products for economic development.

(ii) It helps to reward, retain and assist lecturers and researchers.

(iii) It generates income for research and education.

(iv) It helps form closer ties to industries.

(v) It promotes economic growth by the establishment of new companies; also, existing companies expand and more jobs are created.

Endowments /philanthropy and grants

"Fundraising is the noble art of teaching people the pleasure of giving"

"People do not give to people.

They give to people with causes."

"They give to people who ask on behalf of causes."

Philanthropy or 'giving' is an important source of a research grant, but it is not nearly as well developed in Nigeria, except for the ad hoc donation after a prominent individual is awarded an honorary degree. In fact, in recent years most of such honours have been regarded with suspicion by the university community and government. At various times, the government has asked universities not to bestow such honours on public officials in service but to no avail.

Although there is a culture of giving in Nigeria, it is not generally so for research. Yet in Nigeria, a major proportion of research is done in universities. Hence, philanthropy is particularly important in the context of funding university research. In the past, there has been resistance to the idea of raising funds from philanthropic sources, though nowadays, a growing number of universities are rediscovering philanthropy, partly due to shrinking public budgets and partly due to an understanding that excellence requires a diversification of funding streams (Deem, 2001).

At the same time, philanthropists are also discovering that they can make a difference in university research. Private organisations and individuals donate money for a good course including research. McArthur, Dangote, Nigeria conservation, Leventis foundations among others donate millions every year. Part of this evolution is connected to the wider context of the reform of university research systems.

Different fundraising models

There are a number of alternative ways for universities to relate to prospective donors, and these can be codified in four different 'models' of interaction. They are distinguished in terms of issues such as donor types, the university actors taking the lead in philanthropic fundraising, the degree to which specific donors are targeted, the extent to which donors specify the use of donations and the formality of donors' procedures and the research specificity of the fundraising activities of universities (The Chronicle of Philanthropy, 2015).

First, the 'Alumni' model refers to the continuous collection of small donations from a large pool of university alumni and friends. The lead university actors are generally alumni relations offices or dedicated fundraising units known in Nigerian universities variously as advancement/ Alumni/ development/ partnership where the Alumni associations serve as a converser for funds. The use of such donations is typically non-designated, the criteria for making donations are personal and dependent on the interests and wishes of each individual donor, and interactions with potential donors are structured but informal.

Second, is the 'Major Gift' model which focuses on the efforts made to attract donations from extremely wealthy individuals. In many Nigerian universities, individuals and corporate agencies have been hired at a fee to serve as fund conversers from individual donors. This model represents the major gift fundraising approach of most universities abroad and accounts for the majority of donations. It is characterised by the commitment of the

university leadership to the process and the development of personal relations with wealthy individuals. The donations targeted are generally larger than those targeted by the other models and their use tends to be highly specified by donors though still in line with the overall strategy of the university.

The third is the 'Foundation Research' model which resembles the ordinary, everyday activity of researchers seeking funds. Typically researchers apply for grants from research funding bodies. Many of these are public institutions, but frequently applications are also made to some of the larger and better-known foundations, whose funds stem from philanthropic sources. The lead university actors are thus individual researchers and professors and application procedures are highly formal and structured, involving strict rules of procedure and highly specified selection criteria guaranteeing that the use of funds is in line with the foundation's aims. If a university is to reap the maximum benefit from the grant, there are some essential requirements that must be addressed.

1) Research Policy, which should be a component of its Strategic Plan. The Research Policy, among other things, should address the following:

1) Show clearly, the priorities for research - areas of research that will be actively promoted. This must take cognizance of a variety of factors, including National priorities, and the areas of research that funding agencies are interested in supporting HIV/AIDS, malaria, Gender, ICT, insurgency and

restiveness, economic diversification, taxation, The Almajiri/Tsangaya school system.

ii) The University must commit resources to support research.

iii) There must be critical mass of expertise as human resources to support research

iv) There should be a research management outfit

vi) The development of research facilities based on its needs, and research priorities (the development of centralised facilities should be a priority to ensure more efficient management and maintenance as demonstrated by the central research laboratory in KUST).

vii) Developing the culture and skill of entrepreneurship and innovation in staff and students in the university. Conversion of research outputs to marketable products involves a cultural and a spirit of entrepreneurship.

