

Improving University Ranking in Resource Limiting Settings Like Nigeria: The Business Ecosystem Approach

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Abstract

The study deals with the issue of improving university ranking in resource limiting settings like Nigeria and it adopts the business ecosystem approach. The central objective is to examine how resource limitation especially funding undermine the capacity of universities to perform optimally and by extension attract favourable international rankings. Based on the business ecosystem model and a robust document analysis, it is the submission of this study that the progressive reduction in the resources, especially funding that is available to universities in Nigeria over the years, is the singular most important reason for a proximate drop in the performance and by extension international rankings of these universities. Although the paper condemns the abysmally low government funding of universities and the education system in general, it nevertheless maintained that over-reliance on government alone is clearly unrealistic. Based on the business ecosystem approach, the study recommends a strategic model that universities can adopt for them to stay apace in terms of performance, global competitiveness and world ranking. The model requires that universities in Nigeria transform internal and external opportunities into commercially viable activities that can scale up their funding which is critical to improving other aspects such as quality student and staff (teaching) researches, infrastructure, staff capacity, partnerships and collaborations. It is the belief that if the provisions of the strategic proposal of this study are carefully followed (and this can be modified to fit the needs of universities), there is every chance that universities in Nigeria will become self-sustaining in terms of the much needed resources that can catalyze a healthy growth and performance level in addition to favourable world rankings.

Keywords: *Resource limiting, Nigerian universities, Performance, Rankings, Business ecosystem*

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Background to the Study

Although, the effort at comparative assessment of universities around the world started in 2002, Brian and Simon (2013, citing Stuart, 1995; Kurbatov, 2015) have argued that ranking is not a new phenomenon even though it has become increasingly prominent in higher education systems around the world over the past three decades, especially the most recent decade. This is because, the global university ecosystem shares a common ground of being a place where expectations on quality education are ordinarily supposed to be met. This notwithstanding, relative conditions within the operational environment of universities have either imposed limitations or opportunities to the extent that manifold gradations on performance are now evidently easy to sight and have clearly become a basis for separating the strong from the weak in terms of certain indicators of output and or deliverables. Just like the United Nations' Human Development Indicators (HDI), provide parameters for ranking countries in order of human well-being, the University Performance Indicators (UPI), enable the hierarchical ordering of universities around the world based on the well-being of the product of knowledge. While the university ranking system continues to generate its own internal contradictions as well as a fair share of criticism especially as a comparison of the different ranking outcomes by the organizations who carry out these noble task, presents a mismatch in outcomes, it nevertheless has provided a reason to beam our analytical light on happenings in our universities and to juxtapose them with the socio-economic reality of their environment.

As we shall find out later in this article, a close examination of the various global university rankings show that most highly placed universities around the world operate within a general ecosystem (political, economic, social and to some extent even religious) that further incentivize their performance when compared to others of their kind around the world. For instance, compare the relative historical evolution of the environment of Harvard University in the United States of America and the University of Ibadan in Nigeria, who in the not too distant years of the late 1950s and 1960s shared a similar performance height with regard to the current indicators of ranking. However, this is not the case today because the larger ecosystemic realities of the two universities, again taken into account the logic of evolution is no longer the same. Hence, the need to understand the environment-university performance nexus is particularly important because it is only in doing this, that managers of universities and indeed all other higher education institutions will begin to appreciate the necessity for an out of the box thinking that is targeted at raising the bar of performance in resource deficit circumstances. This places the logic of this article on the philosophy that no two environments are entirely the same and their output will largely depend on the ability to use available resources both natural and man-made to their unique advantage or disadvantage as the case may be.

The long road to higher education decay in Nigeria is no longer a new narrative among scholars and policy analysts. The widespread outcry against the progressive deterioration of the quality of the education system in the country is evident in a generation of scholarly writings (see; Odia & Omofomwan, 2007; Omebe & Omebe, 2015; Iloanya & Nzeako, 2017) that have so rightly displayed their academic venom with sometimes angry outbursts on the

relatively low funding regime of education by successive governments both at the state and federal levels. This trajectory of scholarly revelations has also been largely justified by successive global rankings of universities since the early 2000 as the country continues to watch her elite universities nosedive to unenviable positions successively. Nigerian universities such as those found in Ibadan, Nsuka, Zaria and Ife among others that ordinarily were tourist's destinations for foreign students and staff from all parts of the world in the 1960s, have lost their international gravity as a result of a combination of structural historical factors that have undermined their viability. As a result, in the last five to six decades, Nigerian universities have been battling to stay apace the enormous amount of pressure that is required to scale up performance within the international academic ecosystem (Banjo, 2016).

