

**Peer-reviewed article**

**Faculty productivity in Zambian higher education in the face of internationalization: unpacking research, publication and citation at the University of Zambia**

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### Abstract

This paper is based on a study that aimed at examining and interrogating the extent of faculty productivity in Zambia in terms of research, publication and citation with specific reference to the University of Zambia (UNZA). The paper invokes the *Network Theory of Internationalisation of Higher Education* founded by Johanson & Mattsson (1988). The research design used in this article is a convergent parallel mixed-methods design. The sample size total was 254, of which 244 were academic staff and 10 were key informants from management. Qualitative data was analysed according to emerging themes, while quantitative data was analysed using descriptive and inferential statistics. The findings of this paper seem to suggest that faculties at UNZA were highly involved in research (applied and basic) at 75%, but with poor incidences of transforming research into publication and innovation. Only 38% of respondents published articles annually (increasing to 62% within two years) in local and international journals. While respondents who had published books in the last two years was as low as 19.5%. UNZA productivity output in terms of citation was relatively poor, below the expected standard of *h-index* and citation index of a flagship university which has a track record of more than 40 years of operation as a fully-fledged comprehensive university. Results primarily showed that the UNZA had an average *h-index* of 4.50 and a citation index of 156.87 which are significantly lower than the world averages of 17.50 and 971, respectively. The paper finally argues that, UNZA like most of the flagship and comprehensive universities in Africa, are quickly transforming from a teaching university into a research university based on the influence of the global North whose research agenda is central – at the expense of teaching. In order to improve on research productivity, this paper recommends that UNZA deliberately identify relevant industries, and global and regional partners to genuinely collaborate with as a way of leveraging resources and expertise. There is also a growing desire by universities in the global South to work closely together as way of improving their own productivity capacity in terms of research, publication, citation and redefine the concept of internationalization to fit the global South.

## 1. Background and context

Faculty productivity of a university can be measured by many indicators though the most significant are research, publication and citation (Masaiti and Simuyaba, 2018). Research productivity is mostly anchored on peer-reviewed research published in professional journals and in conference proceedings, writing a book or chapter, gathering and analysing original evidence, working with post-graduate students on dissertations, obtaining research grants, carrying out editorial duties, obtaining patents and licenses. The academic members of staff are employed *inter alia*, to teach, research and be actively involved in community service (Oloruntoba & Ajayi, 2006; UNZA, 2018). In the international higher education space, research and publication in the university is a major and most significant indicator of academic staff productivity (Usang, Akuegwu, Udid & Udey, 2007). Universities, through research, make important contributions to the growth and development of industries and government, thus enhancing national and global development (Okiki, 2013). For example, Zhang (2014) established that, the benefits of research help produce wealth and public support that is needed for sustainable development. Stafford (2011) affirms that any university is productive by the performance of its faculty members in terms of research, publication and citation. Subsequently, the increase in research productivity should be directly associated with an increase in institutional effectiveness and should manifest in several types of outcomes, including associated service and teaching activities (Cepero, 2007). Jung (2012) indicates that research productivity is also one of the major measures of university academic performance and it is increasingly being used an indicator for university ranking as well.

Though research has remained as a major agenda item for the University of Zambia since its establishment in 1966 (Mulamfu, 1998). Among the significant constraining factors in conducting high profile research at UNZA is underfunding, which has had a serious negative bearing on research productivity. Masaiti, Mwelwa and Mwale, (2016) revealed that low levels of funding to Zambian public universities had, over the years, meant that the monthly grant received was solely used to cover recurrent expenditure, mainly salaries and personal emolument, leaving insufficient funds for capital investment, staff development and research. Masaiti (2018) however, has argued that UNZA has the capacity to generate alternatives sources of income which could be used to invest in solid research infrastructure, rather than relying on inadequate government grant. This could be in the form of investment in its agricultural farms and other Public Private Partnership ventures, as well as seeking support from financing agencies. However, the major problem faced by the university has been transparency and accountability (Auditor General Report, 2016). Individual members of staff at UNZA can also be assessed in terms of their global influence using different indicators such as ResearchGate<sup>1</sup>, Google Scholar<sup>2</sup>, and Publish or Perish<sup>3</sup>, among other famous research engines showing the citation matrix for the scholars (THE, 2019). University of Zambia is currently using the *h-index* matrix as the key benchmark in the promotion of academic members of staff. In an attempt to compete in the global North's agenda of 'internationalization based on academic productivity', there is an exponential growth in international activities between institutions, accompanied by the staff's mobility in cross-border higher education. Internationalisation of higher education has been acknowledged by many

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<sup>1</sup> [www.researchgate.net](http://www.researchgate.net)

<sup>2</sup> <https://scholar.google.com>

<sup>3</sup> <https://harzing.com/resources/publish-or-perish>

leading scholars as a key driver of new developments in higher education (Damtew & Altbach, 2004; Damtew, 2014; de Wit, 2018).

This paper contextualizes and establishes whether UNZA is one of the universities which is slowly awakening to the sad reality, among flagship universities, which are sliding on both global and African ranking in terms of their productivity (Masaiti, 2018). The UNZA (2018) contended that, despite government funded research activities, funds had not been adequate which could have negative implications related to research output and also the application of technology in national development. Nyambe (2017) further, suggested that, a weak linkages between the research system, government and industry was another contributing factor to weak research output and productivity in most African countries including Zambia. Masaiti and Shen (2013) contend that in western countries, there is a lot of collaborative research among faculty members. Members come together to write research proposals for funds to carry out research activities. This was probably not very common in most African universities including Zambia. Most of the senior faculties and professors in Zambian universities had not channelled their time to do developmental research, and the writing of scholarly books or articles that might improve their knowledge base (Kulyambanino, 2016). This can probably be attributed to lack of a well-defined research agenda that is integrated with national development plans and coupled with the declining public funding to the university.

