

Research Publication Output by Academicians in Public and Private Universities in Malaysia

Ina Suryani¹, Aizan Yaacob², Noor Hashima², Salleh Abd Rashid¹ & Hazry Desa¹

¹ Universiti Malaysia Perlis, Malaysia

² Universiti Utara Malaysia, Malaysia

Correspondence: Ina Suryani, Centre for Communication Technology and Human Development, Universiti Malaysia Perlis, 01000 Kangar, Perlis, Malaysia. Tel: 61-9-3000-162. E-mail: inasuryani@unimap.edu.my

Received: January 27, 2013

Accepted: February 22, 2013

Online Published: February 21, 2013

doi:10.5430/ijhe.v2n1p84

URL: <http://dx.doi.org/10.5430/ijhe.v2n1p84>

Abstract

The number of publication has been one of the measurement values in the performance evaluation for higher education academicians. Over the years, the obligation to publish has amplified to not just on getting published but also on getting published in high quality journal whereby the quality ranking is determined by publication categories. This paper gives an account on the publication output in Scopus by the Malaysian private and the public universities in 2010. The study employed a query search on the Malaysian universities affiliation using Scopus database. The result of the search was tabulated and narrowed to journal publications and the other types of publication such as reviews, proceedings and letters were omitted. The number of journal publications by each university was listed out and comparison on the average was made. Comparison was made between the average number of publications by the private and the public universities. Findings show that the spur on publishing among Malaysian universities has taken effect. The study found that the Malaysian private universities published a distinctively smaller number of documents in Scopus compared to the public universities. The percentage for publication of journal article from the overall Scopus publication type journal articles published by the private universities was also smaller compared to the public universities. In other words, compared to the public universities, the authors in the Malaysian private universities had lower inclination to publish journal articles and were more likely to publish in conference proceedings, reviews and articles in press. The discussion section explores the reasons for these differences and presents the possible trending on the issue of publication in Malaysia.

Keywords: Public University, Private University, Research publication

1. Introduction

1.1 *Publication as a measure of performance*

The western academic model that derived in the Europe has been successful in providing advanced education, fostering research and scientific development and it has been imported by most nation in the world including the US, Japan, China, India and other post colonial countries as well as Malaysia (Altbach, 2004). One of the noble ideas is that universities should participate in the creation as well as the transmission of knowledge (Altbach 1998). Western universities have been the centre of knowledge networks that and the means of knowledge dissemination such as journals and scientific publication. In the operation side, journals and scientific publications are not only the centre of latest knowledge dissemination but also act as essential links for the seasoned academicians to keep abreast on the development in their area and implicitly facilitate academicians with contemporary knowledge to be imparted to their students. Such deep rooted importance on creation and transmission of knowledge has put scholarly publication as one of the most common performance indicator for most universities globally. Scientific publication has been used to measure research productivity in both public and private universities in the US (Adam and Griliches, 1998) Australia (Avkiran, 1999) (Butler, 2003) and Europe (Van Looy, 2013).

Publication that is recognized through peer review process signifies the legitimate platform for the research content to be discussed, challenged, referred and criticized by the community of the academia. Authors who are mostly

researchers and academicians must be capable of not only presenting their findings and claims but also capable of supporting and defending the proposed knowledge. The academic community embrace such culture of open knowledge discussion and this practice is vital in giving direction to the knowledge progression.

Moving on from being a platform meant for knowledge discussion, publication has now become one of the most important performance indicators for Malaysian academician. "Publication count is an indicator of research productivity and is used to rank faculties and academic institutions... ascertain author's productivity ...or the publication productivity of research groups" (Norhazwani and Zainab, 2007). Malaysia Ministry of Higher Education (MOHE) necessitated that Scopus and ISI journals are included as the target for publication and such publications are accounted for in the public universities performance indicator (Abu Bakar, 2010). The recognition on such publication is evident through orders communicated to the academicians in various occasions by the Higher Education Department (JPT, 2010) and the Malaysian Ministry of Higher Education (MOHE, 2010). Many universities in Malaysia expect the academicians to publish in Scopus, ISI and impact factor journal and this aspiration is clear when some universities such as Malaysia National University (UKM, 2010) and Universiti Malaysia Perlis (UniMAP, 2010) offer rewards to the writers in forms of 'seed money' or research grants for published research articles.