Given the imperative to perform within a larger operational environment that consistently dispenses socio-economic deficits, there is need for an outright change or upgrade of administrative strategy that best fit the peculiar circumstances of each university in the country. This article deviates significantly from the quarrelsome approach of previous academic works on the subject matter of university rankings which have focused on blame games that mostly target the government, to providing a strategic framework on how to scale up performance in the administration of universities with a view to providing the enabling conditions and environment to become attractive to funding and other indicators of growth. Based on this, the paper relies on the business ecosystem perspective to explain how to improve university performance and by extension ranking in a resource limiting setting like Nigeria.

Objectives of the Study

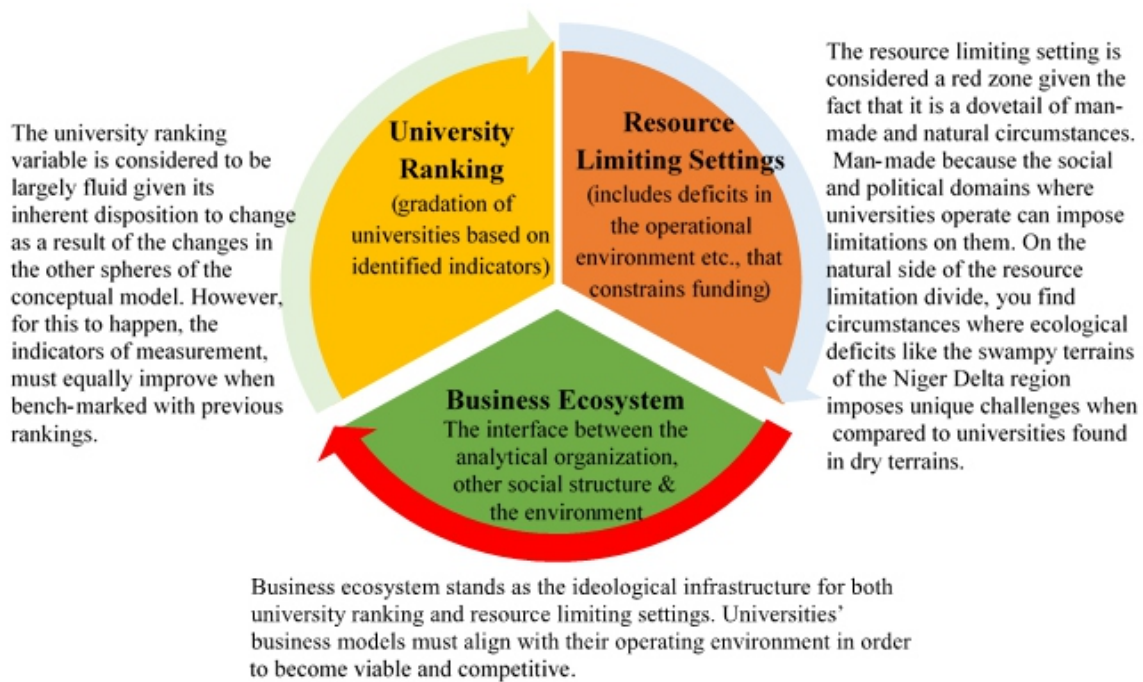
The objectives of the study are to:

- i. Examine how the business ecosystem affects the capacity of universities in terms of performance and ranking
- ii. Examine the constrain the limited resources especially funding poses for Nigerian universities
- iii. Propose a strategic framework to mitigate resources limitation and scale up the ranking of Nigerian universities globally

Conceptual Model

Three variables stand out in the theme of this study and these are university ranking, resource limitation, business ecosystem. In order to provide an understanding of the strategic or conceptual link between the variables, it is important to expose how they interact using an operational conceptual model. This will guide the analysis in the later part of the article. However, before providing the conceptual model, it is important to note that the interface between the variables reflects an attempt to conceptualize rather than theorize these variables.

Fig. 1: Conceptual model



From Fig. 1 above, the conceptual model for the study highlights the interface between the key variables while setting the tone for the analysis of the substantive issues in the sections to come. It is easy to see that in all operational sincerity, the business ecosystem of any organization comes with unique realities that can make or break the organization depending on its administrative model. In the context of this study, the viability of a university, while depending on the administrative machismo of its management, is further oscillated by the resources at the disposal of the university. In this case, resources would mean human and material. By resources, this study takes cognizance of external and internal realities surrounding the university and that is perhaps why the theoretical assumptions of the business ecosystem approach becomes a befitting framework of analysis.

