World University Rankings in a Market-driven Knowledge Society: Implications for African Universities

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Abstract

The ranking of universities today is traceable to the pioneer efforts of the Carnegie Commission on Higher Education in 1970 when it started the classification of US Colleges and Universities. But the present-day ranking of universities in a form of league table at national levels was started in 1983 by the US News and World Report, and was later followed in 1993 by The Times of London that concentrated on institutions in the United Kingdom. This paper argues that such ranking of universities at national levels (and until very recently at the international level), was a logical outcome of the functional transformation of universities towards meeting the demands of a global knowledge economy that ushered in a new era (or paradigm) of 'academic capitalism'. The paper further contends that universities in Africa are as usual at the crossroads in the face of the challenges posed by the world university rankings that confront them with a double tragedy of experiencing a 'mission in crisis' and 'crisis of mission'. The way towards resolving this policy dilemma is explored in this paper.

Introduction

In 2005, the *Laboratorio de Internet* (publisher of World Universities' ranking on the Web) released a list of Top 100 African Universities as part of its *Webometrics Ranking of World Universities.* In an edition that was circulated in October of that year, the University of Botswana (UB) was ranked 27 on the list. This revelation stirred up great waves of dust and concern among University of Botswana academics. While many expressed dissatisfaction over the unenviable and unacceptable position

of UB on the list and consequently inundated the Office of Deputy Vice-Chancellor (Academic Affairs) with mails for explanation, some expatriate academics in the university were also worried that universities in their home countries were nowhere to be found among the first fifty. For example, one professor (a citizen of Nigeria) circulated an email among his compatriots lamenting that only four out of the over 70 fully licensed Nigerian universities could make the list. As he rightly pointed out, the first Nigerian university on the list (the country's premier institution - University of Ibadan), occupied the 59th position, while the rest three that made it occupied the 70th, 82nd and 88th positions. Everyone then wondered how the ranking was done. But even when some explanations were given by experts that the methodology of Webometrics ranking was different from the known institutional benchmarking and ranking indicators, some academics still asked further questions, while few others still sought for further answers.

But unknown to many then was the fact that Webometrics ranking was only based on the criterion of 'web presence and visibility' of universities. And also unknown to many who were dissatisfied over the position of UB on the list, was the fact that the November (2005) update of that Webometrics ranking, placed UB farther away to the 30th position. Although 'web presence' of universities is important in today's globalized world driven by the forces of information and communication technology (ICT), it is not however the most critical measure of institutional success in benchmarking exercises. However, one undeniable fact that emerged from the publication of the Webometrics ranking was that it generated a significant level of confusion among many people, some of whom mixed its league table with those of the existing prominent world ranking bodies namely, *The Times Higher Education Supplement* of London, and the Institute of Higher Education of the *Shanghai Jiao Tong University (SJTU)* of China. It therefore became clear that many academics do not understand the different ranking systems that now dot the international higher education landscape.

Furthermore, one general and fundamental concern that have emerged from the issue of global rankings is that no single university in Africa has made it into the first top 200 universities in the world league table published by the *Times Higher Education Supplement* so far. Again, only four universities (all from the Republic of South

Africa) were able to make it into the top 500 universities in the *Academic Ranking of World Universities (ARWU) by the Institute of Higher Education, Shanghai Jiao Tong University (SJTU)*. This disturbing revelation raised and still raises genuine concern about the level of perceived quality of some universities in Africa. But it also raises some critical questions that have to do with the ranking itself. First, why and how are these rankings done? Secondly, how valid and reliable are the ranking methodologies? And lastly, what is the motive of the entire ranking exercise? Put differently and in a more profound philosophical sense, given the fact that our contemporary global knowledge society is essentially driven by the forces of the market, how should global rankings of universities be interpreted by the authorities of public universities in Africa whose managerial philosophies are still embedded in the service ethic rather than that of profit? This question poses a great administrative challenge to managers of universities in Africa, and it is therefore worthwhile to discuss such important issues it raises in a wider forum that an African-based journal offers.

It does appear that once again universities in Africa are at the crossroads in the face of the challenges posed by the world university rankings that confront them with a double tragedy of experiencing a 'mission in crisis' and its concomitant 'crisis of mission' (Obasi, 2002). Be that as it may, an analysis and a proper understanding of the driving motives of global rankings of universities and their implications, is a right step towards getting universities in Africa resolve the dilemma thrown up by this challenge. But more importantly, such an analysis would enable universities in Africa to see how they can use the challenge more as a diagnostic tool for quality and reputational improvement, rather than as an attraction and trap for entering into a race of unequal academic institutional competitors for either of what Lombardi (2000) called the 'mythical number one' world university, or what Altbach (2003) called 'world-class universities', neither of which this paper argues is desirable for African universities at their present level of development, as well as the demands made, and the constraints imposed on them, by both the state and society.

In examining these contestable issues, the rest of the paper is divided into five sections. The first section presents the historical and theoretical background of classifications and rankings, with a focus on the origins of classification and ranking, conceptual differentiation of classification and ranking, identification of ranking

bodies, and a presentation of what this author calls the 'profit motive thesis of higher education ranking' as a framework of analysis. Thereafter, section two presents the methodologies used by the three world ranking bodies. Section three then examines the league tables of the ranking bodies while section four discusses further the findings. Finally, section five examines the challenges of world university rankings for universities in Africa drawing out lessons and policy implications at the institutional, national and international levels.