1.2 Different measure of performance

While publication practice has progressed in the public universities, publication is not included as criterion of assessment for the private colleges ranking in the Malaysia Quality Evaluation System for Private colleges (MOHE 2011). The different evaluation value on publication between the public and the private universities, poses possible different publication behavior among academicians in the two sectors. Given that publication is not included in the performance assessment, it is inherent to ask if the academicians still take part in this noble act of knowledge creation and knowledge dissemination aspired by the western academic model. This paper gives an account on the publication output in Scopus by the Malaysian private and the public universities.

2. Method

Bakri and Willet (2011), pointed out that research quality has traditionally been assessed by means of expert review which is similar to evaluation procedure for refereed journal articles and grant applications and this procedure is "costly in terms of the time of the subject experts". They further added that bibliometric indicators can be use as surrogate for peer review. This study uses some of the bibliometric procedures in describing the quantity of the research publications produce by the Malaysian universities in Scopus. This study began with obtaining the list of private and public universities from the MoHE website. MoHE website listed 20 public universities and 25 private universities (MOHE, 2010). Next, the numbers of SCOPUS publication by each of the 45 universities were retrieved from the SCOPUS database system. This was obtained using the affiliation search function and the spellings used were as on the MOHE website. The following section justifies SCOPUS as the chosen database.

2.1 Justification on using SCOPUS database

Scopus is also recognized as an acceptable tangible return of revenue for research grants awarded by the main sponsoring bodies in Malaysia namely MOHE and Ministry of Science, Technology and Innovation (MOSTI). The grants such as Fundamental Research Grant (FRGS), Exploratory Research Grant (ERGS), Long-term Research Grant (LRGS) offered by MOHE and the Science Techno Fund by MOSTI expect publication as one of the research outcome. To some extent, number and quality of publication translates into return of revenue for every Ringgit invested by the sponsors through the grant. The most sought after publication is the High-Impact factor journals and these journals are most likely indexed by ISI- Thomson journals or by Scopus.

Scopus database is highly accessible and up to date. The data is laid out in user friendly environment making retrieval of information simple and fast. It has simple and intuitive interface (SciVerse, 2012). The features and functionality assist the sampling for this study, particularly the Affiliation Identifier function which automatically identify and match an organization with all its research output (Sci Verse, 2012). These functions enable information retrieval on the journal articles written by the author in the affiliated universities. The information on the authors and the affiliation, combined with the year of publication gives a perspective on the Malaysia University Scopus publication landscape. The information has been tabulated in table 1

Comparing Scopus to Web of Science and Google Scholar, Scopus was found to be more suitable in determining the population for the study. Vieira and Gomez (2009) compared two major scholarly databases which were Scopus and Web of Science. They found that 2/3 of the documents referenced in any of the two database while a fringe of 1/3 are only referenced in one or the other. However, the study (Viera and Gomez, 2009) was done "from a point of view of

a typical comprehensive university” in Portugal. An earlier dated study by Falagas, Pitsouni, Malietzis and Pappas (2008) on the other hand did a more comprehensive study and reported that their citation analysis showed that Scopus offers 20% more coverage than Web of Science, whereas Google Scholar was reported to offer results of inconsistent accuracy. In other words, Scopus is more likely to offer a bigger number of journals upon one search hence, the description of the population for the study have lesser possibility of missing out any publication.

Falagas et al. (2008) described that Scopus covered a wider journal range compared to Web of Science and Google Scholar was described as “inadequate, less often updated, citation information”. With wider range of journals, the database can generate a more comprehensive list of publication. In relation to this study, it can be summed up that Scopus is a database offers a more comprehensive coverage of journals, and give the possibility of more account for the population sampling.