Theoretical Framework: The Business Ecosystem Perspective

The study adopts the Business Ecosystem perspective which emerged in the early 1990s under the writings of James F. Moore. The central focus of the theory is rest on the assumption that all organizations including universities have a unique business environment or ecosystem that clearly influence their viability. Hence, organizations must as a matter of necessity operate in such a manner that they take into account the strategic influence of other organizations (both competing and complementary) as well as the social and natural realities surrounding them. In this regard, Moore (1996), draws attention to how organizations can either survive or die as a function of the degree of interface such organizations share with the direct and indirect business ecosystem. Moore (1996) argued that organizations are embedded in a (business) environment, hence, the need to co-evolve with other social entities, and that the particular niche a business occupies is challenged by newly arriving species. This means that organizations need to become proactive in developing mutually beneficial ("symbiotic") relationships with customers, suppliers, staff and even competitors (Onaolapo, 2012).

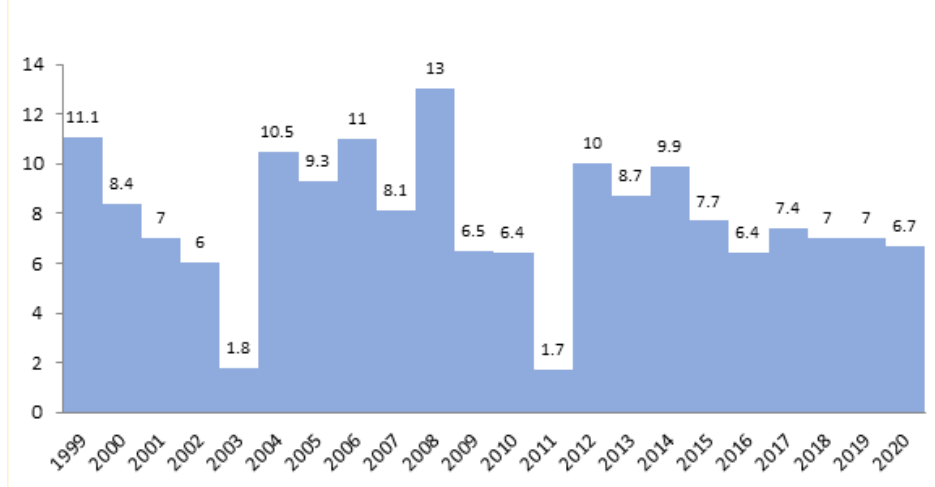
Clearly, the above approach is a justification to the fact that organizations especially businesses operate in an environment that places demands on them and that if these demands are not met the business is likely not to be viable in the long-run. This model or theoretical perspective represents a useful theoretical frame of analysis for the link between resource limiting settings and university ranking especially because it emphasizes a business approach that could redefine universities' outlook in Nigeria. We say this because, the viability of universities in Nigeria is largely constrained because of the absence of a business model or approach that takes advantage of their peculiar environment to catalyze growth and by extension international competitiveness. Hence, the business ecosystem model represents a befitting theoretical framework for this study as it enables us to see how universities can maximize opportunities for global competitiveness in the midst of resource limitations.

Business Ecosystem and Nigerian University Performance/Ranking

As stated earlier, the performance of Nigerian universities both within Africa and the world in general as well as the protracted outcry by the public in terms of the dwindling education culture or system in the country makes it imperative to question certain structural historical issues. At the eve of independence and immediately after this in the 1960s, universities in Nigeria such as the University of Ibadan and those found in Nsuka, Zaria and Ife, maintained a decent international gravity with large pool of foreign students and staff. This made it relatively easy to juxtapose their standard with that of great universities in the world such as Harvard, Oxford and Cambridge. However, decades down the line, the universities that once enjoyed some enviable degree of global relevance are currently occupying unenviable positions in the international scene when compared to others of their kind. As Abubakar (citing Taiwo, 1985; Kpolovie & Obilor, 2013) did rightly observe, in the early years, the Nigerian university system was highly regarded at home and abroad with products that were valued all over the world. However, this has changed significantly over the years and at the heart of this education system crash, funding and corruption have been largely indicted as the major problem. The end result has been progressive non viability of the universities with outcomes ranging from low quality graduates, quantity rather than quality research, incompetent manpower, to massive brain drain among others.

