Institutional Ranking and Related Issues Facing Universities in the 21st Century

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ABSTRACT

Over the previous three decades, there have been considerable changes in the world's university sector due to market forces. Tertiary institutions are under pressure on account of both internal and external factors and advances in technology. Today, leading universities trade in educational commodities and operate as businesses. In the leading universities, the emphasis has changed from one where regional and national issues are the main focus to an emphasis on relationships across borders (internationalization). Branch campuses and cooperative ventures are evidence of the seriousness of such endeavours. Competition has become intense and even more so among the highly ranked institutions. Ranking is according to performance on various indicators, which means reputations and student choices are influenced. A number of ranking systems have been constructed and, irrespective of the criticisms levelled against them, are exerting a profound effect. National governments have responded by policy changes and the imposition of a quality agenda in an effort to ensure their universities are recognized and national honour is preserved. The changes observed affect all tertiary institutions and call for both organizational and personal resilience. Ignoring such movements is futile; constructive changes are necessary for future survival.

KEYWORDS: Universities, Resilience, World Rankings, Adaptive Change, Vulnerability

Introduction

Tertiary institutions, particularly since the 1990s, whether public or private, have and are facing financial and other pressures that are generated by internal and external factors (Leslie & Fretwell, 1996). The ever increasing emphasis on globalization (global inter-connectedness) and internationalization

(relationships across borders) in the university sector has functioned to increase the pressures experienced. In the knowledge-based economy in which we live, student mobility across borders is a reality. However, to an increasing extent, institutions are providing online education, entering into partnership with universities in other countries, setting up branch campuses, or entering into other cooperative arrangements. These developments modify the avenues available to students to access quality education (Kritz, 2006). The upper and middle echelons of the tertiary sector are most noticeably involved in such initiatives and with differences among countries. The trend means that all tertiary colleges and universities are experiencing pressures to engage to some degree with these movements or to enter into attractive creative alternatives. It is undeniable that competition among institutions for students has become more intense. This call to involvement is heightened by parents and students considering prestige, quality, international and country ratings, convenience, cost and the social/moral environment in their enrolment decisions. In the top universities, intense competition exists for high quality undergraduate and post-graduate students and for research monies (Sacchetti, 2013).

The response of tertiary institutions to such changes in the educational environment has been varied. Not all institutions will become globally active, but all must work in a changing global framework (Marginson & van der Wende, 2006). Institutions must make assessments of the significant local and regional issues, generate strategies to counter the obstacles and stresses experienced, and construct a time framework to address the inadequacies identified. This is required if an institution is to emerge in a better position. More than reactive responses are required, for changes in tertiary education are likely to be ongoing. Unforeseen developments, disasters, and local, national and regional political events may also impact on an institution's operation. In order to position an institution to cope with such pressures, it needs to be resilient. In this respect, much can be learned from the strategies adopted by firms and organizations that have been able to cope well with natural disasters.

The principal functions of tertiary enterprises are to impart knowledge, teach investigative and analytical skills, stimulate an enquiring and community benefiting spirit in students so they become productive citizens, and engage in research so adding to the total knowledge base. Selected institutions seek to provide moral understandings and some still operate in a framework asserting the unity of knowledge. The balance sought among these tasks will differ for each institution.

Universities, irrespective of their philosophical base or whether they are public or private, must engage with the significant issues experienced in the wider tertiary education sector. All will be challenged and responding to these pressures will test

the resilience of all those who have devoted their energies to the enterprise. In this paper, we examine some of the challenges faced by tertiary institutions.

Factors contributing to vulnerability

Universities operate in a climate of uncertainty dominated by financial pressures coming from inflation, diminished government and system support, fluctuations in enrolments, increased demands for services associated with poorly equipped enrolees, increased pressures from authorities to maintain standards, pressures exerted by technological changes, and issues consequent on adopting distance learning options (Balzer, 2010; Friedman, Friedman, & Pollack, 2005). Other internal issues strain resources, such as price discounting, management inefficiencies, poor analytical capabilities, deferred maintenance problems, and other factors (Leslie & Fretwell, 1996).