The affiliation search was done in August 2011 and the data remains true to the date of retrieval. It is important to understand that the Scopus database is versatile and accessing the information at a different time may derive a different set of data. The query made also exclude some university branches for example, the search for Universiti Kebangsaan Malaysia exclude both Kuala Lumpur Hospital and the Hospital Universiti Kebangsaan Malaysia in Cheras. The same was applied for the search on Universiti Sains Malaysia and Universiti Malaya where by the search excluded the Hospital Universiti Sains Malaysia and Hospital Universiti Malaya. As the query was done using spelling as prescribed on MoHE website the papers that were published using other spelling than those prescribed were not included. However an exception was made on the spelling of University of Malaya (retrieved March 2012) and Universiti Malaya whereby, data was collected from both spellings.

At this point, the number of publication consists of various documents such as articles, conference paper, review, article, short summary, conference review, editorial review and even notes. The search then was narrowed down further to articles only. The number obtained included the numbers of articles in various fields. The totals of publication by each university on the database were traced back to year 1949 up to August 2011. After that the numbers of publications were tabulated according the affiliation and simple analysis was done using average and percentage.

Another concern found in this study is on the usage of standard affiliation spelling by the writers. A conclusive spelling for the affiliation must be used collectively by the authors from the respective university. Inattention on a conclusive spelling for the affiliation may distort bibliometric analysis on the respective university publication output. For example, the first round query used the spelling as prescribed by MoHE which is ‘Universiti Malaya’. This query generates figures which were sceptically too small for a research university. A second query was made using the popular and more socially used spelling of ‘University of Malaya’ and this second query generates a more consistent result. In short, it is important for authors to collectively spell their affiliation in a standard spelling; deviation in the spelling may result in superfluous exclusion in bibliometric study.

It is also important to point out that due to the nature of the Scopus database, the query method described may contain some duplication counting. For example, an article co-written by a group of authors from UM and UKM may be credited twice as the article would appear in both affiliation searches. However, there is a good potential for more precise data in the future research through the future expansion of Sci Verse Hub which merges Sci Verse Scopus with Sci Verse Direct. Sci Verse Hub provides one search engine for a wider landscape that combines the databases of Sci Verse Science Direct, Sci Verse Scopus and the web content. Apart from integrating the access for all three content sources, Sci Verse Hub illuminates duplication and ranked the findings by relevancy (Scopus, 2010). The advance query promised in this development would give more accurate data.

3. Results

Up to the date of this sampling which is in October 2011, the Malaysian universities have a total of 67,818 document on Scopus database which 68.63% or 46,545 of the documents were journal articles.

About one third or 31.37% of the publications were on other documents in categories of conference papers, review, article in press, editorial, short survey, erratum, note and other undefined types. The average of article publication for both public and private universities is at 1034 articles. Scopus database which 19.19% or 8,934 of the journal articles were published in 2010.

3.1 Public Universities

Table 1. Malaysian Public University Publication on SCOPUS Database up to August 2011.

Malaysian University Groups	Name of Malaysian University	Numbers of Documents	Number of Articles on Scopus	Number of Articles in 2010
APEX University	USM	10,966	8,625	1722
Group total	1	10,966	8,625	1,722
Research University	UM*	488	389	37
	UM**	15,201	11,833	1691
	UKM	8,477	5,898	1,111
	UPM	10,148	8,082	1,592
	UTM	5,071	2,319	580
Group total	4	24,184	16,688	3,320
Comprehensive University	UIAM	1,861	1,177	257
	UNIMAS	921	634	110
	UMS	1016	691	150
	UiTM	2976	1,284	334
Group total	4	6774	3,786	551
Focused University	UPSI	115	68	19
	UUM	368	184	48
	UTHM	638	220	70
	UTeM	360	85	28
	UMP	499	259	94
	UniMAP	888	354	89
	USIM	48	25	13
	UMT	533	414	98
	UniSZA	No record	No record	No record
	UMK	23	21	12
	UPNM	43	16	9
Group total	11	3,515	1,830	480
Total	20	45,439	30,745	6,372

Universiti Malaya (UM*)

University of Malaya (UM**)