The gory situation of present day university education in Nigeria makes it necessary to question the larger business ecosystem of these universities. First, it is particularly clear that over the years, successive governments in the country have not sufficiently provided the enabling environment for the universities to sustain their viability as well as international competitiveness after independence. The funding regime for the education sector has remained abysmally low with progressive deterioration in the education budget since the late 1990s especially when compared to the 26% benchmark of the United Nations Education, Scientific and Cultural Organization (UNESCO). Fig. 2 below shows percentage budgetary allocation by the Nigerian government since 1999 to date.

Fig. 2: Percentage Budget allocation to education in Nigeria (1999-2020)



Source: Compiled and updated from Ojeleye, 2020

The budget allocation trajectory for the education sector in Nigeria since 1999 as shown in Fig. 2 above, clearly highlights the funding challenge that the university system is associated with. Nigeria represents one of the highly deficient countries when it comes to education investment with its attraction for quantitative rather than qualitative increase. Over the years, the number of universities has grown astronomically despite relatively dwindling national resources. Clearly, the larger business ecosystem of the universities pose significant limitations for them since no institution can rise above the level of operations of the larger social system. Hence, the progressive decay in the larger operational environment of the universities which is Nigeria, made it rather too easy for the standard and indeed performance of the universities to plunge significantly. Today, the universities that once occupied elite positions in Africa and the world in general, are now struggling to be found at the bottom of almost all known global and continental performance rate.

Ranking of universities is not entirely a strange phenomenon. In the United States for instance, the ranking system for universities was deployed as a business strategy in the early 1980s by some elite newspaper outfits. Ojokoh and Akinola (2017) confirmed that university rankings were first introduced by magazines such as the United States News and World Report as well as The Financial Times in 1983 and 1999 respectively, as a marking strategy for certain universities and to attract readership for such magazines. While this can be viewed as a near history, the nominal take-off point for university ranking that enjoys widespread acceptability due to their relative international character, is traced to that conducted in 2002 by the Times Higher Education (Banjo, 2016) and 2003 by the Shanghai Jiao Tong University known as the Academic Ranking of World Universities (ARWU) (Ojokoh & Akinola, 2017). Since then, other international university ranking outlets such as the Center for World University Rankings (CWUR), the Quacquarely Symonds (QS) World University Rankings and Webometrics have emerged. These number of ranking outfits depend on overlapping and sometimes marginally different indices of ranking universities around the world. For purpose of comparison and emphasis, Table 1 below highlights presents some of the well-known sources of world university rankings.

Table 1: International University ranking outlets and their methods

S/n	Outlet	Criteria	Weight	Indicators/Measures
1	ARWU by the Shanghai University Jiao Tong	Quality Education	30%	10% and 20% for alumni or serving staff respectively, of universities who have won Nobel Prizes or Field Medals
		Quality of Faculty	40%	20% for researchers who are highly cited in 21 subject areas & 20% for papers published in Nature & Science Journals respectively
		Research Output Per Capita Performance	20% 10%	Papers indexed in Science and Social Science Citation Indexes The academic performance of an institution per person
		Total	100%	
2	Times Higher Education World University Ranking	Teaching or the Learning Environment	30%	<ul style="list-style-type: none"> ● 15%: Reputation survey ● 4.4%: Staff-student ratio ● 2.25: PhD-Bachelor's ratio ● 6: Doctorates award in relation to academic staff ratio ● 2.25: Institutional Income
		Research- Focusing on volume, income & reputation	30%	<ul style="list-style-type: none"> ● 18%: Reputation survey ● 6%: Research Income ● 6%: Research Productivity
		Citations or Research Influence	30%	<ul style="list-style-type: none"> ● Web-based assessment
		International Outlook- Focusing on staff, students & research	7.5%	<ul style="list-style-type: none"> ● 2.5% International-domestic student ration ● 2.5%: International - domestic staff ratio ● 2.5% International collaboration
		Industry Income focusing on knowledge transfer	2.5%	
		Total	100%	
3	QS World University Ranking	Academic Reputation	40%	Global Survey of Academics
		Employer Reputation	10%	Global Survey of Employers
		Student to Faculty ratio	20%	Students-Academic Staff ratio
		Citations per Faculty	20%	Aggregate count of citation of research publications by institution
		International Faculty ratio	5%	Number of international faculty members in an institution
		International Student ratio	5%	Number of international students in an institution
		Total	100%	
4	Webometrics	Activity Presence (50%/3)	50%	Volume of contents published on the web domains of universities as indexed by Google
		Openness (50%/3)		Number of documents in dedicated websites based on Google Search
		Excellence (50%/3)		Number of academic papers in high impact international journals
		Visibility (Impact)	50%	Number of external in-links that a university's web domain receives from third parties
	Total	100%		