There are added pressures from the community demanding value for money expended and transparency in regards to expenditure of tuition fee monies. There is decreased sympathy in some quarters for activities designed to push back the frontiers of knowledge through engagement in basic research (higher education) and instead an emphasis on job application success. These pressures usually result in reactive rather than proactive solutions being sought (Balzer, 2010).

The pressures brought by globalization, internationalization, economic, and other pressures has had a profound effect on education in some countries leading to reforms in the university sector (e.g., Japan—Itoh, 2002; and developing countries more widely—Carpentier & Unterhalter, 2011; Mok, 2011; Nitungkorn, 2001; Schiller & Liefner, 2007). The movement to implement some form of quality assessment has been adopted in many countries (Lucas, 2014; Sae-Lao, 2013). A number of countries in the Asia Pacific have visions of becoming educational hubs. The initiative has brought economic gains, enhanced human capital, and increased political influence. With the expansion of international campuses in countries in this region, various forms of accreditation and quality control have been adopted. The subtext to these developments is to achieve international standing through attracting high ranking foreign institutions to locate in their territories (Mok, 2011). In this quest, Singapore and Hong Kong have achieved spectacular success rising to a World rank of 24 (National University of Singapore) and 43 (University of Hong Kong) in the Times Higher Education World University Rankings (2017b).

Academic rankings of universities are regularly published since 2003-2004 (Marope, Wells, & Hazelkorn, 2013). The best known systems are the ARWU Shanghai Academic Ranking of World Universities, QS World University Rankings and the Times

Higher Education World University Rankings (THE), but there are many more (Australian Education Network, 2018). The rankings are based heavily on the quality of researchers and research output. Besides overall rankings for institutions, rankings are also provided for broad fields and specific subjects.

On a world-wide basis, it is undeniable that the various ranking systems focus on elite institutions. This means, in practice, that ranking scores for institutions outside the top 500 universities are sparse. Rankings are skewed to favour medicine, engineering and the natural sciences, with the relative neglect of the arts and humanities. The methodology used is not well described, the indicators used to measure reputation are often poorly supported by research data, and the use of publication statistics for languages other than English remains problematic (Rauhvargers, 2013). Among universities, rankings have introduced controversy and a level of competition not seen previously. Higher education has become an item traded internationally and has been embraced by for-profit organizations. For the more traditional universities, the consequences of achieving a poor ranking or failing to post an advancing score can have enormous ramifications (Wildavsky, 2010).

Various countries have adopted different strategies to ensure quality and enable comparisons—create their own league tables, such as excellence in research ratings, which is used to allocate government research monies (Australian Education Network, 2018), construct tables of comparison (United Kingdom) based on a number of criteria from entry standards to graduate prospects and including research excellence (Complete University Guide, 2016), publish the performance results on a number of quality criteria (Rungfamai, 2017; Sae-Lao, 2013), or on a user-selected group of criteria (wider than other systems) from those available (European Commission, 2016).

Press releases are part of the strategy used by surveying, non-government agencies to inform the public; government agencies leave it to the media, generally, for making comments on ranking or quality results. Where unethical practices are suspected or poor performances are recorded, universities may anticipate additional exposure in the media (Knott, 2015; Sattayawaksakul, Putsom, & Keawduang, 2012).

Recently, national higher educational systems have been ranked using an expanded number of indicators such as resources, regulatory environment, connectivity with the rest of the world, and output (research and student and other measures) to derive a rank position. Such an approach could enable a shift in emphasis from world-rankings to national systems performance, meaning that benchmarking might be anticipated (Williams, de Rassenfosse, Jensen, & Marginson, 2013). Benchmarking enables systems to be compared and remedies devised in order to realize the true potential of a national system (Salmi, 2013).

Influence of rankings on government policy, universities, and enrolment choices

The links between education and economic growth are widely recognised. Public and university policies in state institutions are more likely to reflect these changes. This means that there is a move towards the creative industries. Forward looking institutions have become increasingly entrepreneurial, have focussed on joint enterprises with industry and commercialized products. With economic growth firmly in the focus of the political mind, there is no question that the emphasis in state run universities will become increasingly directed towards research and innovation. These institutions will reflect the sea changes occurring, but with unequal success across borders (Mukherjee & Wong, 2011).