The fourth is the 'Multi-mode' model that reflects a mode that involves a medley of both sources of funds and university actors, with many different options available for universities to choose from. It can involve university professors seeking funds for individual research projects from some of the smaller and less well-known research funding foundations, but it can also involve approaches to these foundations and to corporations for philanthropic donations of a more general nature, and these are often made by university offices and even by university leaders.

All four models are usually present in institutions that have a tradition of philanthropic fundraising. It is not necessary, or perhaps even desirable, for universities attempting to raise funds from philanthropic sources for the first time to devote equal amounts of effort to all four modes simultaneously, but it is advisable for universities to have a long-term vision that eventually accommodates all these models.

Philanthropic endowments have in recent years been a major source of research fund globally but Nigerian universities are way off from other countries in accessing this important window. Table 1 shows the collection of endowments by top American Universities in 2010.

Top American Research Universities

	$000 Private	$000 Federal	$000 Endowment
Columbia University	770,888	561,531	7,789,578
M. I.T	646,222	451,050	9,712,628
Stanford University	810,300	576,553	1,650,260
Pennsylvania	793,523	626,816	6,582,029
Harvard University	561,703	467,237	31,728,080
Duke University	980,514	513,469	574,737
California - Los Angeles	899,677	522,423	264,041
Michigan – Ann Arbor	1,128,686	729,779	7,834,752
Yale University	621,125	4,750,101	19,374,000
California – Berkeley	659,572	303,201	2,937,250

Washington – Seattle	995,036	809,433	2,154,494
Wisconsin – Madison	940,286	522,473	2,066,958
Johns Hopkins University	1,997,252	1,731,818	2,598,467
Northwestern University	554,228	356,193	7,182,745
Southern California	574,366	402,372	3,517,173
Minnesota - Twin Cities	764,916	420,102	2,503,305
N. Carolina - Chapel Hill	746,828	541,910	2,260,970
Cornell university	486,150	290,640	3,960,058
University of Chicago	432,943	248,537	6,575,126
Ohio State – Columbus	719,574	384,633	2,120,714
Washington - St. Louis	693,749	466,993	5,280,143
Pennsylvania State - Park	674,763	410,238	1,276,602
California - San Diego	937,982	578,889	568,697
University of Texas – Austin	531,412	331,439	7,441,482
Pittsburgh – Pittsburgh	806,014	581,148	2,527,398
Vanderbilt University	478,345	377,185	3,414,514
Princeton University	231,862	149,164	17,109,508
Emory University	498,309	336,948	5,400,367
Georgia I.T	611,226	370,532	1,619,718
New York University	343,762	250,006	2,827,000
Texas A&M University	666,516	276,977	6,328,932
University of Florida	636,607	269,765	1,295,313

Illinois – Urban Champaign	493,386	294,236	1,132,626
California - Davis	669,282	329,041	731,284
California I. T	359,245	325,751	1,772,369
Purdue West Lafayette	669,282	329,041	731,284
Dartmouth College	359,245	325,751	1,772,369
University of Notre Dame	477,145	221,679	2,001,601
Rice University	193,608	117,909	3,413,406
Maryland - College Park	104,288	61,645	6,259,598
University of Virginia	97,288	69,176	4,451,452
Boston University	440,556	293,835	417,452
Brown University	271,843	224,607	4,760,515
Colorado – Boulder	201,116	120,749	2,496,926
California – Santa B	217,952	127,696	222,018
Arizona State University	335,983	282,008	447,211

Source: The top American Universities: The Center for Measuring University Performance at Arizona State University and the University of Massachusetts Amherst(2012)

Clearly, for Nigerian universities to harness the vast potential of the endowment, the following issues must be addressed:

1) Universities should include fundraising from philanthropy as part of their overall strategic plan. This is because, in order to be successful, fundraising requires demonstrating promise and opportunity and providing a vision to which potential donors want to contribute. Any such vision that involves

building on strengths has to be accompanied by a fundraising strategy which addresses important issues such as the focus of the fundraising efforts; the target donors; the sequencing of activities; the structures to be put in place; the use of external help versus the development of internal resources; and the way the funds collected will be distributed and used.