Source: Compiled by Authors from Banjo (2016)

Although the ranking criteria and the methods of measurement highlighted in Table 1 above have been largely criticized for being inconsistent, lacking in terms of the peculiarities of the various universities and for their subjectivity as well as bias disposition (Banjo, 2016; Ojokoh

& Akinola, 2017), they nevertheless serve as triggers for universities to continually assess and re-assess their performance in all ramifications. While no ranking approach can be said to be error free in light of the diversity and specificity of the business ecosystem in which the universities operate, international rankings have a very strong way of compelling universities to become competitive in a manner that triggers the need to scale up performance especially for those who occupy the bottom of the ranking pyramids.

While at the regional or continental level, attempt was made by the African Union through the establishment of the African Quality Rating Mechanism (AQRM) to rank universities in Africa, very little was achieved after it debuted in 2010 as a pilot programme. In Nigeria, while most part of the public and commercial value of university rankings have relied on assessments from outside, it is important to note that the National Universities Commission (NUC) which is the major regulatory agency for the universities in the country has made attempts at some kind of indigenous ranking. Okebukola (2011), reports that the first national ranking of Nigerian universities was in 2001 when the results of the 1999-2000 national accreditation exercise were used to rank universities in the country. Interestingly, despite its numerous flaws and the absence of key indicators that equate some of those associated with the major international university ranking outfits, the NUC's maiden ranking exercise for Nigerian universities was highly commended.

The commendation that the NUC received for its first outing with regards to the ranking of universities in Nigeria, notwithstanding, there were so many associated loopholes. This triggered the need to review the process to ensure that subsequent rankings would meet international best practice or standard. Years later, the NUC has evolved its own ranking system based on a collection of indicators drawn from notable international ranking outfits such as THE, ARWU and Webometrics (Okebukola, 2006, 2011). Table 2 above shows the NUC ranking criteria for Nigerian universities.

Table 2: NUC ranking criteria for Nigerian Universities

S/n	Ranking Criteria
1	% of academic programmes of the university with full accreditation status
2	Level of compliance with carrying capacity
3	Number of academic staff who are at professional level
4	Number of students who are not Nigerian
5	Number of staff who are non-Nigerians
6	Number of academic staff with outstanding academic achievements
7	Internally generated revenue
8	Research output
9	Student completion ratio
10	Stability of university calendar
11	PhD graduation output for the ranking year
12	Student to PC ratio

Source: Okebukola, 2011

Table 2 above shows 11 indicators that constitute the criteria for ranking Nigerian universities by the NUC. While the maiden ranking of universities in Nigeria by the NUCF in 2001, was based solely on the outcome of the previous year's accreditation exercise, those conducted in 2003 and 2004 accommodated 10 more criteria that were drawn from other international ranking outfits or agencies taking into account the indigenous peculiarities of the business ecosystem of the Nigerian universities. In other words, some of the criteria are unique to the Nigerian setting.

Over the years, Nigerian universities have maintained relatively low positions in the scale of the international university ranking outlets mentioned in Table 1 above. According to the Webometrics (2020) ranking of Nigerian Universities, the University of Ibadan, Covenant University Ota, University of Nigeria, Nsukka, Obafemi Awolowo University, and the University of Lagos, in that order, are the five best in the country. However, juxtapose these universities with their likes in Africa and the World, the performance gap become largely visible. In the recent global ranking of universities around the under the aegis of the four outlets highlighted in the Table above, Nigerian universities were clearly marginal given the performance measures in question. Tables 3 and 4 below shows data from the Webometrics and Times Higher Education World University rankings.