The influence of world rankings on Asian universities has been rather marked, with the governments of a number of countries actively engaging in the race to maintain prestige and the ability to attract foreign students and scholars. The rise of world class universities has been extremely rapid in some of these locations, taking about 10 years to achieve for Hong Kong University of Science and Technology (Postiglione, 2011). The consequences of engaging in the pursuit of excellence and actually being able to move backwards in the rankings is the dismal picture found in one country in Asia. The public perception of falling standards was probably well placed but it had the salutatory effect of stimulating necessary reforms (Mukherjee & Wong, 2011).

Rankings undoubtedly influence the choices of students to enrol in an appropriate university, particularly in the initial screening activities and in post-graduate studies (Mitchell, 2015; Wildavsky, 2010), and they may also figure in government policies and university administrative decisions and policy. A suite of sequelae has been noted across governments and universities pursuant on rankings data being commonly available (Table 1).

There is an increasing trend for universities to strive for world ranking, which means that they are research focussed and competing for prestige and students. The ranking achieved is not based on a set of well-researched quality criteria and hence has deficiencies. Global universities have been criticised as attempting to adapt to private rather than public interests and the common good.

Universities can participate in providing services to clients in two fundamental ways—economic transaction that represent strategies based on professional assessment of what the client needs (professional transaction), and a democratic transaction (the parties negotiate a fit between wants and needs). Clearly, global universities satisfy the economic model servicing private wants. However, there is a case for considering the public good and adding something that the clients may not have considered in their wants (Biesta, 2013).

Table 1 Some Impacts and Dangers Identified Concerning Institutional and Government Policy in the Race to Achieve High World-Wide University Rankings (Hazelkorn, 2012, 2014; Rauhvargers, 2013)

Government policy impacts	University policy pressures
Immigration eligibility	Investment priorities changed
Eligibility for creation of bilateral arrangements	Strategic planning influenced
Eligibility for scholarships abroad	Scholarship opportunities (international) increased
Recognition of degree qualifications	Recruitment and promotion policies
Merger and restructuring plans	Salaries of top officials linked to rankings
Preferential funding arrangements for top universities	Differential preference given to those areas impacting more directly on rankings
Excellence equated with exclusiveness	Social priorities and student entry requirements changed

Ranking systems differ

It is pertinent to note that world university ranking systems differ, with some countries barely making rank with any agency for their top universities (Table 2). There can be wide variation in rank position for the same university depending on the ranking authority. For example, Table 2 shows some remarkable differences. The Australian National University received rankings form 20 to 191 and the University of Tokyo was in the top ten only in the CWTS rankings beating Oxford and Cambridge. This points out the weaknesses of simply quoting figures. An understanding of the processes involved and what the figures actually say is of utmost significance. It is also evident from Table 2, and by a more extensive list of published data, that universities in western developed countries do not necessarily post superior scores as compared to some late entrants on the scene. It is evident also that any ranking system that claims to definitively identify the best universities in the world welcomes critical investigation. The uncertainties resident in the data collection, which may be carried over into the presentation, and the lack of comprehensiveness of data collection must be acknowledged. This is a problem with all systems commonly used (Waltman, Wouters, & van Eck, 2017).

Table 2 Some Differences Noted in Rank Position of Leading Universities According to Different Assessing Agencies (ARWU, 2017; CWTS Leiden Ranking, 2017; Times Higher Education, 2017b; Topuniversities.com, 2017b)