## 2. Background and context

This paper is underpinned by the *Network Theory of Internationalisation of Higher Education* founded by Johanson & Mattsson (1988). Internationalisation is an essential worldwide phenomenon and a major trend in higher education. It is a phenomenon that emanates from the impact of globalisation and is relatively new in the education process. The phenomenon has led to a broad range of understandings and approaches (Guzmán-Valenzuela, 2017). Internationalization has many pros and cons in the global space Guzmán-Valenzuela argues. The network approach emphasises the benefits of developing long-term interactions with foreign markets, institutions and individuals. Networking also provides an important motivation for nations and higher education institutions to enrich international activities and expand their landscape, share best practices, as well as transfer knowledge and balance risks. It is therefore, arguable that faculty productivity through research, publication and citations enhances the international visibility of higher education institutions, hence serving as a precursor for networking and internationalisation.

The principles and actions carried out during the implementation of internationalisation are known as approaches and may vary according to the period of development stages (Knight, 2004). Besides that, approaches also provide a clear explanation of how internationalisation is recognised and executed. The four main approaches implemented to conceptualise internationalisation are: (1) the activity approach, (2) competency approach, (3) ethos approach and (4) process approach (Qiang, 2003). All these four approaches can only be realised with a strong university faculty that propels university ranking through their output. Additionally, Henry, Ghani, Hamid and Bakar (2020) argue that Research Productivity (RP) is the key element in the establishment of ranking and rating system in the Higher Education (HE) sector. Despite the many initiatives taken to enliven the research culture among academic staff, there are still constraints and resistance towards conducting research. This situation,

however, does not seem to be exceptional for the University of Zambia. Henry *et al* (2020) further stress that in spite of numerous criticisms of the varieties of ranking systems of universities, the systems still play a major role in the HE sector. Schulze (2008)'s study noted the importance of the influence of the university on the quality of research output. The study concluded that the level of intensity of academic members' research, publications and citations contributed to the favourable rating of the university.

With the advent of the internet, a new way of measuring research productivity, with most exceptional accuracy and precision has emerged, and it has opened up new lines of opportunities for researchers to reach out to the wider world in presenting their profiles and making their works more visible (Lateef, Ogunkunle & Adigun, 2016; Dhamdhare, Clark, Gamero-Garrido, Luckie, Mok, Akiwate *et al*, 2018). According to these authors, the internet 'is the genesis of e-visibility'. When Google Scholar (GS) was launched in November 2008, it provided the opportunity for faculties to access diverse academic information freely on the web, breaking the exclusive control of other sites that charge subscription fees for information. With the use of Google Scholar, a faculty is: exposed to related works, citations, authors and publications; appraised of the location of a complete document from the web; kept abreast of recent developments in any area of research, including patents or citations options; able to track and graph citations over time; able to check who is citing a publication; and also able to create a public author profile free of charge. Google Scholar also collates and computes several citation metrics like *h-index*, *i10-index* and also ranks the documents the way researchers do, providing the details of each document, where it was published, and how often and how recently it has been cited in other scholarly literature (Dhamdhare *et al*, 2018).

African universities perform very poorly in the rankings because little or no attention is paid to research productivity (Kpolovie & Obilor, 2013), and partly because the governments in African countries invest too little in research and development. Only one university (University of Cape Town) made the top 193 universities worldwide in the 2020 Times Higher Education (THE) rankings, and this is the best-ever outing of African universities. The THE World University Rankings 2019 methodology (THE, 2019), like the previous years, considers five indicators, each of which is directly or indirectly dependent on the faculty's *h-index* and citation index. Citation index and *h-index* are the best ways of measuring research productivity by precisely capturing the average number of times that a scholar's published works and the research works published by a university, country, region or continent are cited by scholars internationally (Kpolovie & Obilor, 2013).

This paper, therefore, attempts to bring out the extent of the current state of faculty productivity in Zambia in terms of the research being undertaken. The publication and also ventures into the influence of these publications measured in terms of citations. This empirical and theoretical investigation was carried out at the University of Zambia, Zambia's leading and number one ranked university.

### 3. Problem statement and purpose

Faculty productivity of any university is determined by its active involvement in research, teaching, citation and publication activity and to some extent community engagement. However, this study specifically focussed on three parameters: research, publication and citation, as factors of productivity at UNZA. Some studies on research output at UNZA have been done but only mentioned in passing research activities at the institution without locating the gravity and extent (Akakandelwa, Makondo, Kanyengo & Ahmed, 2016; Masaiti & Mwale, 2017). These studies do not show us how productive faculty members are in terms of research activities; in addition they are not specific and lacked sufficient empirical substantiation. Other studies like Kulyambanino (2016) attempted to briefly examine research and publication activities at UNZA, but there is no document analysis of current trends. Therefore, it is not empirically known the real extent of how research productive faculties at UNZA are and the challenges that might hinder their research activities. To that effect this study sought to provide a picture as to where UNZA stands in terms of research output, publication and citations in the context of both global North and South university productivity. Faculty research productivity has implications for national development. Research and innovations coming from a university like UNZA should find space in policy creation and also in the development agenda for the industries and country at large. This understanding of faculty research productivity at Zambia's premier university with a history of more than 50 years is desirable and relevant to Zambia socio-economic growth. Jaffe, ter Horst, Gunn, Zambrano and Molina (2020) ascertain the existence of a link between research productivity and economic growth in most countries and Zambia is no exception. Research productivity is directly linked to university ranking and visibility, innovation and general attraction of talented students and faculty which all fit well in the global agenda for internationalization.

### 4. Objectives

- i. To describe the extent to which faculties are involved in research at the UNZA, as one of the measures of measuring productivity in higher education institutions.
- ii. To explore the extent to which faculties at UNZA are involved in publication as a key component of a university's activities in knowledge creation.
- iii. To understand the current levels of faculty citations at UNZA as a measure of productivity for higher education in the face of internationalization.

### 5. Method and design

The research design used in this research paper was a convergent parallel mixed-methods design. This approach to inquiry embeds both qualitative and quantitative methods concurrently, prioritizing both methods almost equally throughout the process of data collection, analysis, interpretation and presentation (Creswell, Klassen, Clark & Smith, 2011).