University Rankings: Historical and Theoretical Background

The Origin of University Classifications and Rankings

It is difficult to discuss the ranking of universities today without recognizing the historical role of the Carnegie Foundation, which came into existence in 1905. This Foundation was created as 'an independent educational research and policy center' primarily 'to encourage, uphold, and dignify the profession of the teacher and the cause of higher education' (McCormick, 2005). In 1967, the Foundation created its Commission on Higher Education to help *inter alia* analyze issues that U.S. higher education faced. Then in 1970, the Commission developed a classificatory scheme of universities 'to support its program of research and policy analysis' (see The Carnegie Foundation for the Advancement of Teaching, 2005). This classification was 'created to simplify the complexity of U.S. higher education for research purposes' and universities were classified on the basis of functions they performed (McCormick, 2005). But it was in 1973 that the Carnegie Commission published its classification for use by researchers.

The Carnegie classification was not a ranking of universities in the form of a league table that we see today. But despite this, the foremost American ranking Magazine namely the *U.S. News and World Report* commenced ranking of colleges and universities in the U.S. in 1983 with a heavy reliance on the Carnegie Classification. And since then, the use of the Carnegie classification for ranking of universities in the U.S. has been a regular exercise. Consequently, the ranking of universities today can therefore be traced rightly to the pioneer efforts of the Carnegie Commission on Higher Education over thirty-six years ago (Obasi, 2006).

The second historical milestone in the ranking of universities at a national level was laid by the London-based newspaper *The Times* which in 1993 published for the first time a league table (ranking) of universities in the United Kingdom primarily meant 'as an aid to the application process for young people seeking to select the most appropriate course programmes and institutions' (Jobbins, 2002). And ever since then, there has been a proliferation of national ranking organizations in many countries. But then what is ranking and how is it different from classification?

Classification and Ranking: A Conceptual Differentiation

The classification of universities on the basis of their similarity and diversity of functions as carried out by the Carnegie Commission, is different from their rankings that mainly focus on the assessment of quality-related factors among universities and their consequent placement on a league table (Obasi, 2006). The search for 'the mythical number one' (Lombardi, 2000) university in the world (or in any particular country), and the rest others that follow in a descending order, is a major characteristic of ranking exercise. But classification according to Lombardi groups institutions on the basis of their academic mission, (not to order them from 'the best' on down) based on resources, quality, prestige, or other criteria.

Consequently, classification is defined in this paper as the grouping and presentation of academic institutions on the basis of their mission, programmes, research activities, unique strengths, similarities, differences, and regional locations and providing such information to those that need them notably stakeholders like the governments, foundations, researchers, industries, friends of the institutions, and admission seekers, their parents and guardians. As the Carnegie Foundation for the Advancement of Teaching (2005), rightly observed, 'classification has been the leading framework for describing institutional diversity ... It has been widely used in the study of higher education, both as a way to represent and control for institutional differences, and also in the design of research studies to ensure adequate representation of sampled institutions, students, or faculty'. It is in this respect that the *Inside Higher Ed* (2005), rightly observed, that although the Carnegie Classifications were primarily designed as a tool for researchers, they are commonly used to enable U.S. state governments set policies that differentiate research focused institutions from their teaching oriented

ones; help foundations give out research grants, and (to the dismay of many educators) to help magazines develop rankings. What then is ranking?

Ranking (or league table as it is commonly called in UK) is defined in this paper as the listing of academic institutions in a descending order of excellence measured with a combination of criteria which may include those dealing with staff, their publication and citation profiles, prizes won, as well as teaching and learning facilities and environment, staff-student ratio, peer review opinion, international mix of staff and students, reputational judgment of stakeholders, etc. But it has also been defined simply as the 'listings of educational institutions in an order determined by any combination of factors' which 'can be based on subjectively perceived 'quality', on some combination of empirical statistics, or on surveys of educators, scholars, students, prospective students, or others' (Wikipedia, The Free Encyclopedia, 2006).

Overview of National and International Ranking Organizations

Since the ranking of universities began, there has been a proliferation of ranking bodies and magazines nationally and internationally[1.] In Canada for instance, there is the Maclean Magazine's Guide to Canadian Universities, as well as the Top 50 Universities carried out by the Research Infosource. In Germany, there is the Centre for Higher Education (CHE)-Ranking, while in Asia, there is the Asia week magazine ranking of Asia's Best Universities, as well as the Ranking of Chinese Universities. In Australia, there is the Melbourne Institute Rankings of Australian Universities.

In the United States, ranking bodies include the U.S. News and World Report, the National Research Council, Princeton Review's Best Colleges, Fiske Guide to Colleges, Barron's Profile of American Colleges. In the United Kingdom, there are many notable ranking exercises carried out by the (a) Research Assessment Exercises (RAE) by the UK government, (b) The Guardian University Guide, (c) The Times Good University Guide, and (d) The Sunday Times University Guide.