University	World Rank (Times)	ARWU World Rank (Shanghai)	QS World Ranking	CWTS Leiden
National University Singapore	24	91	15	30
Australian National (Aus.)	47	97	20	191
James Cook (Aus.)	251-300	301-400	367	536
Sydney (Aus.)	60	83	50	29
Toronto (Canada)	22	23	31	2
Peking (China)	29	71	38	15
Tsinghua (China)	35	48		11
Hong Kong	43	101-150	26	107
Hong Kong Polytechnic	192	201-300	95	218
Univ. Indonesia	>800	-	-	-
Univ. Tokyo (Japan)	39	24	28	10
Kyoto (Japan)	91	35	36	32
Universiti Kebangsaan Malaysia	601-800	-	230	-
Ateneo de Manila University	-	-	551-600	
Univ. Philippines	>800	-	367	-
Seoul National (South Korea)	72	101-150	36	9
Ewha Womans University (South Korea)	401-500	401-500	299	525
National Taiwan Univ.	195	151-200	76	48
Mahidol (Thailand)	501-600	-	334	459
Chiang Mai (Thailand)	601-800	-	551-600	708
Chulalongkorn (Thailand)	601-800	-	245	458
Cambridge (UK)	4	3	5	18
Oxford (UK)	1	7	6	13
Duke (USA)	18	26	21	33
Harvard (USA)	6	1	3	1
Stanford (USA)	3	2	2	8

One emphasis common to all ranking systems is research publication output, but the leading ones (ARWU, CWTS and THE) consider only publications in English. The weighting given to quality papers differs among the agencies (Table 3). Furthermore, there is a bias against those institutions with strong programs in the humanities and social sciences. All the data is reduced to a single metric in the major ranking systems (ARWU, QS, and THE). The THE and QS organizations consider the widest range of indicators, which is not surprising since they share a common heritage. The QS system acknowledges some of its deficiencies, such as teaching quality. In addition, academic reputation constitutes a sentiment rather than an objective measure (Liu, 2013; Topuniversities.com, 2017a). The CWTS Leiden Ranking of universities takes a somewhat different approach and considers publication and citation impact and level of collaboration. Universities may be ranked on the basis of overall collaboration, international or industrial collaboration and the nearness of the cooperating institution. As far as the impact of publications is concerned, universities may be sorted so as to consider those with the top 1, 10 or 50 percent of most frequently cited publications (CWTS Leiden Ranking, 2017; Liu, 2013; Waltman et al., 2012).

There are difficulties with any ranking attempt. First, there is no internationally recognized definition of a university. Collection and presentation of data may not be carried out in a standardized manner. This may encompass the question of what entities associated with a university should be considered when assessing its research output. In the THE system, universities provide the data themselves (open to inflationary tendencies) and the values attributed to the various categories of performance are given set values. Data either provided by the universities or collected from the public domain may contain false negatives and positive data, which cannot be eliminated readily. Then size dependent (numbers) and independent (proportions) indicators may be combined in some ranking systems (e.g., ARWU), which makes sensible conclusions difficult in selected areas. The size independent measures allow smaller universities to score well in comparison to larger universities, whereas the size dependent factors do not (Marope et al., 2013; Times Higher Education, 2017a; Waltman et al., 2012). The number of parameters considered and their weighting varies widely as seen in Table 3. The advantages and disadvantages of indicators have been summarised by Hazelkorn (2013). All indicators have their deficiencies and together these help to explain the variations seen among the different ranking systems.

Table 3 Ranking Indicators Used by Different Agencies (ARWU, 2017; CWTS Leiden Ranking, 2017; Times Higher Education, 2017a; Topuniversities.com, 2017c; van Vught & Ziegele, 2013; Waltman et al., 2012)

Ranking Entity	Ranking Indicators Used	Percentage weighting
ARWU	Nobel Prize and Field Medal holders (numbers)	30
	Number of highly cited researchers in the Thomson Reuters list	20
	Number of articles published in Nature and Science	20
	Numbers of papers cited in two key Indices	20
	Per capita performance	10
Leiden	Citation impact. Lists universities with a high research impact (>500 research publications annually). Citations of research papers and reviews in international journals recognized by three key Indices	Variable settings of parameters can be used to rank universities
	Collaboration with others	
QS	Academic reputation (international survey)	40
	Citations per faculty as per Scopus journals (5 year period record/number of academics)	20
	Employer reputation (survey of employers)	10
	Faculty/student ratio	20
	International faculty	5
	International students	5
THE	Research (volume, income and reputation)	30
	Citations (research influence)	30
	Teaching (perceived prestige)	25
	International outlook (staff, students and research)	7.5
	Industry income (knowledge transfer)	7.5
U-Multirank	Teaching and learning Research Knowledge transfer International orientation Regional engagement	Indicators represent performance as belonging in the top, middle or bottom category of performers