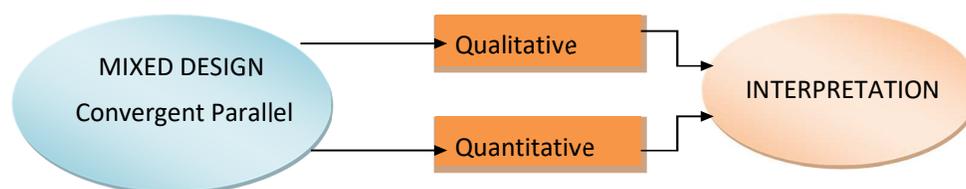


Figure 1: A conception of mixed design (Creswell *et al*, 2011).

The study population was the University of Zambia's Main and Ridge Way campuses. The total number of faculty members at the time of data collection was 684. The target participants for this study comprised lecturers (ranking from Lecturer III, II, I, Senior, Associates and Full Professors). The stratified simple random sampling technique was used to come up with clusters in different schools was used in selection of the proportional rank of representation across all schools (Tipton, 2013). The total sample size was 254 (244 academic staff who responded to the questionnaires and 10 key informants from management). The academic staff were drawn from each of the eight Schools through stratified random sampling. Qualitative data was collected by interviewing eight Assistant Deans of Research, one Director and one Assistant Director from the Directorate of Research and Graduate Studies (DRGS). Document analysis of the institution's review reports on research, teaching, publication and citations between 2017 and 2019 were also done to consolidate qualitative data from interviews. Questionnaire data was analysed using SPSS in which descriptive and inferential statistics were invoked. Interviews were analysed thematically.

Further, in order to determine the research productivity levels of the University of Zambia, a comparative analysis of the *h-index* and citation index was done between UNZA and other African universities, against world averages. The index *h*, is defined as the number of papers with a citation number  $\geq h$ , as a useful index to characterize the scientific output of a researcher. "A scientist has index *h* if *h* of his or her  $N_p$  papers have at least *h* citations each and the other  $(N_p - h)$  papers have  $\leq h$  citations each" (Hirsch, 2005: 16569). *H-index* measures the scientific productivity and impact of a scholar's research. A scholar's *h-index* of 7 means that seven of his published papers have each been cited at least seven times by other publications that are readily available in the ocean of knowledge, the World Wide Web. Clearly, as argued by Kpolovie and Dorgu (2019), the *h-index* is a metric that uses a single number to best measure a scientist's professional productivity as depicted by how many of the scientist's publications that have been cited up to *h* times by international publications of other scientists. The *h-index* describes the number of research publications of a scientist that are highly impactful, irrespective of the journals in which they were published as opined by different scholars (Becker Guides, 2016; Kpolovie & Dorgu, 2019).

Validity, reliability and credibility was attained through triangulation (use of different research tools and comparing the results), 20 questionnaires were piloted, and ambiguities in the questions were identified and refined. As a matter of dealing with ethical dilemmas the researcher was cleared by the University of Zambia Ethics Committee. The purpose of the study was clearly defined that it was purely academic. In addition, the confidentiality of the participants was upheld by them not writing their names on the questionnaires.

## 6. Key research findings

This section describes the results of the research in three subsections, namely: staffing levels, the involvement of faculty in research and the involvement of faculty in publication.

### 6.1 Findings on staffing levels as of June 2018

Figure 2 below indicates that the UNZA has a total number of nine schools and nine units with academic, non-academic and technical of staff, comprising over 2,300 people (includes schools whose data was not captured for non-academic but not technical). The academic and technical staff are respectively distributed as follows; Health Sciences 32 and 5; Engineering 62 and 37; Agriculture Science 64 and 28; Institute of Distance Education 10 and 30; Nursing Science: 24 and 3; Education: 148 and 1; Veterinary Medicine: 43 and 45; Institute of Economic and Social Research (INESOR): 15 and 17; Humanities and Social Sciences: 173 and 6; Library: 16 and 40; Mines: 29 and 10; Law: 22 and 6; Medicine: 64 and 41; Directorate of Research and Graduate Studies: 2 and 13; Public Health 34 and 5. It is expected that schools / units with highest number of academic and technical staff members should relatively have the higher number of research and publications.

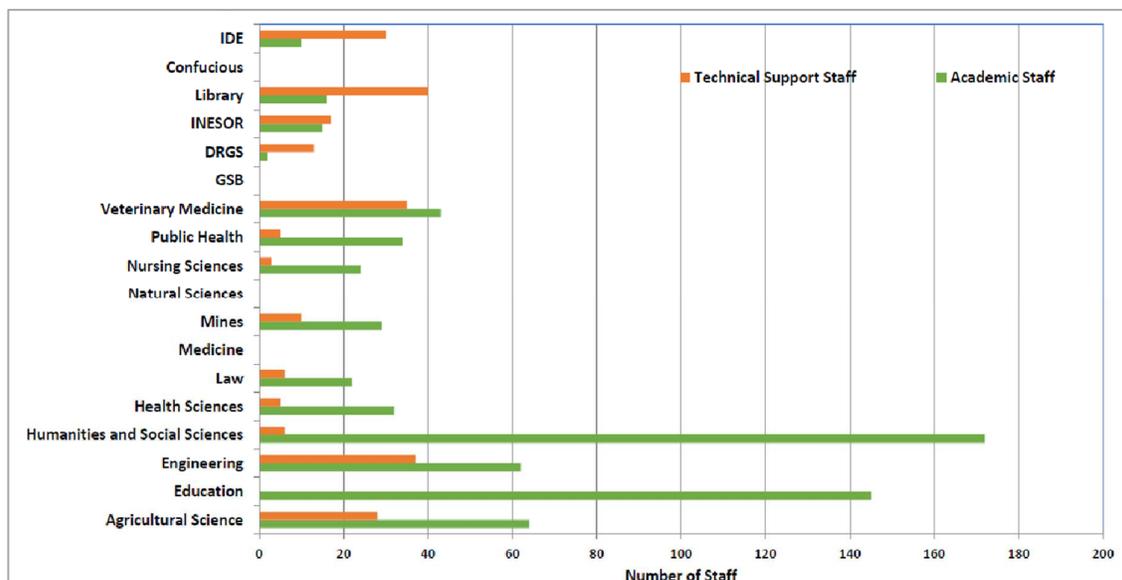


Figure 2: University Staffing by Quarter II, 2018 (UNZA, 2018).