2) While using outside professionals to assist in achieving fundraising goals is often necessary, successful fundraising cannot be outsourced. Ultimately, universities need to build up their own fundraising competences by creating their own professional fundraising teams. This will require strategies to recruit, train and retain capable fundraising staff that is sympathetic to the value of university research. The fundraising practitioners or structures need to enjoy the full support and commitment of the university leadership. They also have to be able to collaborate closely with several of the university units and bring on board the university researchers and professors, creating the right 'spirit' as well as the right 'structures'.

3) The commitment of the university leadership to fundraising is critical to its success. It is important to give university leaders a clear fundraising role, as well as to appoint development professionals at the most senior levels. Although fundraising skills are taken into account by search committees for Vice-Chancellors or used as criteria in elections for university leaders, once in office, these leaders hardly take active steps to strengthen their understanding and skills in this area. It is, therefore, imperative that the roles of university leaders particularly governing council be given greater

prominence to the development function. In addition, universities should contemplate the greater involvement of potential and actual donors in their governance structures as a way of recognising their efforts and supporting future fundraising efforts (Bargh et al., 2000).

4) it must be appreciated that donors increasingly look for careful strategic planning, sound financial management, details of the project(s) to be funded, and tangible benefits for the organisation, the community and the donor (Collis and Rukstad, 2008; Brown, 2009). These are also issues that universities need to address as they become more open and accountable; as they become more autonomous and entrepreneurial; and as their funding streams diversify.

It is, therefore, significant that universities review management and accounting practices at universities with the aim of making them more transparent, adopting – amongst other things – full-cost accounting. In this context, they also need to address ethical issues relating to the provenance of philanthropic funds and develop a clear and transparent set of guidelines concerning donations.

5) Increasing university autonomy is key to successful fundraising. Autonomy implies having an independent governing body (executive authority and autonomy go together) and the ability to employ people at market rates; use available money as university management sees fit; generate income and borrow money; invest in money markets; create chairs etc. This is not completely the case with Nigerian university system.

6, Where the institutional setup of universities does not give them the autonomy and flexibility that fundraising requires as is the case with Nigerian universities, they should explore the possibility of creating their own foundations. This could allow them to generate funds to support research (projects and equipment) and attract resources from alumni or from their local environment.

7) It is imperative to leverage funds from philanthropy with funds from public sources such as Tetfund. Under such schemes, private donations over a certain limit trigger a matching donation from the government up to a certain percentage of the private gift. There are a number of issues that governments need to explore in this context. One is the question of whether such schemes should be used to reward excellence or as a mechanism for spreading money to all universities, or in order to build capacity for fundraising. Another is the exact 'tailoring' of the matching fund's schemes (via the use of tiers, ratio, caps etc.) in order to ensure that public support catalyses philanthropic endeavours rather than substitutes it.

8) It is of great value to create a fiscal environment in which fiscal rules are friendlier to university research fundraising and activities with a public benefit purpose such as amongst other things, actions leading to clear and user-friendly rules applying to the tax exemption of gifts; clearly defined tax relief schemes; simplified tax laws to encourage annual giving, so that higher rate taxpayers can simply deduct donations over a certain level of their gross income; a review of VAT rules to take into account the public

benefit nature of university activities, exempting beneficiaries from tax on donations received from public benefit foundations to a certain ceiling; the introduction of 'planned giving' vehicles which allow individual donors to transfer assets to universities whilst providing donors with a regular income and tax relief in their lifetime.

9) There is a need for culture change in Nigeria in favour of philanthropic fundraising for university research. Practically this translates into a multitude of possible actions: systematically train university people in order to raise their awareness about the role fundraising can have in supporting university-based research and educate them in setting up fundraising programmes; publish more systematic and transparent reports monitoring and encouraging fundraising to performance; launch national donation campaigns; survey attitudes towards voluntary giving to higher education and research and investigate factors that would motivate donations to the sector; ensure greater recognition and celebration of giving to higher education by institutions and national leaders; provide national reward schemes or public recognition schemes for donors; develop a framework for institutional leaders and key supporters to compare good practice and to analyze their philanthropic achievements; launch campaigns to celebrate the importance of university research results for improving the life of citizens – in effect, reclaiming the honorable and ancient tradition of philanthropy for education and re-energizing it for contemporary needs.