Overemphasis on rankings is an unproductive exercise for the user of the courses offered by a university. It has been pointed out that with the expansion of the number of universities included in comparisons by ranking agencies may lead to a drop in rank position of an institution, which may not indicate a decline in performance. Also rank differences of universities in the 300 range as compared to those who have achieved a 200 score may simply be a reflection of a variation of 10 percent in highly cited publication outputs. In the mix, the mission of the university and its location will also influence the ranking outcome (Waltman et al., 2012). The need to look beyond the sometimes narrow emphasis of ranking system has been highlighted recently in the United Kingdom. Teaching excellence was shown by some newer universities. This enabled them to overshadow the elite institutions thereby illustrating one difficulty with dependence on the league tables (Pells, 2017).

It is commonly recognized by those working in the tertiary sector that institutions differ in their emphasis and particular expertise. They may have exceptional performances in some areas of knowledge and not others. For example, a university specializing in geology in a mineral rich area may have many collaborative ventures with mining companies and make valuable contributions to science, whereas other disciplines in the same university may struggle. On a country basis, a university may rank in a mid-range of performances, but in a specified area may be thought of as the leader in the country. To an extent this is catered for in assessments made by some agencies, such as ARWU-FIELD and SUBJECT and QS. In the first-named system, five broad subject areas are considered, but Arts and the Humanities are excluded on account of methodological difficulties in making comparisons. New indicators were added to allow subject comparisons and some changes were made in weightings. In the SUBJECT field a range of possibilities have been included (ARWU, 2016; Liu, 2013; Sowter, 2013).

The most extensive ranking scheme, using Web accessible indicators, is the Ranking Web of World Universities (2017) and the most comprehensive attempt has been undertaken by U-Multirank to allow clients to compare universities. This later system represents a radical departure from the research emphasis systems commonly used. In this scheme, no combined rank score is allocated so that league tables are not produced. Rather, scores on individual indicators are the basis for comparison (range from very good to weak—scale of five responses). This means that the system is user driven and the decision on which institution to choose is based on individual needs, preferences, and many other considerations. Institutions with similar profiles and missions can be compared (U-Multirank, 2018).

Policy directions: choices available

National decisions in some countries may involve a choice between the pursuit of world-class tertiary institutions or lesser goals such as in identifying flagship universities. In the latter instance, the emphasis on regional and national considerations are paramount. The immediate emphasis in a flagship university would still be on research, but the focus is relevance to the region, to every day realities. Relevance might be identified by the establishment of Centres of Excellence, for example (Khomyakov, 2017—Russia; Ndofirepi & Cross, 2016—Africa). This may be the pattern that many of the unranked universities might choose to follow too.

National policy makers who strive for recognition of their universities on a world scale have to make the choice between following the pathway of concentrating resources on the few institutions or try balancing equity and excellence and supporting excellence wherever it is found. The latter model considers the unranked as well as allowing for the emergence or strengthening of the most the highly ranked, for the latter constitute only a small proportion of institutions contributing to the overall health of the educational system (Hazelkorn, 2013).

Different approaches have beentaken along the pathway to world ranking. Few countries have chosen one extreme or the other (Altbach & Salmi, 2011; Guttenplan, 2011), although the situation can be fluid depending on the political agenda of the ruling party. Some countries have rejected moving towards the American model, others have courted the idea (Adusei-Asante, Awidi, & Hancock, 2016). Attempting to follow the American model can have political fall-out. In the Australian scene, four categories of universities are recognized—Group of Eight (highly ranked), Technological, Innovative Research Universities, and Others. The top research universities are well ranked, tend to be the oldest, the ones with the greatest endowments, the most prestigious faculty members, and they are in receipt of a major share of government allocated research monies (Norton & Cherastidtham, 2014). Moves to deregulate the system and edge it towards the American model (neo-liberalism) are part of recent history in Australia. Student perceptions in Australia indicate that deregulation would makeaccess more difficult for rural and remote students (Adusei-Asante et al., 2016). The backlash was substantial and the initiative failed. However, the attempt led to some critical comparisons being made.