Table 3: Webometrics World University ranking for 2020 showing the rank of five (5) Nigerian top Universities in relation to Africa and the World

S/n	Name of University	Webometrics Ranking		
		Nigeria	Africa	World
1	University of Ibadan	1	18	1256
2	Covenant University	2	22	1374
3	University of Nigeria Nsukka	3	27	1685
4	Obafemi Awolowo University	4	30	1742
5	University of Lagos	5	34	1836

Source: Webometrics, 2020

Table 4: Extract from Times Higher Education World University Ranking, 2020 showing the rank of the four Top Universities in Nigeria

S/n	Name of University	Rank (World)
1	Covenant University	401-500
2	University of Ibadan	501-600
3	University of Nigeria Nsukka	1685
4	University of Lagos	801-1000
5	Obafemi Awolowo University	1000+

Source: Times Higher Education, 2020

Table 3 and 4 above shows data from the 2020 world ranking of universities by the Webometrics and the Times Higher Education (THE) respectively. It is easy to see that universities captured in Table 3 represent the top five in Nigeria. However, a further examination of the data when these universities are placed alongside other institutions of their kind in Africa, it becomes easy to see that none of the five universities made it to the top fifteen on the continent. Furthermore, at the international level, for Webometrics, all the five best universities in Nigeria fell below the rank of 1000 out of 1397 universities that were ranked across the world. However, for The Times Higher Education World University ranking, Covenant University Ota and University of Ibadan made it into the 401-500 and 501-600 rank respectively out of 1,400 universities globally. Drawing from these, it becomes easy to see that the performance of the top universities in Nigeria is very marginal. This marginal performance reflects the structural historical circumstances that have combined over the years to the ever shrinking resources available to universities in Nigeria. Below, we examine how limited resources can undermine the performance and ranking of universities.

The Challenge that Resource Limitation Pose for Nigerian Universities

The issue of limited resources as it relates to university growth and development in Nigeria has generated a beehive of writings both from the academia and concerned public analysts. At the heart of all the publications on the issue of limited resources for the education sector in Nigeria, abysmally low funding is by far the most indicted for enabling the decay of university education in the country. For instance, Rowell and money (2018), Etor, Ekanem and Sule (2020), have all argued that the historical trajectory of university funding in Nigeria is nothing to write home about. While quality education apologists are united in agreement on the fact that government has deliberately neglected its role in providing the much needed funding for the education system in the country, government on its own part has continually rose in self-defence by pointing out that the low education funding is a function of the overall resource deficit in the country (Osinbajo, 2019). In doing this, successive governments have equally chastised the universities for not being resourceful enough to attract funding especially given the university autonomy framework.

No matter the side of the argument coin that we find ourselves, the central issue is that universities in Nigeria operate within a funding deficit environment that has significantly undermined their ability to be viable and by extension competitive in the region and global arenas. Not having access to funding is the singular most cancerous challenge that universities in Nigeria face especially because low and or inadequate funding makes it rather difficult for these universities' management to drive robust programmes that can trigger a healthy performance regime that is necessary for global competitiveness. It is the view of the authors of this article that inadequate funding creates the necessary condition for other kinds of resource limitations that universities in Nigeria face. For instance, low funding capacity clearly reduces the ability of management of universities to provide basic and or necessary infrastructure such as befitting laboratories, health facilities, classrooms, high speed internet, electricity and so on.

Also, long years of low funding for the education sector which can be viewed in terms of remuneration and investment in teaching as well as learning infrastructure, has been the bane of the universities in the country. This has progressively undermined research and teaching in

terms of quality and by extension, reduced the momentum regional and international attractions that the universities had in the 1960s and early 1970s. The end result is the current decay that has now engulfed the universities translating into massive corruption amongst staff and students with the ultimate price of low standard in the two most priceless activities of the university which is teaching and research. Thus, while the funding deficit with regards to universities can be held responsible for providing the formative basis for these institutions to crumble, it also has a secondary effect of reducing the progressive abilities of academic staff and students in terms of output. Hence, on an incremental basis, Nigerian universities have also witnessed a massive atrophy in their international resource gravity with the obvious recession in the quality of their outputs.

Essentially, for several years now, we have grappled with the reality of a dwindling education system and it now, more than ever before, becoming clearer that the government of Nigeria has not sufficiently provided the necessary resource base for universities to grow in such a manner that they serve as a development buffer for the country as well as maintain a global competitive posture. This situation is indeed the major reason why Nigerian universities have continued to occupy bottom positions in all the highly placed international rankings of world universities.