Universiti Sains Malaysia

Universiti Kebangsaan Malaysia

Universiti Pertanian Malaysia (UPM)

Universiti Teknologi Malaysia (UTM)

Universiti Islam Antarabangsa (UIAM)

Universiti Utara Malaysia (UUM)

Universiti Malaysia Sarawak (UNIMAS)

Univ. Teknikal Malaysia Melaka (UTeM)

Universiti Sains Islam Malaysia (USIM)

Universiti Malaysia Sabah (UMS)

Universiti Pendidikan Sultan Idris (UPSI)

Universiti Teknologi MARA (UiTM)

Universiti Malaysia Terengganu (UMT)

Universiti Tun Hussien Onn (UTHM)

Universiti Sultan Zainal Abidin (UniSZA)

Universiti Malaysia Kelantan (UMK)

Universiti Pertahanan Malaysia (UPNM)

Universiti Malaysia Pahang (UMP)

Universiti Malaysia Perlis (UniMAP)

NA-Not available

The Malaysian public universities have published an average of 3,032 documents per university bringing the total to 60,640 documents in Scopus database dated from 1949 up to August 2011. According to the records derived from the database, 70.21% or 42,578 documents were peer reviewed journal articles. Less than one third or 29.79% of the publication is of other categories. The average number for publication of Scopus article per public university is at 2128 articles. About 18.93% of the Scopus articles were published in 2010.

3.2 Private Universities

According to the data, The Malaysian private universities published a distinctively smaller number of documents in Scopus compared to the public universities (See Table 2). The Malaysian private universities have a total of 7187 document on Scopus database which 55.26% or 3967 of the documents were journal articles. The average of journal publication for each of the university is 159 articles each. Another 44.73% of the documents were other documents in categories of conference papers, review, article in press, editorial, short survey, erratum, note and other undefined types. Scopus database which 21.95% or 871 of the journal articles were published in 2010.

Table 2. Malaysian Public University Publication on SCOPUS Database up to August 2011.

Malaysian Private University	Number of documents	Number of journal articles	Number of articles in 2010
AIMST	235	202	52
MUST	99	47	4
MSU	27	25	12
MMU Cyberjaya	2881	1 609	248
UNISEL	96	54	14
UNIKL	142	64	14
IMU	617	473	104
LUCT	2	2	0
UTP	1352	533	156
UNITEN	926	391	91
WOU	13	12	5
PINTAR CAMPUS	36	20	5
UTAR	637	463	143
UCSI	115	72	23
11 more universities have no record of Scopus publication			
	7,178	3,967	871

AIMST University (AIMST)

Universiti Teknologi Petronas (UTP)

Malaysia University of Science and Technology (MUST)

Universiti Tenaga Nasional (UNITEN)

Management and Science University (MSU)

Universiti Terbuka Wawasan (WOU)

Multimedia University, Cyberjaya (MMU)

Universiti Tun Abdul Razak (PINTAR CAMPUS)

Universiti Industry Selangor (UNISEL)

Universiti Tunku Abdul Rahman, Kuala Lumpur (UTAR)

Universiti Kuala Lumpur (UNIKL)

Universiti Perubatan Antarabangsa (International Medical University IMU)

Universiti UCSI, Kuala Lumpur (UCSI)

Universiti Teknologi Kreatif Lim Kok Wing (LUCT)

The private universities published an average of 287 documents as compared to the average of 3,032 documents by the public universities. The difference in the average proved that there is gap of overall publication performance between the private and the public universities. However, the average derived from this study should be used with consideration to the fact that the total number of publication is accumulated since 1949; whilst some of the universities are less than 10 years old there a few others which are more than 30 years old.

The percentage for journal articles published by the private universities is also smaller at 55.24% compared to 70.21% by the public universities. In other words, the data showed that compared to the public universities, the authors in the Malaysian private universities have lower inclination to publish journal articles in Scopus. The authors of Malaysian private universities were more likely to publish in Scopus, documents such as in conference proceedings, reviews and articles in press.