### 6.2 Findings on involvement of faculty in research

To get views on faculty involvements in research and publication, the researcher designed a questionnaire for lecturers where a Likert scale was used to express the level of involvement in research activities. The following were the rankings; 1= Disagree, 2 = Not sure/Neutral, 3 = Agree. The responses from the lecturers on various items relating to involvement of faculties in research are displayed on Figure 3 below.

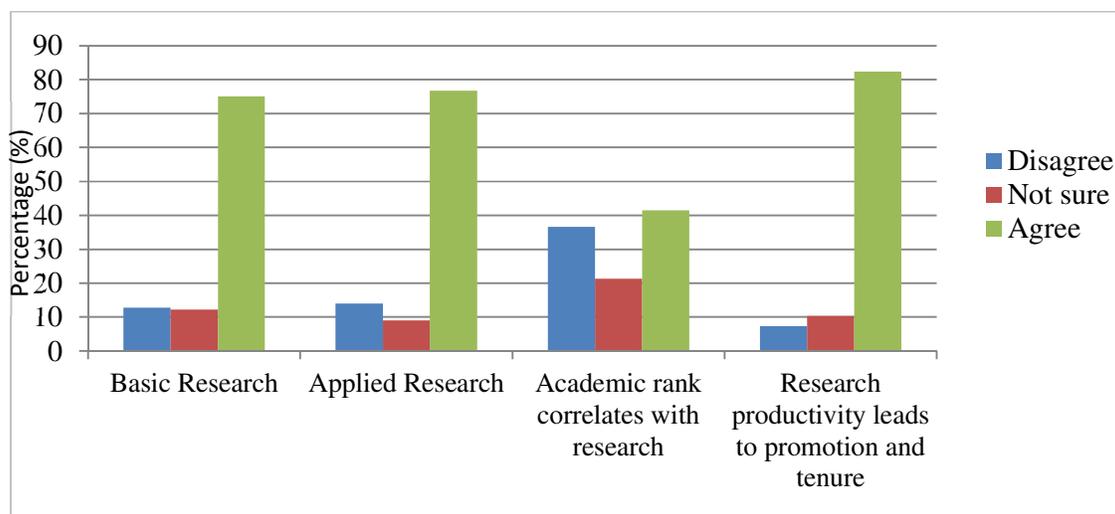


Figure 3: Responses on faculty involvement in research (Source: Authors).

*Basic research:* Results above indicated that of the 164 respondents, 123 (75%) respondents confirmed having conducted basic research, 20 (12%) had not, while 16 (10.1%) were not sure.

*Applied research:* Out of 164 respondents, 126 (76.8%) agreed to having conducted applied research, while 23 (14%) disagreed and 15 (9.1%) were not sure.

*Academic rank correlates with research:* Out of 164 respondents, 41% of them supported the statement that faculty rank correlates with research output, while 38% disagreed to the assertion and 21% remained neutral.

*Research productivity and tenure/promotion:* From the 164 respondents, 135 (82.3%) respondents indicated that research productivity leads to promotion and tenure, while 17 (10.4%) were not sure and 12 (7.3%) disputed the assertion.

Similar responses were collected from the interviews. The Assistant Dean (Research) of one of the schools said:

At the moment if I were to divide basically what I would call basic research where we are always doing research and involving students,[...] we have quite a number of those taking place, then the other part includes where the faculty are doing their own research which is poorly funded (Interview, December, 2018).

Similar concerns were raised by the Assistant Dean (Research) from School F who pointed out that, faculties were conducting research but, they were not performing as expected. The Dean further added that a university like UNZA can do better than it is doing. In the same vein the Assistant Dean (Research) School B revealed that UNZA had potential to do research but the challenge was poor funding to the institution by the government and poor infrastructure. Findings further revealed that most of the research conducted in the School was collaborative research. Faculty members enter into partnership within and outside the School. Some faculties even gone beyond the institution across

borders looking for scholars to partner with. The Assistant Dean (Research) from School A reported that faculties conducted research but the score was not impressive, citing reasons that the School had a shortage of senior faculty, poor infrastructure and lack of funding.

The Assistant Dean (Research) School H said that:

Before one moves from Lecturer III to maybe Lecturer II, one must show the department one's capacity for research. Meaning that one cannot be promoted until one has proven to his/her employers one's research capacity (Interview, December 2018).

### 6.3 Faculty involvement in publication

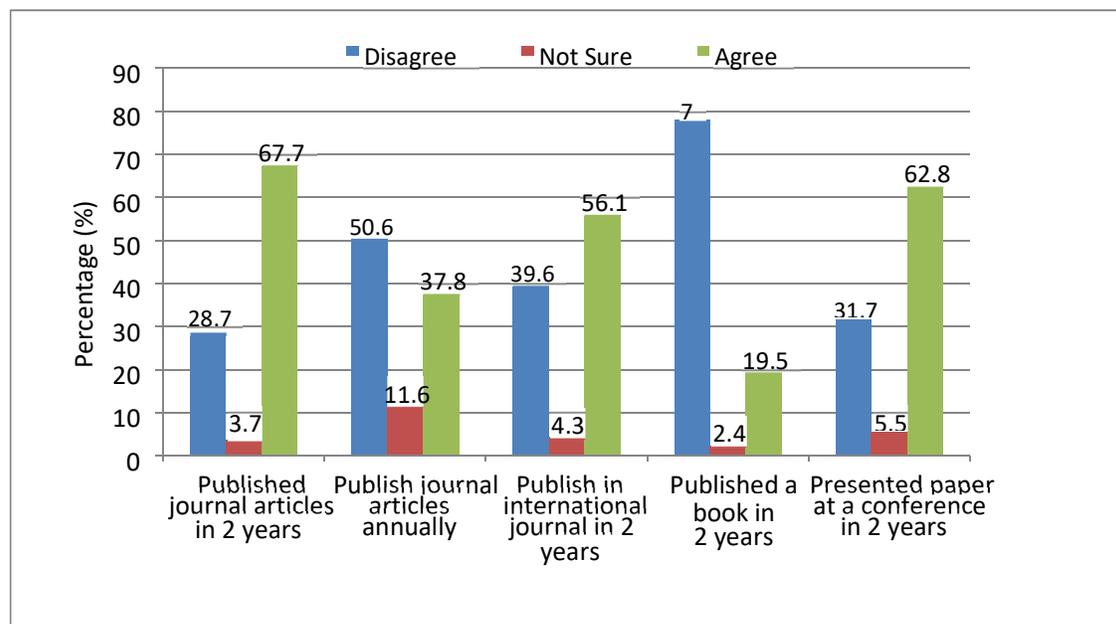


Figure 4: Faculty involvement in publication (Source: Authors).