While the emphasis on excellence is not decried in the least, it is relevant to note that those students graduating from the prestigious institutions in Australia have only marginally better employment prospects compared to those of graduates from other

universities. The field of study chosen had a greater impact on full-time job prospects than the graduate's university and starting salaries were not significantly different. In the long term, salary differences emerged marginally in favour of the elite universities. However, extensive data analysis support the reasonable conclusion that top flight universities attract intrinsically bright students, meaning they would do well irrespective of where they studied. The impact of elite universities in Australia is not as substantial as in the United States, as, contrary to the case there, they are not highly selective as far as the student intake group is concerned (Norton & Cherastidtham, 2014). The Amercan model has not served the student population well. The rather static demand there contrasts poorly with the increased demand for tertiary places experienced in some other countries with a more equitable system (Quiggin, 2014).

Attaining elite status does not require a pursuit of the American model. Some private universities have achieved world class status, such as the Ewah Womans University, Pohang University of Science and Technology (South Korea), the Pontifical Catholic University of Chile, and Ateneo de Manila to mention several. In two of these studied in some depth, the pathways to global recognition was difficult, expensive, and required long-sighted and innovative measure to be adopted (Bernasconi, 2011; Rhee, 2011).

Conclusions

The competitive environment in which we live has become more intense in universities following the widespread practice of ranking. It has been realistically stated that "there is no such thing as an objective ranking" (Hazelkorn, 2013). Reducing the complexity of functions performed by these entities and expressing their performance and quality as a single metric has created much debate and the statistic needs to be interpreted with care. This is especially so as the rankings are skewed to emphasize research performance. Nevertheless, rankings are here to stay and are used by universities, clients, governments and others (Marope et al., 2013).

Ranking has led, in many quarters, to a realization for the need for reform the entire educational system. This focus on the whole means that unranked institutions are being forced to examine their management and delivery systems and governments also are looking to the whole schooling system (Marope et al., 2013). Rankings and related measures of performance are used to direct policy and even resource allocation, scholarships, and academic salaries (Australian Research Council, 2017; Hazelkorn, 2013; Liu, 2013; University of Tasmania, 2017). A sensible management of the tertiary sector is required to meet the challenges of moern world with its emphasis on knowledge-intensive activities. In this environment, rankings do serve a useful function in the drive towards efficiency and relevance.

The universities featuring in the league tables represent but a fraction of the world's universities. It has been estimated that more than 15,000 do not appear on any list. The most informed approach to the pressures placed on universities by rankings and the increased demand for higher education is to adopt a creative and innovative approach, which functions to identify an institution as unique. Some non-listed institutions may strive for listing in the major league tables, but many will seek to provide quality education appropriate to their region so as to increase the human and social capital of their nation and undertake research of regional and national relevance (Marope et al., 2013).

The ultimate question is whether higher educational institutions are able to "fulfil the purpose and functions that governments and society want them to fulfil" (Hazelkorn, 2013). The image of the university should not be obscured by the somewhat artificial ranking of national universities appearing or not appearing among the world elite. In a sense, the current emphasized on rankings can be seen as an exercise in neo-imperial politics, although this sentiment should not obscure the need for modernization and seeking more efficient pathways of operation and cooperation within the sector (Khomyakov, 2017).

Recommendations

Universities, whether public or private, should take the conversation on world university rankings seriously. For many universities, this will mean the realignment of their goals and priorities rather than the launching a massive effort to achieve ranking on one of the top indexes. Some of the newer, more encompassing approaches to ranking (Leiden and U-Multirank), contain practical ideas that may be considered. These include regional engagement and research collaboration among institutions, in order to achieve greater relevance and avoid an inward focus. Teaching and learning objectives need to be balanced with those on research. National interests will be kept high on the agenda, but an international orientation will be sought.

Achieving reforms in universities is difficult, as they often possess structures that militate against meaningful engagement of faculty, rapid decisions, creative and innovative approaches, achievement of efficiencies, and a focus on the clients. Reforms in these areas are vital.

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