There are also a plethora of specialized ranking exercises such as the US based Philosophical Gourmet Report, US News Online - Graduate School Rankings, US Psychology Ph. D. Programs, Ranking of Law Faculty Quality, US News Online - Top Law Schools Rankings, BusinessWeek Online: B-School Profiles and Rankings,

Financial Times MBA Rankings, Forbes: The Best Business Schools, The Economists' Which MBA Online, Bschool.com, US News Online-Top Business Schools Rankings, and the Top American Research Universities.

The arrival few years ago of global ranking of universities brought a new dimension into the ranking business that for many years remained national and regional and dominated by media organizations (Obasi, 2006). There are currently three bodies that rank universities at the global level. The first is The Times Higher Education Supplement, London, which publishes a list of top 200 universities in the world. The second is the Institute of Higher Education, Shanghai Jiao Tong University (SJTU), Shanghai, China, which publishes the Academic Ranking of World Universities (ARWU) top 500 universities. This is one ranking exercise that is initiated and organized by an academic institution itself. The third global ranking body is the Laboratorio de Internet (InternetLab), which publishes the top 3000 World University Ranking on the Web in what it also calls the Webometrics Ranking of World Universities.

A Framework of Analysis: The Profit Motive Thesis of Higher Education Ranking

One of the goals for ranking academic institutions (whether at national or international contexts) is to establish and present their comparative strengths (and of course their weaknesses even when not stated) so as to give students, parents, academics or companies placing research contracts a unique opportunity to make informed decisions on issues of interest to them (see Johnston and Dwyer, 2005; O'Leary, 2004). But a ranking exercise goes beyond this goal. It is argued in this paper that ranking is a form of business transaction geared towards enhancing the economic fortunes of institutions being ranked as well as the fortunes of ranking bodies. This argument is hinged on the prevailing role of universities in a globalized world driven by the forces of the market. An era of global knowledge economy is also an era in which the transformation of higher education from being conceived as a public good to a private one has occurred. Ranking bodies are logical outcome of this transformation. Hence Clarke (2002) and Vaughn (2002) have used the phrase 'commercial ranking' to capture the dynamics of this process. And as Jan Sadlak (Director of UNESCO-CEPES) also concludes, 'around the world, rankings have

evolved to serve different purposes for their varied audiences. But, regardless, there continues to be a real consumer-focus' (cited in Hardge, 2004). Hence as Hardge (2004), reports, ranking systems 'are playing an increasing role as information tools for consumers at the local, national, and international levels'.

The *Maclean's Guide to Canadian Universities* for example has its sub-title as 'complete handbook for choosing a university'. And it is not surprising that these commercial rankings have had positive impact on admissions into academic institutions. For instance, a study by Cornell University found that rankings in the United States have actually affected colleges' applications and admissions significantly (Wikipedia, The Free Encyclopedia, 2006). Eccles (2002) also maintains that although 'prospective students seem not to be strongly influenced by the annual changes in the league table position of a given institution, but are influenced more strongly by competition for places and the quality of the learning environment offered by the university'. Furthermore, commercial rankings create the 'The Heisenberg Effect' (see Thompson, 2000) in which as he argues, academic institutions being ranked alter policies for the sake of rankings. Equally persuasive is the thesis by Dill and Soo (2005) that global expansion of access to higher education has increased demand for information on academic quality and has led to the development of university ranking systems in many countries. And this why according to them, a recent UNESCO/CEPES conference on higher education indicators concluded that cross-national research on these ranking systems could make an *important contribution to improving the international market for higher education* (emphasis added).

Furthermore, the fact that some ranking publications usually contain in them advertisements from academic institutions as well as their carefully written profiles targeted at prospective students is a demonstrative evidence of the profit motive that underlines rankings. Some of the catchy and appealing statements targeted at prospective students read as follows: (add *we have*) 'Experienced professors with top academic qualifications, industry connections and professional designations'; 'Small classes to enhance focused, interactive learning'; 'The exact skills and knowledge employers want'; 'Bursary and scholarship opportunities'; 'Quality education, flexible options'; or some others like: 'Our students stand out clearly'; 'Stand out from the

crowd: Apply now for Fall 2005'; 'Some see you as a number: We see You'; 'I am success: I am Seneca', among many others, are demonstrative evidence of the commercial underpinnings of this flourishing business of ranking. (*For these catchy adverts by different academic institutions*, see Maclean's Guide to Canadian Universities, 2005).

However it is important to point out that this observation on the commercial motive of rankings does not apply to the ranking exercises carried out by quality assurance and monitoring agencies of governments that have specific public service focus. For example, the National Research Council (NRC) in the US is one ranking group that tries to avoid what VC-NET (2005) calls 'the trite rankings so favoured by newspapers' Also the Research Assessment Exercises (RAE) carried out by the government of the United Kingdom is another example. The ranking of universities in Nigeria by the National Universities Commission (NUC) and many other national ranking exercises geared towards the improvement of teaching and learning in the universities, across the globe, are equally not the object of the observation on the profit motive of rankings.