Strategy for improving Universities' Performance/Ranking in Nigeria

In the previous sections of this paper, we have mentioned that resource limiting settings represents an operational environment where man-made and natural obstacles impose limitations on the viability of organizations. Collectively, these resource limitations come under economic, social, ecological, political and so on. Sadly, very few attempts have been made outside scholarly quarrel over the methodology of world university ranking agencies. The only study that has attempted to proffer a strategic change view of performance and ranking was done by Ojokoh and Akinola (2017) with their enhanced webometric ranking of Nigeria public universities, but was limited by its focus on the content of ranking rather than on external forces that can enable performance and ranking. In fact, none of the existing studies have ventured to provide a framework that can aid universities in Nigeria with regard to boosting their capacity to generate resources despite the limitations posed by the business ecosystem that they find themselves.

Hence, for universities operating within a resource limiting environment such as Nigeria, there is every need to adopt a strategy that is both internally and externally oriented. Figure 3 below shows the strategic framework for improving Nigerian universities' performance and international ranking. The framework combines internal and external dimensions for improving the resources of universities based on the peculiarities of their business ecosystem. In this regard, universities are expected to look inwards while leveraging on the opportunities that are available to them externally. It is important to note that the strategy rests on the business ecosystem perspective, hence its strong emphasis on value maximization based on the interrelationship and interdependence between universities, their direct and indirect environment.

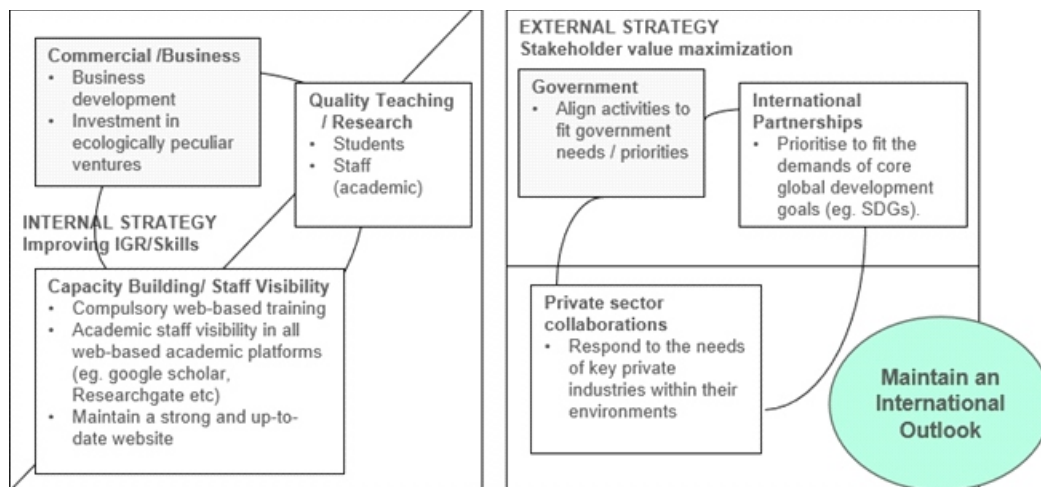


Fig. 3: Strategy to improve resources and Universities' performance/ranking in Nigeria

The figure above shows the suggested strategy the universities in operating within a resource limiting environment like Nigeria can adopt to boost their resources and by extension enable quality performance as well as scale up their international ranking. However, the simplicity of the strategy as shown in Fig. 2 above may be overly underrated, but on a closer or better still in-depth review, we cannot help but acknowledge the fact that one of the major shortcomings of Nigerian universities, is their over-dependence on government funding alone. This has become largely unsustainable especially when we consider the massive proliferation of universities and other public higher institutions in the country. Thus, amidst the reality of funding inadequacies, what can universities do to stay afloat and competitive? This clearly calls for robust strategy that takes not of exiting skeletal funding by government, while leveraging on the strengths that their immediate or direct business ecosystem affords them as well as other external opportunities. In this regard, universities must have a business mindset that responds to the commercial as well as industrial potentials available within the business ecosystem that they operate.

The strategy rests on the ability of the respective management, led by their Vice Chancellors (VCs), to catalyse an administrative environment that promotes a sustainable internally generated revenue (IGR) regime. This can be done by first developing a long term business plan that is rooted in solid market oriented investments. However, these investments should be tailored to the peculiar ecological resources where the universities are domiciled. Apart from business ventures, building capacity of staff to respond to indigenous as well as global challenges is a sure way of attracting funds. For instance, a university like the Federal University Otuoke, Bayelsa State, is located within a business ecosystem that is begging for solutions to environmental and sustainable development challenges. Hence, building capacity of staff to provide solutions to these problems will boost the university's attraction to grants and of course other related IGRs.