POSTGRADUATE PROGRAMME

A school of Postgraduate Studies is usually established in a university subject to the availability of a core of high-caliber academic staff to teach Postgraduate students, supervise their research work and provide general academic leadership (NUC, 1990). Postgraduate education exists essentially to contribute to the shaping and transformation of the worldview of society through research. Therefore, it has a significant role to play in national socio-economic development. But, the extent to which it can do this depends on two factors, first, the extent to which its programmes are properly focused and second, the extent to which the programmes meet the needs of overall national development. These factors, which have to do with relevance, determine, to a large extent, the value which society places on such programmes and the level of interest they can generate in terms of donations and even interest on the output.

Postgraduate programs should ideally be a base for encouraging the best brains and minds to go into postgraduate studies for the purpose of advancing the frontiers of knowledge as the students are expected to carry out research leading to the presentation of a thesis or dissertation as a requirement for the award of the M.Sc or PhD degree. The research component is intensive at the doctoral level and should contribute appreciably to knowledge (Report of the Commission on the Review of higher education in Nigeria, 1991).

However, in Nigeria, such first class creative minds are not encouraged to return to the universities to pursue postgraduate studies. Rather are lured into employment by high salary paying private sector organisations, thus denying the universities and the nation the contributions of such minds to intellectual development (Makanjuola, 2012). The result is that it is not necessarily the best brains that register into postgraduate programmes and most of them for utilitarian rather than for intrinsic academic reasons.

There are at present 69 universities with full-fledged Postgraduate Schools, Colleges or Graduates Schools (NUC, 2016) producing countless numbers of PhD and Masters degrees in virtually all disciplines. However, at the moment, there appears to be a general lack of understanding amongst the public of the role and contributions of Postgraduate studies and research to national development. Thus, policy makers constantly deplore the lack of research dividends accruing from our universities or the lack of impact of research results on pressing socio-economic problems (ibid). Several factors, among which are a lack of research focus, the preponderance of theoretical rather than applied research, lack of Research and Development in public and private sector enterprises, explain the lack of impact of postgraduate research in Nigeria.

In order to address the issues and make postgraduate a veritable source of income for Nigerian universities, the following should be considered:

1) Ideally, research and development take place in three quite distinct areas: industry, the universities and the research institutes. In developed countries, it is not uncommon to find that private industry spends almost twice as much on research and development as does the government – whose funds are divided between university research and research in the research institutes. In these countries, there are incentives for university/industry cooperation. However, in Nigeria, the private sector or industry does not invest in research and development as most of them do not have research and development components in their organisations. Nigerian Universities should reach out by adopting a more aggressive policy of sourcing for funds particularly from industry to support Postgraduate research.

2) To address the problem of inadequate capacity, Nigerian universities must put serious effort at capacity building such that their staffs can initiative new programmes and develop them to meet the demands of the surrounding communities.

3) Postgraduate research should be able to inform the national agenda and raise national developmental questions. This role involves the questioning of the status quo with the aim of moving the society forward – renewable energy, energy efficiency, climate change, insurgency etc.

4) Postgraduate research should be able to key into various industrial productions processes and the quality of the products through innovative research that will improve efficiency and profit margins

DISSEMINATION OF RESEARCH OUTPUT

Anyone who is on the track of external examination, especially at Postgraduate level, around Nigerian universities would have noticed a number of research results in thesis and dissertations. Such results could help to strengthen our skills in producing value-added inputs.