Presently however, the link between rankings and economic competitiveness is yet to be fully explored but it has attracted the attention of an International Rankings Expert Group (IREG). This Group was created in 2004 as a forum for those who conduct rankings, as well as those who study them, to share information about the methodologies and approaches used in different systems. The creation of IREG reports Hardge (2004) was a follow-up to the first-ever international meeting on rankings held in 2002 in Warsaw, Poland. This Group, which is coordinated jointly by the Institute for Higher Education Policy, Washington, DC, and the UNESCO-CEPES Bucharest, Romania, is trying to understand *inter alia* how rankings contribute to quality in higher education (Hardge, 2004). The conclusion from all these therefore is, that profit motive rather than the improvement of higher education quality was at the heart of the emergence of different and competing commercial ranking systems. It was only recently that the issue of quality in ranking systems has attracted serious attention. We shall now present the ranking methodologies used by three international ranking bodies.

Methodologies of Three World University Rankings

The Times Higher Ranking Methodology of 2004

Carrying out a ranking exercise among universities in various countries at different levels of development, diversity of missions, expectations, demands, and with various and mixed models of institutional governance and practices (that may be rooted in cultural diversities of nations), would no doubt generate a lot of controversies (Obasi, 2004a). This perhaps accounts for why every ranking organization labours very hard to explain its methodology to its potential readers and critics. The case of the Times Higher Ranking is not different. And according to it, five indicators of quality that in its view could translate reliably across borders were chosen for the ranking exercise. The five indicators it further explained were meant to 'reflect strength in teaching, research and international reputation'.

Table 1: The Times Higher Ranking Criteria and Weight

Measuring Indicators	**Weight (%)**	**Score out of 2000**
Peer Review	50	1000
Citations Per Faculty Member	20	400
Faculty-to-Student Ratio	20	400
International Faculty	5	100
International Students	5	100
Total	100	2000

Source: Prepared from Times Higher Education Supplement, November, 5, 200, p.6

The table shows that peer review was assigned half of the total score of 2000. In the opinion of the Times Higher, peer review is 'the most trusted method of university comparison' (Ince, 2004). And as O'Leary (2004) also put it, academics exerted the greatest influence in the exercise since they are in the best position to judge. In using this indicator, 1,300 academics were surveyed in 88 countries.

Two other indicators (citations of faculty members and faculty-student ratio) were assigned 20% each of the total score. The choice of another set of two indicators namely (i) percentage of a university's international faculty, and (ii) percentage of its international students, according to the Times Higher were 'designed to encapsulate a university's international orientation' since the ability of a university to attract them constitutes 'one measure of its ambition' and 'its ability to bring in the best academics from around the world' (Ince, 2004).

But in spite of all these, some in-built biases still exist in its methodology. For example, it is biased in favour of the science courses, which are captured more by the type of scientific database it uses. It is also biased in favour of scientists that write in English language. However, its non-use of Nobel prizes and Field medals appears to be one of its strengths given the high level of controversy surrounding the use of these prizes.

The ARWU (SJTU) Ranking Methodology of 2004 & 2005

Table 2: ARWU (SJTU) Ranking Criteria and Weight

Criteria	**Indicator**	**Weight (%)**
Quality of Education	Winning of Nobel Prizes and Field Medals by Alumni	10
Quality of Faculty	1.Staff of an institution winning Nobel Prizes and Field Medals 2. Highly cited researchers in 21 broad subject categories	20 20
Research Output	1. Articles published in *Nature and* Science 2. Articles Indexed in Science, Social Science, Arts & Humanities*, Citation Index	20 20
Size of Institution	Academic performance with respect to the size of an institution	10
Total		100

Source: Liu, N.C. & Cheng, Y (2005); see also http://ed.sjtu.edu.cn/ranking.htm

** The Arts and Humanities Index was introduced in its 2005 Ranking.*

Table 2 shows that the criteria and indicators used by the ARWU (SJTU) are to a large extent different from those of the Times Higher. Its emphasis on the winning of Nobel Prizes and Field Medals (assigned 30% of the total score), is highly criticized as this measure is very controversial. Another controversy surrounds the assignment of 60% of the entire score to publication and citation alone. The issue therefore of whether the quality of any institution's education can just be measured by the number Nobel Prizes and Field Medals won and citations of staff is a doubtful one. A relevant concern relates to the non-utilization of teaching and learning facilities and environment as a measure of quality of education.

The ARWU's methodology is also criticized for its language bias in publication and also against specialized institutions such as the Ecole Polytechnique of France, London School of Economics, and other specialized institutions in medicine, law, agriculture and management (see Feng, 2005; ARWU2005-FAQ, 2005). Like the Times Higher, the ARWU (SJTU) says that its criteria are still subject of periodical reviews in the future. It even went further to state that 'the quality of universities cannot be precisely measured by mere numbers. Therefore any ranking is controversial and no ranking is absolutely objective. People should be cautious about any ranking including our Academic Ranking of World Universities'[2] (see also Liu & Cheng, 2005). This usual assurance by ranking bodies has become an escape clause that offers them a safety net in which to hide and defend their criteria that normally raise a lot of controversies. The conclusion that emerges from tables 1 and 2 is that the criteria used in the world ranking of universities are still very unsettled and controversial. Nevertheless, they draw attention to the importance of peer review, publication and citation profiles of academics as critical factors in establishing the reputational status of universities.