As a follow up, universities should invest in training of academics to increase their web-presence. A significant number of academics in Nigeria still maintain an analogue posture that is detrimental to their institutions especially as the various international rankings depend largely on information from the internet. Academics should be encouraged to be part of all web-based scholarly platforms such as Google Scholar, Research gate, Academia, among others. This should be part of their promotion assessment as an incentive for motivation. Similarly, the strategy encourages universities to maintain a viable and sustainable website. A large chunk of the universities in Nigeria have websites that are non-functional and on a lighter note very outdated. This is clearly unacceptable given the place of such a platform in this age of information.

The aspect of quality teaching and research should not be compromised. Several universities tend to hire based on affective (emotional) sentiments rather than achievement. This is the greatest undoing when it comes to the performance of the universities. This model of employing university staff creates an academic scenario where lecturers transmit nothing but ignorance with a devastating outcome of producing graduates that we now so conveniently term as unemployable. The first point is to get the recruitment right and ensure that standard is maintained especially in the research endeavours of staff. The current model of grading quantity (publish or perish) instead of quality in the promotion assessment of academic staff is to say the least dangerous to the growth and development of universities.

Lastly, on the external domain, while still hoping that federal or state governments' funding of universities will improve in the near future, the model suggests that universities should engage in a vigorous stakeholder value maximization. To do this, universities must tailor their activities especially research towards solving problems of stakeholders (government, corporate bodies, communities and international agencies). This will increase their funding gravity through grants and loans. It is important that universities take productive control of their business ecosystem and ensure that they produce research outcomes that maximizes the potentials of their environment and transform them into commercial goods that carry the brand of their various universities. Market oriented management of universities that engages on producing quality knowledge products will definitely increase performance ratings as well as international competitiveness.

Conclusion

The study focused on how to improve performance of universities that operate in resource limiting settings with emphasis on Nigeria. It argues that universities in Nigeria were once highly attractive and rated when compared to others of their kind from developed countries. However, over the years, an interplay of structural historical circumstances has united to undermine the performance of these universities to the extent that the best in Nigeria are now rated amongst lowest performing ones in the world. Although there are numerous reasons for this, abysmally low funding is seen as the basal problem which has so conveniently generated a hydra-headed set of problems. To increase the resources of the universities and scale up performance as well as a healthy international ranking, a strategic model that relies on boosting internal and external opportunities based on the business ecosystem approach was

proposed. It is believed that with few improvements, the model can catapult Nigerian universities into highly rated positions in the world and propel them into regaining their lost glory.

Recommendations

Although the study is model oriented and has proposed a strategic framework to address the problem of performance in a resource limiting setting, it is still necessary to provide some suggestions that may increase the chances of implementing the strategy. Hence, the following recommendations have been made:

- i. **Funding:** The universities should aggressively diversify in terms of their funding sources. Over reliance on government may not be sustainable especially when the large number of public higher institutions in the country is acknowledged. This can be achieved by adopting a model like the one proposed in this study that rests on the business ecosystem framework. This framework requires that universities become largely commercial while taking into account the specific ecology that they find themselves. In doing this, universities will transform into problem solving entities with huge attraction for grants and loans that can make them financially self-sustainable.
- ii. **Capacity and Merit-based Recruitment:** We begin by mentioning capacity because at the point where we are in most universities, that is an inevitable take-off point since we already have teaching staff who grossly deficient. Before ensuring that new recruitment exercises are based on merit and not ascription, there is need to consciously assess the capacity of teaching staff and grade them in terms of needs. When this is done, we suggest a capacity building programme that caters to the already identified gradation of needs and this capacity building programmes must be geared towards quality improvement and assurance that is nested on the information system.
- iii. **Quality Output:** Here, the research outcome of academics in the universities should reflect quality rather than quantity. It is only in promoting quality research that universities will raise their performance standard in addition to attracting funds. This can be done by setting up research assessment committees that are charged to enforce quality in all the faculties within the universities.
- iv. **Collaboration and partnerships.** This is very important if we are to scale up performance of universities in resource limiting settings. It is already clear that no university and no government standing alone can conveniently fund its way towards development. Partnerships and collaborations are a healthy way to increase the resources as well as the technical or expertise base of organizations. Universities must as a matter of urgency create a department that focuses on just strategy and partnerships. No modern organization runs without a strategy and partnerships department and expects to survive.

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