Data from both public and private universities showed that 19.19% of the journal publications were done in 2010. Given that the data collected is from the year of 1949, the percentage is considerably big for a one year production. Almost one in every 5 of Scopus article was written in 2010. This big percentage reflects that the spur on publishing has taken effect.

4. Discussion

The national average for Scopus article publication is at 1034 articles per university. The average number for Scopus article publication per public university is at 3,032 articles and the average for the public university is only at 159 articles. The vast difference on the average production showed that the public universities are well ahead in this area. Exclusion of publication as an indicator for performance has removed the urgency for the mass to write research articles. Nevertheless, publication is still used to measure research productivity for national research grants such as the Exploratory Research Grant (MOHE, 2012) consequently; the academicians who received the grants are expected to publish at least two referred journals. Similar measure for research productivity is also used in the US for both private and public universities (Adam and Griliches, 1998).

The western academic model is shifting in many countries. For example, in the US, the shift of education priorities is reflected in the aspiration that research and development are expected to contribute to American productivity and global competitiveness (Van Looy, Callaert, and Debackere, 2006; Cohen and Noll, 1994). Brint (2005) has highlighted the successful story of Georgia Research Alliance (GRA) Eminent Scholars' program which had scientist recruited from all over the world to lead programs and research with high economic development impact for the state (Georgia) and brought forth new technologies companies, attract business to the State and created thousands of new high wage, high technology jobs. The shift in the academia is also happening in the Europe and is further described as having more involvement in the socio economic development, exploiting the research results, increasing numbers of patents and collaborative projects with industry (Van looy et al, 2013).

How the academic shift shape the direction of publication has been explore by researchers who highlighted some significant issues (Brint, 2005; Van Looy et al, 2006). This new directions could reroute the research direction to be based on economic and political resources instead of by the disciplinarians and "publication in journals could therefore lose significant against proprietary research reports" (Brint, 2005p.37). Similar pessimistic view on the negative impact of new directions on publication is also reflected by Van Looy et. all (2013) who highlighted issue of secrecy versus dissemination of knowledge in relation to the issue of university-industry collaborative research. Despite the caution, their study showed that inventors published more than the conventional academicians of the same age.

Taking heed from the success stories stem from the developed countries, Malaysia Ministry of Higher Education has listed University-Industry collaboration including in research and development, as one of its critical agenda (MOHE, 2010). A range of initiatives have been accomplished such as The Lab2Market Commercialization Programme, the Cradle Fund and the Malaysia Innovation Centre. The programs are generally aimed to bring together industry, inventors and investors to increase revenue and accelerate returns from research. Caution made by Van Looy et. all on secrecy versus dissemination of knowledge is yet to be explore in Malaysia context.

Acknowledgements

This paper is a part of a bigger study funded by the UniMAP Vice Chancellor Special Grant. The research team expresses gratitude and thanks to UniMAP for the fund that has made the study possible. Credits also go to those who have contributed in the development of the research.