Webometrics' Ranking Methodology, 2005

Web presence and visibility of universities constitute the primary criteria used by the Laboratorio de Internet (InternetLab) in its ranking. Its focus is on what it calls the 'quantitative study of the Internet process of scholar communication in the Web'[3]. The emphasis of Webometrics ranking is on web based citation of scholars as presented in their institutional web domain hence the unit of its analysis is the institutional domain. Consequently for universities to be captured, regardless of how prolific its staff are, it

must have a web domain. In the opinion of InternetLab, websites can reflect better the output of professors and researchers as they offer complete picture of their activities. Hence it makes a strong case for more publications on the web by scholars.

There are three web-based indicators used in the Webometrics ranking. The first is the *Size* of information. The number of pages is calculated using Google, Yahoo, MSN and y Teoma. The second indicator is *Visibility,* which is captured as the number of unique external links received (inlinks) by a site. The third indicator is *Rich Files* such as Adobe Acobat PDF (.pdf), Adobe Postscript (.ps), Microsoft Word (.doc) and Microsoft Powerpoint (.ppt). These three indicators were assigned different weight and a rank is arrived at by using a combination of the three indicators through a particular formula adopted for the exercise. And like the other two ranking bodies, it also has an escape clause that promises future improvement in the criteria currently in use.

Webometrics' ranking criteria present a lot of difficulties for comparative purposes in relation to the other two ranking bodies. The InternetLab itself is the first to admit this. First, as it stated, its criteria for inclusion of institutions were vague since its rankings include non-university institutions such as research organizations, government Think-Tanks, polytechnics, Art Academies as well as theological institutions, the combination of which makes its league table less comparable with those of the other two bodies. Secondly, as many institutions maintain many web domains at a time, the use of one institutional domain as a unit of analysis becomes problematic. Thirdly, some institutions that have merged and lost their old identities create additional problem arising from change of domain name. Lastly and more importantly, some institutions have no web presence at all and even those that have, it is properly maintained in terms of volume or size of information, and currency of information due to lack of updating. This problem of lack of presence especially in developing countries was demonstrated by the fact that 5% of those the InternetLab identified had no web presence at the time of its analysis[4].

Presentation of League Tables of World Universities Rankings

Case Illustration (1): The Times Higher Education Top 200 (2004) World Universities

Table 3.: Times Higher World's Top 10 & 20 Universities, 2004 with Detailed Scores

Rank	**Name of University**	**Country**	**PRS**	**IFS**	**ISS**	**FSS**	**CFS**	**Final Score**
	Maximum Score		***1000***	***100***	***100***	***400***	***400***	***1000.0***
1	Harvard University	US	643	17	17	50	243	1000.0
2	Univ. of California, Berkeley	US	665	6	7	7	169	880.2
3	MIT	US	484	13	18	28	221	788.9
4	California Inst. of Technology	US	236	19	17	45	400	738.9
5	Oxford	UK	560	57	18	30	45	731.8
6	Cambridge	UK	541	65	19	31	46	725.4
7	Stanford University	US	420	9	13	28	197	688.0
8	Yale University	US	347	53	20	65	81	582.8
9	Princeton University	US	353	18	18	19	133	557.5
10	ETH Zurich	Switzerland	170	72	25	4	266	553.7
Top 20								
11	London S/Econ.	UK	257	79	100	27	6	484.4
12	Tokyo University	Japan	371	3	3	30	60	482.0
13	Univ. of Chicago	US	254	31	18	58	71	444.0
14	Imperial C/Lond.	UK	237	60	51	55	27	443.7
15	U/Texas (Austin)	US	183	9	8	8	202	421.5
16	Australian Nat/U	Australia	212	48	31	9	105	417.7
17	Beijing Univ.	China	322	9	11	35	3	391.8
18	N/U of Singapore	Singapore	266	35	46	10	18	385.9
19	Columbia Univ.	US	213	10	18	56	75	384.1
20	U/C Sam Francisco	US	21	5	0	39	300	376.5

Source: The Times Higher Education Supplement, November 5, 2004, p.3.

*Key: **PRS**: Peer Review Score; **IFS:** International Faculty Score; **ISS:** International Student Score; **FSS**: Faculty-Student Ratio Score; **CFS:** Citations of Faculty Score.*

Table 3 shows that only three universities outside the United States were among the first ten top universities in the world in 2004. Out of that three, the UK had two while Switzerland had the remaining one. The ETH Zurich (Switzerland) that made it into the top ten had only about half of the score in relation to Harvard University. The table also shows that three Asian universities are among the top twenty universities in the world, while one Australian university made it on the list. However, an overview of the list of the top 200 universities in the world (not reproduced here for lack of space) shows that the US and the UK dominated the list with less impressive showings by universities from other European countries. For example, the first French university that made it (namely Ecole Polytechnique) was ranked number 27 with a score of 315.5 while the second one Ecole Normale Superieure, Paris was ranked 30 with a score of 298.4. On the whole, only six other French universities made it on the list. On the other hand, the first German university on the list namely Heidelberg University, was ranked 47 with a score of 228.3. There were however sixteen other German universities on the list (see Obasi, 2004a).