The old adage in higher education is that unless you publish your academic career perishes. This thinking is still very much alive today, and is largely the reason that in 2009, for example, almost 1.39 million research publications (excluding reviews and conferences) were indexed in Scopus (Plume, 2011)., it is however for you possible to publish and still perish!!! The reason is simple the quality of the publication is what matters and not the quantity. Therefore, for your research output to make the meaningful impact it has to be disseminated in the right journal The following are universal norms that must be present in all high-quality publication outlets:

- Journals with Impact/ Eugene factor
- The impact factor is a measure of citations to articles
- Indexing - (ISI) Thomson Reuters, SCI, Scopus, ESSEC etc.

- H-Index (or H-factor)
- Immediacy index
- Index measures both the productivity and impact of the published work

Journal Categories

- QI (3.5-4)
- Journal with Impact factor that Is in the top 25 percentile ranking based on the impact factor within the subject, or sub-disciplinary category
- Q2 (3.0-3.4)
- Journal with Impact factor that falls in the average/middle 50 percentile ranking based on the impact factor
- Q3 (2.5-2.9)
- Journal with Impact factor that falls in the lower 25 percentile ranking based on the impact factor
- Q4 (2.2.4) Journal with Impact factor that falls in the lower 10 percentile ranking based on the impact factor

OPEN ACCESS JOURNALS

It must be noted that in addition to the above categories of journals, there are also open access journals that are worthy of publishing our research output. Open Access Journals with the following characteristics are GOOD:

- Belonging to academic institutions (universities, well-known research centres, scientific associations);
- With an ISSN in Nigeria ISBN
- With at least 6 years history of ongoing publishing;
- Peer-reviewed
- With an independent editorial board
- With a consensus that the journal is top in the field.

BENCHMARKING

Despite the many different systems and criticisms of ranking systems of universities, the public as well government and grant giving institutions and individuals, still judge an institution by its position in global ranking tables. The ranking system is said to show how efficient a university is being managed among many other positive indicators It is well known that league (Siganos, 2008; Tapper and Filippakou, 2009). Rankings also trigger a range of external consequences. For instance, Denmark contemplated, and the Netherlands do consider, graduation from "top ranked" universities a criterion in immigration approval (Holmes, 2012). The Universities Grants

Commission of India, the government of Russia, and Brazil recognise placement in global ranking systems in deciding whether or not to give grants (Dhawan, 2012; Baty, 2012).

Therefore, it is unwise to ignore the ranking tables, as it is likely the lay public do not appreciate their limitations. Universities that optimise their research outcomes, are positively recognised by then recognition higher rankings (Altbach, 2006). In particular, three prominent ranking systems—the so "Shanghai Jiao Tong" (Docampo, 2011), "Webometrics analysis" (Aguillo et al., 2008) and the "Times Higher Education (THE)" survey—appear to be worth considering.

The Shanghai Jiao Tong (Academic Ranking of World Universities ARWU) is relatively objective, using defined and accepted data based on a range of indicators for STEM. This ranking is conducted annually and classifies the world's top 500 universities. Webometrics (Consejo Superior de Investigaciones Científicas, Spain) measures the number of visitation of a university on the web and could, therefore, be seen as assessing a range of characteristics, as well as research and teaching. It comes out every 6 months and classifies the top 12,000 universities and some non-university and higher education institutions. The annual THE analyses a broad range of academic and commercial indicators for the top 200 universities.

In order to be competitive, Nigerian universities and indeed Northwest University should employ benchmarking to assess its performance over time and use the result in its planning. Internally integrating measures that to

improve the university's research profile, and evaluating the achievements through benchmarking within a group of similar universities, are likely to lead to external recognition in the global university league tables.

PROBLEMS OF RESEARCH IN NIGERIAN UNIVERSITIES

- The universities are producing research outputs that do not get beyond the University campuses and learned publications.
- Many excellent applied research outputs are not developed for practical application.
- The universities lack the resources and business skills to develop and market their intellectual property.
- The inability of the universities to replace archaic facilitates with a new one in a rapidly changing world.
- The 'hostile' environment, - the academic staff pay packet, is not attractive enough to draw scholars of great reputation.
- The inability of staff to attend international conferences due to dwindling support
- The absence of current subscription to top-flight journals and books in our libraries
- Lack of research focus - research in our universities is generally not focused or targeted at solving the peculiar problems of communities where they are situated.