*Published journal articles in two years:* Findings in Figure 4 above revealed that of 164 academics, 67.7% of them published journal articles in the period of two years, while, 28.7% had not and 3.7% of participants were not sure.

*Publish Journal articles annually:* Findings revealed that of 164 lecturers, 50.6% of them had published journal articles yearly, while, 37.8% had not and 11.6% of respondents were unsure.

*Published in international journals in 2 years:* Results established that 56.1% of respondents had published in international journals two years prior, while 4.3% were not sure and 39.6% had not.

*Published a book in 2 years:* Also revealed in Figure 4 is that, out of 164 participants, only 19.5% participants published books while, 78% did not publish any book in two years and 2.4% were neutral.

*Presented paper at a conference in 2 years:* Furthermore, results from Figure 4 revealed that out of 164 of the participants, 62.8% presented papers at conference in the past two years, 31.7% did not and 5.5% were uncertain.

Qualitatively, an interview with Assistant Dean (Research) School F reported:

[...] that for the past 20 years it [research] was very bad, faculties tended to concentrate on teaching than doing research. The situation is improving a bit, schools have increased the number of postgraduate, and so postgraduate research normally ends up in publication if well written, unlike before when they only had undergraduate students.

In the same vein, Assistant Dean (Research) School B reported that in the past five years, there has been some improvement in terms of level of publication:

For example, in 2015 the School [B] recorded over 100 publications and now we are at 150. When we look at our annual reports it is confirming that we have been improving, giving a reasonable average of each lecturer having a paper per year. Although for the university like this one it is still too low.

The above responses were supported by the data on the publications made in the first and second quarter of the year 2018 as indicated in Table 1 below. (Source: Directorate of Research and Graduate Studies, University of Zambia, (2019)).

Table 1: UNZA productivity and publications: research, journal articles, book chapters and others in 2018 (UNZA, 2019).

School/Unit	Academic Staff	Technical /Support Staff	Collaborative Research Projects	Self-Generated Research Projects	Total Research Projects	Publications (Journal articles, book chapters & others)
<i>Health Sciences</i>	32	5	20	0	22	29
<i>Engineering</i>	62	37	2	3	7	8
<i>Agricultural Sciences</i>	64	28	34	6	40	22
<i>Institute of Distance Education (IDE)</i>	10	30	2	6	8	9
<i>Nursing Sciences</i>	24	3	7	21	28	4
<i>Education</i>	148	1	102	220	322	119
<i>Veterinary Medicine</i>	43	35	20	6	36	34
<i>Institute of Economic and Social Research (INESOR)</i>	15	17	13	1	14	7

<b>Humanities and Social Sciences</b>	173	6	30	152	182	68
<b>Confucius Institute</b>	-	-	-	-	-	-
<b>Library</b>	16	40	0	5	5	4
<b>Mines</b>	29	10	8	2	13	9
<b>Natural Sciences</b>	-	-	-	-	-	-
<b>Law</b>	22	6	5	1	11	8
<b>Medicine</b>	64*	41*	25*	21*	46*	84*
<b>Directorate of Research and Graduate Studies (DRGS)</b>	2	13	0	0	0	0
<b>Public Health</b>	34	5	25	5	4	32
<b>Graduate School of Business</b>	-	-	-	-	-	-
<b>TOTAL</b>	<b>737</b>	<b>272</b>	<b>293</b>	<b>449</b>	<b>738</b>	<b>437</b>

Table 1 shows that various schools/ units had different levels of productivity with a total publication output of 437. In the year 2018 the School of Education with recorded the highest number of publications with 119, then the School of Medicine with 84 publications, and closely followed by Humanities and Social Sciences at 68. Other units such as the Confucius, Institute of Distance Education, Nursing Sciences, and Library among others barely recoded a publication by the second quarter of the year.

The UNZA has seen a remarkable improvement in the numbers of publications by faculty members over the years (in 2011 the total was 94, 2015 was 156, 2016 was 194 and 2018 rose to 437) this could attributed to the fact that promotion of lecturers has been strongly linked to productivity through research and publication through the adoption of the *h-index*, a significant component of the new promotion tool (UNZA, 2018).

We now focus on university visibility locally and internationally based on faculty citations. In other words, is it possible to establish the current level of faculty citations at UNZA as a measure of research productivity for higher education, when compared to other African universities, and when benchmarked against global average indicators in the face of internationalization?

Table 2: Comparison of mean *h-index* of faculty (N = 200) in African universities (Source: Kpolovie & Dorgu (2019)).

Universities	Mean	Standard Deviation
University of Cape Town	32.80	15.66
University of Pretoria	23.69	12.20
University of Zimbabwe	4.28	6.21
Cairo University	21.16	11.83
Al Akhawayn University	9.59	8.94
UTE Tunisia	16.76	12.60
University of Nairobi	14.78	5.92

Makerere University	7.61	7.76
A.A.U Ethiopia	7.58	8.19
<b>University of Zambia</b>	<b>4.50</b>	<b>4.60</b>
University of BUEA	7.04	4.47
UAN Angola	4.32	5.49
University of Ibadan	16.76	8.44
KNUST	9.35	5.67
UNIPOINT	8.71	8.03

It can be clearly discerned from Table 2 that the University of Cape Town, University of Pretoria and Cairo University have mean *h-indexes* of 32.80, 23.69 and 21.16 respectively which is higher than the world average *h-index* of 17.5 (Kpolovie & Dorgu (2019)). All other twelve selected African universities listed have a mean *h-index* that is lower than the 17.5 world average *h-index*. The UNZA specifically has an average *h-index* of 4.50 with the standard deviation of 4.60, which is far below the world average of 17.50.