The results of the 2004 ranking ran against certain expectations. For example, the list was no respecter of the number of universities a country has regardless of the domination by the US. If that were to be the case, Japan (which has 709 universities would have made a good showing on the list. But on the contrary, it had only 6 universities on the list. Furthermore, the list was no respecter of country's population size. Again if we were to go by population, countries like China and India should have made more showing on the list than they did with only 5 and I respectively. The same would have applied to other populous countries such as Indonesia, Bangladesh, Pakistan, Nigeria and Brazil that never appeared on the list at all. There was however one surprise both in terms of number of universities a country has and population size. A tiny country like Singapore with only three universities, made a good showing on the list with two of its universities ranked as numbers 18 and 50 on the top 200 (Obasi, 2004b).

Although age can be said to be a factor (going by the position of older universities on the list like Harvard, Oxford and Cambridge), but other factors seemed to have made the difference. For example, the 50th university on the list, which is the Nanyang

University, Singapore, is younger than many universities in other countries that never made the list.

Case Illustration (2): Comparative League Tables of Times Higher Top 20 (2004 & 2005) & ARWU (SJTU) Top 20 (2004& 2005) Vis-a-vis Webometrics' Ranking, 2005.

Table 4: Comparison of Times Higher Top 20 (2004 & 2005) & ARWU (SJTU) Top 20 (2004& 2005) with Webometrics Ranking, 2005

Name of University	**Times Higher Ranking, 2005** (*2004 Position in Bracket)*	**ARWU(SJTU) Ranking, 2005** (2004 Positions in Bracket)	**Webomet. Ranking, 2005**	**Country**
Harvard University	1 (1)	1 (1)	4	US
MIT	2 (3)	5 (5)	1	US
Cambridge	3 (6)	2 (3)	21	UK
Oxford	4 (5)	10 (8)	28	UK
Stanford	5 (7)	3 (2)	3	US
Univ. of California, Berkeley	6 (2)	4 (4)	2	US
Yale University	7 (8)	11 (11)	29	US
California Inst. of Technology	8 (4)	6 (6)	42	US
Princeton University	9 (9)	8 (7)	39	US
Ecole Polytechnique	10 (27)	**Not well captured by biased criteria**	Far off*	France
Duke University	11 (52)	32 (31)	32	US
London School of Economics	11 (11)	**Not well captured by biased criteria**	Far off	UK
Imperial College, London	13 (14)	23 (23)	Far off	UK
Cornell University	14 (23)	12 (12)	5	US
Beijing University	15 (17)	Not Found	Far off	China
Tokyo University	16 (12)	20 (14)	Far off	Japan
Univ. of California, San Francisco	17 (20)	18 (17)	Far off	US
University of Chicago	17 (13)	9 (10)	19	US
Melbourne University	19 (22)	82 (82)	Far off	Australia
Columbia University	20 (19)	7 (9)	13	US

Source: Prepared by this Author from different sources: www.australiam-university.com/r; http://ed.sjtu.edu.cn/ranking.htm; http://ed.sjtu.edu.cn/rank/2004/top500(1-100).htm; & http://www.webometrics.info/top3000.asp.htm.

**Far Off means those not found within top 50. Ecole Polytechnique & London School of Economics were placed within the range of 203-300.*

Table 4 confirms the dominance of the US and UK universities in the league tables of the three ranking bodies for the two years running. However, only US universities dominate the Webometrics ranking. For example, the main Webometrics league table shows that only US universities occupy the top 20 positions (not shown in table 4 for lack of space). This can be seen clearly from the positions of Oxford and Cambridge Universities as shown in the table 4. Finally, table 4 further reveals that there are as many striking similarities as there are differences in the three ranking results. This perhaps (to a large extent) reflects their different emphasis on the choice of methodological criteria.

Case Illustration (3): *Regional Distribution of ARWU (SJTU) Top 500 League Table*

Table 5: Regional Distribution of ARWU (SJTU) Top 500 League Table (2004)

Region	**Top 20**	**Top 100**	**Top 200**	**Top 300**	**Top 400**	**Top 500**
North & Latin America	17 (85.0%)	55 (55.0%)	101 (50.2%)	138 (45.9%)	164 (40.7%)	200 (39.9%)
Europe	2 (10.0%)	37 (37.0%)	79 (39.3%)	125 (41.5%)	171 (42.4%)	209 (41.6%)
Asia/Pacific	1 (5.0%)	8 (8.0%)	21 (10.5%)	37 (12.3%)	66 (16.4%)	89 (17.7%)
Africa (*South African Univs. only)**	-	-	-	1 (0.3%)	2 (0.5%)	4 (0.8%)
Total	20	100	201	301	403	502

Source: Liu, N.C. & Cheng, Y. (2005); see also http://ed.sjtu.edu.cn/ranking.htm

**Inserted by this Author*

Table 5 shows that while universities in the US dominated the top 200, their European counterparts had an upper hand in the entire top 500. Universities from the Asian/Pacific made good showing on the list. However, universities from Africa performed very badly as only four of them (all from the Republic of South Africa) appeared in the top 500. A closer look at the main league table shows that the University of Cape Town appeared in the top 300. The other three that appeared are

University of Witwatersrand, University of KwaZulu-Natal and the University of Pretoria. This now leads us to a further discussion of the findings in the three ranking exercises.