- The preponderance of theoretical rather than applied research - simply because in that way it is more easily accepted as part of the international scientific community.
- Lack of Research and Development in public and private sector enterprises
- Lack of cooperation between universities and industry
- Postgraduate studies and research have no clear industry or societal focus.
- Age of Nigerian University

It is recognised that research like all other human endeavours requires experience in addition to expertise. In terms of age, Nigerian universities are immature compared with others across the world as:

- St. Andrews University founded **1412**
- Harvard founded in **1636**
- University of Oxford,**1096**
- University of Paris,**1150**
- University of Ibadan, **1948**
- University of Ilorin, **1975**
- Bayero University, **1980**
- KUST, Wudil, **2001**
- Northwest University, **2012**

LESSONS FOR NORTHWEST UNIVERSITY

(i) Northwest university should define its research policy

(ii) Fund research according to the priorities in that policy.

(iii) Establish a research unit

(iv) Foster collaboration between the relevant agencies, i.e. Private sector and relevant Ministries and Agencies.

(v) Northwest University should expand and enhance its reward system for researchers who make important breakthroughs.

(vi) Research relevant to National Priorities should be emphasised

(vii) Northwest University should exploit its location in an industrial/commercial centre and establish an industrial/technology park

(viii) Interact with the local business in order to attract endowment

(ix) Intensify capacity building of its staff

(x) Continue to improve its visibility through Benchmarking

(xi) Create endowment office with the requisite staff

(xii) Train academic staff on grant proposal writing skills

CONCLUSIONS

Clearly, under the present setting, the long-term fiscal health of the Nigerian universities and their ability to maintain quality research is in doubt. These institutions have witnessed substantial growth in enrollment coupled with diminishing state funding over the course of several decades. This trend, if other sources of support are not identified, threatens their continued capacity to attract the best talent, to provide quality education and training for the next generation of scientists and engineers, and to compete with

their private counterparts, and is likely to result in an ongoing increase in tuition and fees. An enduring commitment to strengthen these universities and maintain quality and affordability is imperative if our Nigeria is to compete in today's knowledge-driven global economy. Diversifying sources of fund for research is key to solving the problem.

There is a general expectation and awareness that the trend towards increasing diversification of external funding sources, and in particular the shift towards more competitive and performance related project funding, is slowly creating a culture change in many universities. To reinforce this trend, Individual researchers, in addition to the universities must develop a more competitive and entrepreneurial attitude**.** Furthermore, inter-institutional cooperation, interdisciplinary research, centres of excellence are considered to be the main future priorities to be developed.

The government by virtue of the legal and fiscal conditions that they control, directly and indirectly, influence both the overall level and direction of giving as well as the conditions for giving specifically to university research. They also influence the ability of universities to engage in such fundraising activity and the terms under which it is conducted. They are therefore an important factor in the dynamics of change required.

The society being the recipient of the results of research supported by philanthropy must also respond appropriately. It is, therefore, important to increase the public's awareness and perception of the role, scope and importance of university research and of the role that private giving can play

in this respect. This will encourage increased public giving and public confidence in scientific research. Such confidence in the framework within which scientific research is made is needed to enable the research community to continue its work with public support and input.

References

Analysis of data from State Higher Education Executive Officers Association, (2015). *SHEF: FY 2014—State Higher Education Finance* (Boulder, Colo.: State Higher Education Executive Officers Association, Adjusted for inflation, state cost of living, and enrollment mix.

Agrawal, A. and Cockburn, I.M. (2002). *University research, industrial R&D, and the anchor tenant hypothesis.* National Bureau of Economic Research Paper Series Working Paper 9212, pp. 44

Aguillo, I.F., Ortega, J.L. and Fernandez, M. (2008). *Webometric ranking of world universities: Introduction, methodology, and future developments.* Higher Education in Europe 33:233-244.

Altbach, P. (2006). *The dilemmas of ranking.* In International Higher Education: Relections on Policy and Practice Altbach, P. (Ed.) p 77-80 http://www.bc.edu/content/dam/files/research_sites/cihe/pubs/Altbach_2006_Intl_HigherEd. pdf

Argyres, N.S. and Liebeskind, J.P. (1998) *Privatizing the intellectual commons: universities and the commercialization of biotechnology.* Journal of Economic Behaviour & Organization 35:427-454

Baldini, N. (2006.) *University patenting and licensing activity: a review of the literature*. Research Evaluation 15:197-207.