Table 3: Comparison of citation index of African universities (Source: Kpolovie & Dorgu (2019)).

Universities	Mean	Standard Deviation
University of Cape Town	5749.83	7958.94
University of Pretoria	3026.67	4639.94
University of Zimbabwe	299.10	1823.05
Cairo University	3047.37	8492.64
Al Akhawayn University	38.97	106.06
UTE Tunisia	2017.67	7809.72
University of Nairobi	1041.34	922.57
Makerere University	477.49	2054.85
A.A.U Ethiopia	478.67	1559.21
<b>University of Zambia</b>	<b>156.87</b>	<b>382.67</b>
University of BUEA	91.77	357.03
UAN Angola	210.06	752.40
University of Ibadan	155.95	369.27
KNUST	288.00	437.36
UNIPOINT	165.08	369.03

Table 3 compares the mean citation index of selected African universities. Cape Town University (5749.83), University of Pretoria (3026.67), Cairo University (3047.37), UTE Tunisia (2017.67), and University of Nairobi (1041.134) have a mean citation index that is higher than the world average citation index of 971 (Kpolovie & Dorgu, 2019). The other ten selected African universities (including UNZA) have a mean citation index that is lower than the world's average citation index of 971.

## 7. Discussion

This section discusses the research findings in four subsections which consider the following themes: research volume, productivity, citation indexes, and the theoretical implications thereof.

### 7.1 High research volume at UNZA but of less significance

Both the quantitative (questionnaire) and qualitative (interview) data established that a high number of the UNZA faculties were involved in some kind of research activities. The respondents were of the view that faculties were productive in terms of research activities, except that the research conducted was not development oriented, nor comprehensive enough, and in some cases was very basic. Findings from the interviewees suggested that lecturers conducted both basic and applied research, but did not publish much because of poor writing skills among some faculty members, poor publication culture and a lack of accessible publication platforms and, in some cases heavy teaching loads (Banda, 2008). Interestingly, a huge amount of research captured was linked to grant funded projects as well as consultancy, which in some cases, is not well aligned to faculty specialization. Most of this research was not easily publishable in high profile journals. Findings suggested that most of the faculties conducted research because they wanted to be promoted, get a pay rise, and have their contracts renewed, and not really based on the rigor and academic merit. This, therefore, meant that research was conducted on the basis of extrinsic motivation. Notwithstanding, there is need to have the right motivation for doing research which goes beyond intrinsic motivation. In this way the research will look at the bigger picture relating to productivity for the university, country and world at large.

We observed from the data, a trend in which senior academics like professors and senior lecturers, were less productive compared to their junior faculty, possibly because some of them felt like they had reached the apex. By implication, this meant that when faculties reach the apex in terms of promotion, their research output may decline because there was nothing else that was motivating them to keep on conducting and publishing research – hence becoming highly unproductive. Findings further indicated that the attitude of some of the faculties was another reason why research output was low including the failure to work as pairs or even in teams (Banda & Islam, 2012). Some faculties have concentrated more on teaching than research and are not in a hurry to embrace research activities. This, therefore, meant that there is a cadre of faculty members who are just teaching and not researching. This is similar to what Masaiti and Mwale (2017) opined, in that some members of staff at the UNZA concentrated only on teaching at the expense of research and community engagement. Masaiti and Mwale (2017) further indicated that research which was undertaken could not easily be transformed into publications because of the poor quality. The two scholars Xiangping (2000) and Braimoh (1999) in Okiki (2013) supported the importance and value of research to a nation beyond the individual.

What is also emerging is that, it is increasingly difficult for scholars in the global South to access the prestigious platforms in which researchers in the global North easily publish. Evidence seem to suggest that well-developed countries enjoy political and economic stability, while countries with emerging economies are characterised for having fragile economies, political instability and a high proportion of their peoples in poverty. Most of the prestigious journals are usually in a language which favour the

global North. Clearly, historically, culturally and politically, most states in the global South were colonised by countries in Europe for centuries, which meant the imposition of political, religious, language and cultural visions from countries in the global North over countries in the global South (Boggs 2016). This has had implications on the global South in terms of academic productivity.

### 7.2 Low publication output for productivity

From the findings, it is very clear that publication at the UNZA were still relatively low. However, from 2013 to 2019, research productivity and academic publication has steadily been improving, though not at the desired level. Faculty members conducted research, but comparatively failed to publish, especially in peer-reviewed journals and books. Interviewees suggested that for the past 20 years publication outputs had been relatively poor. Faculties in most schools tended to be doing more teaching than research and public engagements. Although the situation is now improving, as schools had increased the number of postgraduate enrolments, whose research often resulted in publication. It was found out that science-based programs had an advantage in accessing funds from donors and partners for research. Most of their projects were donor funded thus making them more active as compared to other schools especially in Social Sciences. A question worth interrogating is the quality of the journals and platforms where these publications are made.

The findings of this study correspond with the outcomes of Oloruntoba & Ajayi (2006) (in Sulo, Kendagor, Kosgei, Tuitoek & Chelangat, 2012), Stafford (2011) and Okiki, (2013), whom argue that academic institutions primarily measure research productivity based on academic publication outputs. Moreover, research productivity often served as a major role in attaining success in academics circles as it was related to promotion, tenure, and salary. So the motivation for publishing at the UNZA is now heavily skewed towards reasons of promotion and tenure. In the international perspective, especially when it comes to international rankings, special weight is given to indicators such as academic productivity and research income. It appears there is a decisive impact on universities and academics who have planned their tasks and functions around these two indicators. Clearly in this context, the task of teaching has, to some extent, been relegated and labelled as a second-class activity in the university functionality as noted by Barnett (2005).