Discussion

Rankings as Product of the Changing Role of Universities in a Knowledge Economy

The emergence and proliferation of ranking bodies in the past two decades which also coincides with the era of functional transformation of higher education from being largely conceived as a public good to a private one, suggests as Clarke (2002) argues, that there is an obvious commercial value to annual rankings of academic institutions. Vaughn (2002) puts it more bluntly that 'commercial rankings have emerged to meet consumer demand for more information'. And this flows from the fact that in a global knowledge-based society, universities have come to be conceived as a 'market or quasi-market organizations striving to become entrepreneurial in their approach to teaching and research' (Bleiklie, 2005; Clark, 1998; Etzkowitz & Leydesdorff, 1997). In fact, the concept of 'academic capitalism' (Slaughter & Leslie, 1997) has been employed to characterize this new business operation of universities in a globalized world. And as Bleiklie & Powell (2005) have explained, 'academic capitalism' refers to the 'idea that Universities are increasingly like commercial enterprises producing and selling research and education services on the marketplace'. According to them, 'American Universities have forged much close ties with industry as a buyer of research products'. And 'crucial in this connection' they identified, 'is the development of research findings that are translated into new technologies and commercially viable products'. It is against this background that O'Leary (2004) argues that higher education has become so international that it is no longer enough for the leading universities to know that they are ahead of the pack in their own country. Students he said are prepared to look abroad for the best course; firms scout the world to place research contracts; and academics are more mobile than ever. And it is in this regard that Shattock (2003) rightly observed that although the core business of universities remains teaching and research they have taken additional role in relation to the knowledge economy. And this broadening of a university's role represents an important new dimension in university life.

The functional transformation of universities in the last two decades has been driven through the World Bank/IMF neo-liberal policies and clothed beautifully with the conceptual garment called globalization. But unfortunately, this transformation has impacted negatively on universities in developing countries, which have been trying very hard (although with great difficulty) to fall into line. Again the struggle to fall in place has been necessitated by the gradual decline of public expenditure on higher education by governments in developing countries in accordance with the World Bank/IMF neo-liberal policies. This is partly the root of the restructuring exercise carried out by many African universities, which has been aptly described by Tabulawa (2005) as part of a local response to global influences. While some restructuring exercise went far enough, some others were half measures. The logic of academic capitalism is halted when a restructuring exercise stops as a half measure because it creates distortions and further crisis. This is why Koz'min'ski (2002) argues that higher education must adapt to change, particularly to the rigors of a market economy that, among other things, requires that it be available to all and that it be financed from various sources, including tuition fees payable by all students'.

One significant global influence on the restructuring of universities across the world was the emergence of the knowledge-based economy as a new paradigm that challenged the existing epistemological order. A key vehicle for driving a global economy is knowledge (hence the concept of knowledge economy). And since the core business of universities is the production of knowledge, it is logical that universities become increasingly involved in playing a key role in the global knowledge economy for as Koz'min'ski (2002) observes, 'higher education is essential for the facilitation of globalization'.

A central feature of this knowledge economy is the blurring of the distinction between 'knowledge production and knowledge application' (Cloete and Bunting, 2000 as cited in Tabuwala, 2005). But knowledge application capabilities can only be more meaningfully enhanced if universities develop synergies with industries. They can also enhance their economic fortunes with increased patronage by fee-paying students in a competitive environment. This is where the role of image-making organizations becomes crucial which indeed is simply one of the logical outcomes of academic capitalism. Put differently, public universities are gradually becoming business

enterprises with ranking bodies serving as veritable instrument for advancing their competitive interests. It is within this context that one can properly understand the emergence and proliferation of ranking organizations in the last two decades. The twin concepts of *business* and *profit* have come to be the key driving force in this synergy, which is fast replacing the idea of a (public) university as a public good and service.

University rankings are like football league tables that show the relative performance and position of competitors. But unlike football clubs that aim at scoring goals in well fixed or permanent net, universities (read public) are what Shattock (2003) calls 'multi-faceted, multi-product organizations', which we all know have different and multiple goals to score into a relatively non-permanent goal posts often shifted by the demands of the state and society that provide the funds. There is therefore a sense in which universities in Africa for instance should not worry about global rankings of universities that appear to be setting a new agenda that may potentially lead them away from their mission. But in a globalized higher education system characterized by knowledge economy, can African universities afford to ignore the challenges posed by global ranking? This is the dilemma of the crisis of mission, which arises because the mission is already in crisis. In other words, in a global knowledge economy, what should universities in Africa be preoccupied with: to make money or to continue to provide higher education as a public good?

In the prevailing neo-liberal policy environment, each way presents a dilemma and crisis to public universities where the government operates free-tuition policy. For instance, if they choose to continue to provide higher education as a public good in midst of the progressive reduction of funding by the state, they would also experience a crisis in achieving their vision and mission. Put differently, the inability of the state to grant their universities the freedom to adopt an alternative, viable and sustainable revenue generation policy in line with the logic of academic capitalism presents a serious constraints? When such happens, an increased enrollment policy without a corresponding budgetary provision for the expansion of infrastructural facilities creates the problem of large classes and congestion which impacts negatively on effective teaching and learning. Yet an increased enrollment policy arises from the demands made by the state and society. An emerging conclusion from this reflection

is that universities in Africa and indeed in many developing countries usually find themselves at crossroads whenever there is a paradigm (epistemological) shift in Europe and North America. But without prejudice to this thesis, what lessons can African universities still learn from the rankings and what implications do such lessons portend for policy at the institutional, national and international platforms?