References

- Abu Bakar, M.J. (2010) Bibliometrik sebagai indicator university penyelidikan Malaysia in proceeding for Seminar Kebangsaan Sumber Elektronik di Malaysia, p.1-10.
- Adams, J. D., & Griliches, Z. (1996). Research productivity in a system of universities (No. w5833). National Bureau of Economic Research. [Online] Available: <http://www.nber.org/papers/w5833>
- Altbach, P. G. (1992). Publishing and development in the third world; Publishing and development in the third world. Hans Zell Publishers.
- Altbach, P. G. (2004). Globalisation and the university: Myths and realities in an unequal world. *Tertiary education and Management*, 10(1), 3-25. <http://dx.doi.org/10.1080/13583883.2004.9967114>
- Altbach, P. G., & Altbach, P. G. (1998). Comparative higher education: Knowledge, the university, and development. Greenwood Publishing Group.
- Avkiran, N. K. (2001). Investigating technical and scale efficiencies of Australian universities through data envelopment analysis. *Socio-Economic Planning Sciences*, 35(1), 57-80. [http://dx.doi.org/10.1016/S0038-0121\(00\)00010-0](http://dx.doi.org/10.1016/S0038-0121(00)00010-0)
- Bakri, A. & Willet, P. (2011). Computer science research in Malaysia: a bibliometric analysis Aslib Proceedings: New Information Perspectives, Vol.63 No 2/3, pp 321-335. <http://dx.doi.org/10.1108/00012531111135727>
- Brint, S. (2005). Creating the future: 'New directions' in American research universities. *Minerva*, 43(1), 23-50. <http://dx.doi.org/10.1007/s11024-004-6620-4>
- Butler, L. (2003). Explaining Australia's increased share of ISI publications—the effects of a funding formula based on publication counts. *Research Policy*, 32(1), 143-155. [http://dx.doi.org/10.1016/S0048-7333\(02\)00007-0](http://dx.doi.org/10.1016/S0048-7333(02)00007-0)
- Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., Pappas, G. (2008). Comparison of PubMed, Scopus, Web of Science, and Google Scholar, Strength and Weaknesses *The FASEB Journal* 22(2): 338-342. <http://dx.doi.org/10.1096/fj.07-9492LSF>
- JPT Jabatan Pengajian Tinggi. (2010). *Amanat tahun baru Jabatan Pengajian Tinggi 2010*, Jabatan Pengajian Tinggi, Putrajaya, Malaysia. [Online] Available: <http://jpt.mohe.gov.my/ARKIB%20dan%20PENERBITAN/TEKS%20UCAPAN/Amanat%20Tahun%20Baharu%202010.pdf>
- MOHE Ministry of Higher Education. (2010). *Amanat tahun 2010 pengajian tinggi ke arah transformasi negara*, Kementerian Pengajian Tinggi Malaysia, Putrajaya, Malaysia. [Online] Available: <http://khalednordin.com/wp-content/uploads/2010/01/amanat-tahun-baru-2010-oleh-menteri-pengajian-tinggi-malaysia1.pdf>
- MOHE. (2010) Agenda Kritikal - Perhubungan Industri dan Akademik (Critical Agenda -Industry and academic relation). [Online] Available: <http://jpt.mohe.gov.my/AGENDA%20KRITIKAL/Perhubungan%20Industri%20dan%20Akademik.php>
- MOHE. (2012). Garis Panduan ERGS Pindaan 2012. [Online] Available: <http://jpt.mohe.gov.my/PENYELIDIK/ergs/Garis%20Panduan%20ERGS%20pindaan%202012.pdf>
- Norhazwani, Y. & Zainab, A. N. (2007). Publication productivity of Malaysian Authors and Institutions in LIS, *Malaysian Journal of Library & Info Science*, Vol.12, no.2, pp35-55.
- Sci Verse. (2012). What is SciVerse? , [Online] Available: <http://www.info.sciverse.com/sciencedirect> TiE 2012 More university research to be commercialized via L2M Programme retrieved from <http://tiemalaysiachapter.org/News/NewsPage.aspx?ItemId=36&ModuleId=403>
- Scopus , Frequently Asked Questions, <http://www.info.scopus.com> (Accessed January 2010)
- UKM Univeristi Kebangsaan Malaysia. (2010). *Garis panduan skim galakan ganjaran penerbitan 2010*, [Online] Available: <http://www.ukm.my/library/UKM>
- UniMAP Univeristi Malaysia Perlis. (2010). *Laporan naib canselor sempena lawatan yang berhormat dato' seri khaled nordin menteri pengajian tinggi malaysia ke universiti malaysia perlis 2010*. [Online] Available: <http://www.unimap.edu.my/images/LAPORAN%20BERTULIS%20VC.pdf>
- Van Looy, B., Callaert, J., & Debackere, K. (2006). Publication and patent behavior of academic researchers: Conflicting, reinforcing or merely co-existing?. *Research Policy*, 35(4), 596-608. <http://dx.doi.org/10.1016/j.respol.2006.02.003>
- Vieira, E.S. & Gomes, J.A.N.F. (2009). A comparison of Scopus and Web of Science for a typical university. *Scientometrics* 81(2): 587-600. <http://dx.doi.org/10.1007/s11192-009-2178-0>