### 7.3 Citations index at UNZA is lower than Africa and global averages

A comparative analysis of UNZA to other African universities and the average world citation index and *h-index* show huge differences in terms of citations and visibility. UNZA has an *h-index* and citation index, metrics for research productivity, which are both below the world averages. This clearly supports the earlier findings that the UNZA was less productive. The comparative analysis indicates that the University of Cape Town, University of Pretoria, and Cairo University each has significantly higher *h-indexes* than other universities in Africa. We have though to mention that there are hundreds of universities in Zambia and Africa which have a zero *h-index* and possibly cannot be compared to UNZA. In this paper, we compared UNZA to some of the best and top universities in Africa.

What are the implications of this lower research productivity trend for the global South? Most of these African universities do not have the same prestige and long history of academic productivity, as they were formed barely four or five decades ago, unlike many western universities which in some cases

have been in existence for twenty decades. The global South should find ways of redefining its own ranking in the context of social and public spheres. This is similar to Guzmán Valenzuela's (2017) argument on the conflict between the global North and global South. She sees a global conflict in epistemic value, in which different sets of epistemic value operate in the global North – based on reputation, competition and 'world-classness' – while the global South emphasises locality and societal contribution. Because of this, at times, there are many geopolitical barriers in research collaboration that are imposed upon academics in countries in the global South, across all disciplines in the university.

#### 7.4 Theoretical Implications

For UNZA to improve its productivity in terms of research, publications and citations, there might be the need to rethink the whole process of knowledge generation and creation. UNZA faculty need to start collaborating with people from different backgrounds, as a means of boosting and improving on research and publication productivity. This might be interactions with possible funders, policy makers and researchers from other institutions. There is a need to examine different research areas and prioritize areas that are well linked to national development policy – while also being relevant to global agendas – as a way of unlocking much needed finances. Current and relevant innovative research and knowledge published in journals, monographs and books tends to be highly cited. Nonaka and Takeuchi's (1995) knowledge creation theory proposes that there is a need for the dynamic interaction between people from different functional backgrounds and organizational hierarchies. Nonaka and Takeuchi (1995) further argue that the knowledge creation process involves a dynamic interaction between tacit and explicit knowledge, which is commonly known as the 'knowledge creation spiral'. The Japanese people have defined their own integrated developmental model based on their culture (Bennett, 2017). Africa can equally leverage and integrate its rich cultural heritage as it enters the global space through internationalization and productivity which is the central argument in this paper.

#### 8. Conclusion

The findings revealed that most faculty members at UNZA were involved in research activities (basic and applied research). However, universities in Zambia including UNZA are increasingly being criticized for focusing heavily on research which does not have immediate commercial objectives (Akakandelwa *et al*, 2016). One of the debates in the internationalization of higher education research field is the role universities, especially, in the global South. It is argued that they should be generating research in the developmental landscape of the communities in which they operate. Having these higher education institutions which are not only not innovative, but also not finding solutions to practical local problems, will continue to attract a fair share of criticism from different stakeholders. In other words, applied research should be designed with the goal of solving practical problems.

The motivations of faculty for conducting research were mainly to achieve promotion and also to remain employed by fulfilling their job descriptions. There is no harm in faculty needing to be promoted based on their research and publications, but there is need to reflect on the conversation related to contribution of the generated research to development. In the face of internationalisation

from global North and South, there is need to rethink how this whole argument of faculty research productivity is beginning to take centre stage in the new emerging collaboration.

The comparative analysis presented in this paper further established that the citation output as an indicator of productivity was poor at UNZA. This metric can only improve if the university continuously engages in high profile research, and then publishes this research as a way of improving its visibility. This paper ends with questions which need serious reflections especially by scholars in the global South in the face of internationalization and the demands of research productivity. Namely, to what extent can research productivity be well-linked to university ranking and visibility, particularly in the global South? And, are there different forms of innovation which will be applicable to the citizenry in the global South, in the face of the demands of research productivity due to the internationalization of higher education?

## 8. Recommendations and implications

- i. There are significant implications on university ranking and funding for not only conducting research for innovation, but, research in terms of knowledge creation, especially for teaching and learning, as well as for policy formulation, particularly those emerging from the social science disciplines.
- ii. There are also significant implications on university relevance relating to power and agenda-setting discourse of a country. It appears that the global North sets the desirable productivity based on their context, and imposes it on the global South, in which internationalization policies and international rankings shape academic productivity, and impacts universities in the global South
- iii. Government should ensure that UNZA and other higher education institutions in Zambia have national research funds in order to enhance research and publication outputs. A special and specific fund should be set aside to trigger high level research by Ministry of Higher Education and other research bodies
- iv. UNZA should provide a clear list of international journals and platforms which should be targeted by the research staff. All published work by staff should be visible through recognised engines like Google Scholar and ResearchGate, among others. There is a need to increase capacity building of staff and provide incentives to make UNZA research works deliberately publishable and accessible.
- v. Strengthen institutional and regional academic journals by providing strong editorial teams who will provide the much needed academic rigor to improve on local publication platforms, which will have developed faculty's publication skills, such that they can subsequently submit to international journals with the higher impacts.
- vi. There must be deliberate effort to work collaboratively locally and internationally with different key stakeholders in research across different universities, ministries, research organisations and international bodies.