Policy Lessons and Implications

Policy Lessons

Few policy lessons in the form of conclusions can be drawn from the findings of this paper. First, the criteria used in world ranking of universities are still very unsettled and controversial. Yet university rankings have become an important business in international higher education system.

Secondly, regardless of the controversial nature of the ranking criteria used by three leading world university ranking bodies, there is consensus that peer review judgment, publication and citation profiles of lecturers are important measures of reputational status of universities.

Thirdly and deriving from the above, there is a link between high performance in peer review and that of citations of lecturers' publications. Table 3 demonstrated this clearly. The only possible exceptions are (a) University of California, San Francisco with a very low peer review reputation (a score of 21) and a high citation score of 300; (b) the University of California, San Diego (not in the top 20) with also a low peer review score of 96 and a high citation score of 208.

Fourthly, there is implicit recognition that the quality of teaching and learning environment in any institution is a critical determinant of the ability of its scholars to make scientific breakthroughs, or for its alumni to win either a Nobel Prize or a Field Medal.

Fifthly, the overriding motive for profit maximization (rather than quality improvement) was at the heart of the emergence of different and competing national commercial ranking systems. It is only recently that the concern to use rankings for quality improvement in the international higher education system emerged as a major

pre-occupation. But even at that, the possibility of using rankings to enhance the economic competitiveness of national higher education systems at the international level has also become a major pre-occupation.

Sixthly, ranking is a product of the changing role of universities in a global knowledge- economy. It is part of the globalization dynamics, which as Joseph Stiglitz (2003) - the Nobel Prize Winner in Economics - rightly observed, has 'its discontents'.

And lastly, the functional transformation of universities in an era of global knowledge-based society has brought African universities at the crossroads by confronting them with a crisis of mission.

Policy Implications at the Institutional Level

First, since the earning of high reputational score in peer review, publications and citations, are all lecturer-researcher-centered, then the primary area of focus of any institutional policy has to be on making sure that the quality of lecturers are not compromised. African universities should step up the doctoral training of their staff that have not, received their doctorates. Although some African universities on the average have a good mix of those who possess the doctorate degree as against non-holders of doctorate, a closer examination of the spread across disciplines, is bound to reveal that this impressive record is rather skewed in favour of some departments.

Another major policy measure at the institutional level has to do with the improvement of the prevailing teaching and learning environment. The problem of increased student enrollment in public universities is a serious one that has to be addressed seriously. The provision of adequate IT facilities and personnel should be stepped up if the universities are to play critical role in the global knowledge economy. Currently in many African universities, access to the Internet is still a luxury.

Policy Implications at the National Levels

The relationship between investment in research and economic prosperity is like the chicken and egg puzzle. The dilemma that emerges is: should a poor nation postpone

huge investment in Research and Development (R&D) until it is economically prosperous? On the other hand, should massive investment in R&D be the exclusive preserve of rich nations? Perhaps this dilemma is aptly captured by Ince (2004) when he observed that, 'while research may be a driver of economic success, it is hard to have the first without the second'. But the examples of countries like Singapore, Denmark and Sweden are however demonstrative of the fact that there are strong links between research and economic success story of nations (Obasi, 2004b). This underscores the important role of the government in the ability of universities to make breakthroughs and also brings into question the kind of model of government-university relations that should emerge from that. The experience of Harvard University is instructive. Although, Harvard, 'is highly dependent on funding from national government, in the form of student support and research grants, it is a free-standing, independent organization' (Ince (2004). So for African universities to make any meaningful impact in research, governments in Africa should should take the funding of research seriously. This is one sure way to keep the universities high on the reputational ladder.

Policy Implications at the International level

Since one of the mechanisms for enhancing the peer review profile of an institution is by encouraging and supporting its staff to have a regular and sustained interaction with their peers at the national and international levels, African universities should continue to support their staff to attend international conferences. The benefits of such exposure and sustained interaction towards enhancing the reputational status of the university cannot be over-emphasized.

Secondly, the race to become a world-class university that occupies a good position on the global league table is not only a costly one but also a trap in an adventure with unequal academic institutional competitors. A race in such an uneven playing ground may be a recipe for harvesting discontents. Yet, African universities must be sensitive to developments in the international higher education system in a globalized world. But such sensitivity has to be exercised in a much wiser and critical manner. This recommendation is predicated on the realization that world ranking of universities is a form of academic capitalism in a globalized world characterized by an uneven playing

ground. This is what any serious political economy analysis of the subject would reveal.

Finally, while African universities should not lose sleep because of their poor performance in the world university league tables, they should however use the lessons from the exercise as diagnostic tools for improving their teaching, research and learning environment.

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Notes

1. See for instance *Wikipedia, The Free Encyclopedia,* http://en.wikidepia.org/wiki.University_ranking, as updated in February 2006; & University Libraries URL: http://www.bc.edu/libraries/research/guides/s-edurank as revised in April 2005.

2. Cf http://ed.sjtu.edu.cn/rank/2005/ARWU2005FAQ.htm.

3. Cf (http://www.webometrics.info/methodology.html.

4. See http://www.webometrics.info/methodology.html.

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