Barker, R.A. (2001). *The nature of leadership.* Human Relations 54:469-493.

Bargh**,** C., Bocock, J., Scott, P. and Smith, D. (2000). *University Leadership: The Role of the Chief Executive.* Open University Press ISBN 0-335-20487-2 pp.190

Baty, P. (2012). *Rankings don't tell the whole story – handle them with care.* University World News global edition issue 227 June 26th

Bernstein, R. (2012)**.** *Science for sale: academic meets industry.* Cell 150:239-240

Boulton, G. and Lucas, C. (2008). *What are universities for?* League of European Research Universities 19 pp.

Brown, P.B. (2009.)(*Stating your mission in no uncertain terms.* New York Times Sept 1.

Council on Government Relations.(2008) *Finances of Research Universities* (p. 10). Retrieved from: http://www.cogr. edu/viewDoc.cfm?DocID=151534

Collis, D.J. and Rukstad, M.G.(2008)**.** *Can you say what your strategy is?* Harvard Business Review April p.82-84.

Corbyn, Z. (2010). *Help make the desert bloom.* Times Higher Education 17 June, p.18

Dasgupta, P. and David, P.A. (1994). *Toward a new economics of science.* Research Policy 23:487-521.

De Aenlle, C. (2010). *Demanding value from universities.* The New York Times September 13th.

Deem, R. (2001). *"New managerialism" and the Management of UK universities.* End of Award Report of the findings of an Economic and Social Research Council funded project www.esrc.ac.uk/my-esrc/ grants/R000237661/read

Derbyshire, J. (2010)**.** *What are universities for?* New Statesman blog posted 8 January at 12:34 and reader's comments thereon.

Dhawan, H. (2012). *UGC to let only top 500 foreign universities enter India.* Times of India June 3rd.

Docampo, D. (2011). *On using the Shanghai ranking to assess the research performance of university systems.* Scientometrics 86:77-92

Douglass, J.A. (2010.) *Higher Education Budgets and the Global Recession: Tracking Varied National Responses and their Consequences.* Center for

Studies in Higher Education Research & Occasional Paper Series: CSHE 4.10 pp. 26

Diane Rhoten and Walter Powell (2014) *Knowledge Matters: The Public Mission of the Research University*, Harvard University, Massachusetts, USA

Eggins, H. and West, P. (2010). *The global impact of the financial crisis: main trends in developed and developing countries.* Higher Education Management and Policy 22:57-72

Hicks, D. (2012). *Performance-based university research funding systems.* Research Policy 41:251-261.

Holmes, R. (2012). *Power and responsibility – the growing influence of global rankings.* University Word News global edition issue 228, July 1st.

Higher education in Nigeria and beyond.(1991) Report of the commission on the review of higher education in Nigeria. Main report

Makanjuola, R. O (2021) Research and the University system. Perspectives on Higher education in Nigeria, CDSPGS

National Universities Commisiion (NUC), Nigeia Annual Report Jan – Dec- 1990

National Universities Commisiion (NUC), Nigeia Annual Report Jan – Dec- 2016

Plume, A. (2011.) *Did you know? Drowning in the publication deluge?* Research Trends 22:13

Sambo, S.A. (2012) The Role of Postgraduate Research in Technology Development CDSPGS

Tapper, T. and Filippakou, O. 2009. *The world-class league tables and the sustaining of international reputations in higher education.* Journal of Higher Education Policy and Management 31:55-66

The Chronicle of Philanthropy(2015) Philanthropy 400 Project, "Philanthropy's Uneven Climb: Success Stories, Red Flags, and a Trove of Data," October 29,

The top American Universities (2012) The Center for Measuring University Performance at Arizona State University and the University of Massachusetts Amherst

Ugwu, I. C. (1998), Report of exchange Programme between Technical university of Berlin, Germany and Enugu State University of science and technology