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**References**

- Akakandelwa, K., Makondo, N.S., Kanyengo, C.W. & Ahmed, Y. 2016. *Tracing the Footprints of the University of Zambia Research Output*. Lusaka, Zambia: University of Zambia Press.
- Auditor General Report. 2016. *OAG still relevant in safeguarding public resources – PAC*. Lusaka: Auditor General's Office.
- Banda, D. 2008. The Non-formal Education in Zambia. In: UNESCO (2008) .Country Profile prepared for the Education for All Global Monitoring Report 2008. *Education for All by 2015: Will we make it?* (2008/ED/EFA/MRT/PI/10).
- Banda, D & Islam, R. 2012. Cross-Cultural Social Research with Indigenous Knowledge (IK): Some Dilemmas and Lessons. *Journal of Social Research & Policy*. 3: 36-40.
- Barnett, R. 2005. *Reshaping the university: New relationships between research, scholarship and teaching*. Berkshire: McGraw-Hill Education.
- Bennett, M.J. 2017. Developmental model of intercultural sensitivity. In Kim, Y.Y. (Ed.) *The international encyclopaedia of intercultural communication*. New York: John Wiley & Sons. 1-10.
- Braimoh, D. 1999. Academics and African academia: A paradox of manufacturers and industries for development. *Higher Education Policy*. 12(3): 253-260.
- Boggs, G.L. 2016. Economic impact of digital media: Growing nuance, critique, and direction for education research. In Guzzeti, B. & Mellinee, L. (Eds.) *Handbook of research on the societal impact of digital media*. Hershey: IGI Global. 178–207.
- Cepero, M.C.G. 2007. Institutional and Individual Factors Associated with Faculty Scholarly Productivity. Unpublished Doctoral dissertation, University of Connecticut, Storrs, United States of America.

- Cole, R.E. 1992. Some cultural and social bases of Japanese innovation: Small group activities in comparative perspective. In Kumon, S. & Rosovsky, H. (Eds.) *The Political Economy of Japan*. Vol. 2. Stanford: Stanford University Press. 292-318.
- Creswell, J.W., Klassen, A.C., Clark, V.L.P. & Smith, K.C. 2011. *Best practices for mixed methods research in the health sciences*. Bethesda, Maryland: National Institutes of Health. 541-545.
- Damtew, T. 2014. The 'soft power' proof of the pudding – Not in the branding. *University World News*, 21 February. Available: <https://www.universityworldnews.com/post.php?story=20140220125331356>. Accessed: 22 April 2021.
- Damtew, T. & Altbach, P.G. 2004. African Higher Education: Challenges for the 21st Century. *Higher Education*. 47: 21-50.
- de Wit, H. 2018. Internationalisation of higher education: Evolving Concepts, approaches and definitions. In Teixeira, P. & Shin, J.C (Eds.) *Encyclopaedia of International higher education systems and institutions*. Dordrecht: Springer.
- Dhamdhare, A. Clark, D.D., Gamero-Garrido, A., Luckie, M., Mok, R.K.P., Akiwate, G., Gogia, K., Bajpai, V., Snoeren, A.C. & Claffy, K.C. 2018. Inferring persistent interdomain congestion. In Gorinsky, S. & Tapolcai, J. (Eds.) *Proceedings of the 2018 Conference of the ACM Special Interest Group on Data Communication (SIGCOMM '18)*. Association for Computing Machinery, New York, NY, USA. 20-25 August 2018. pp1–15. DOI: <https://doi.org/10.1145/3230543.3230549>.
- Directorate of Research and Graduate Studies. 2019. *University of Zambia Graduates and Research Boards*. Lusaka: University of Zambia Press.
- Guzmán-Valenzuela, C. 2017. *Internationalisation of higher education studies in Latin America*. In Teixeira, P. & Shin, J. (Eds.). *Encyclopaedia of international higher education systems and institutions*. Dordrecht: Springer.
- Henry C., Ghani N.A.M., Hamid U.M.A. & Bakar A.N. 2020. Factors Contributing Towards Research Productivity in Higher Education. *International Journal of Evaluation and Research in Education*. 9(1): 203-211.
- Hirsch, J.E. 2005. An index to quantify an individual's scientific research output. *Proceedings of the National Academy of Sciences (PNAS)*. 102(46): 16569-16572. <https://doi.org/10.1073/pnas.0507655102>.
- Jaffe K., ter Horst E., Gunn, L.H., Zambrano, J.D. & Molina, G. 2020. A network analysis of research productivity by country, discipline, and wealth. *PLoS ONE*. 15(5): e0232458. <https://doi.org/10.1371/journal.pone.0232458>
- Johanson, J. & Mattsson, L.G. 1988. Internationalisation in industrial systems - A network approach. In Hood, N. & Vahlne, J-E. (Eds.) *Strategies in Global Competition*. London: Routledge. 287–314.
- Jung, J. 2012. Faculty Research Productivity in Hong Kong across Academic Discipline. *Higher Education Studies*. 2(4): 1-13.

- Kpolovie, P.J. & Obilor, I.E. 2013. Nigerian universities bag ludicrous ranks in world rankings of universities. *Universal Journal of Education and General Studies*. 2(9): 303-323.
- Kpolovie, P.J. & Dorgu, I.E. 2019. Comparison of Faculty's Research Productivity (*H-Index* and Citation Index) in Africa. *European Journal of Computer Science and Information Technology*. 7(6): 57-100.
- Kulyambanino, C. 2016. Faculty Productivity and Development: Exploring Research and Publication at The University of Zambia. Unpublished Doctoral dissertation, University of Zambia, Lusaka, Zambia.
- Knight, J. 2004. New rationales driving internationalization. *International Higher Education*. 34: 3–5.
- Lateef, A. Ogunkunle, A.T.J & Adigun, O.G. 2016. Google Scholar Citation in Retrospect: Visibility and Contribution of African Scholars. *COLLNET Journal of Scientometrics and Information Management*. 10(2): 219-236
- Masaiti, G. & Shen, H. 2013. Cost Sharing in Zambia's Public Universities: Prospects and Challenges. *European Journal of Educational Research*. 2(1):1-15.
- Masaiti, G., Mwelwa, K. & Mwale, N. 2016. Shifting from Government Bursaries to a Loan Scheme in Higher Education: Exploring Zambian Experience in Student Financial Aid. *International Journal of African Higher Education*. 2(2): 56-71.
- Masaiti, G. & Mwale, N. 2017. University of Zambia: Contextualization and Contribution to Flagship Status in Zambia. In Teferra, D. (Ed.) *Flagship Universities in Africa*. 467-505. Cham: Palgrave Macmillan.
- Masaiti, G. 2018. *Education in Zambia at 50 Years of Independence and Beyond: History, Current Status and Future Prospects*. Lusaka: University of Zambia Press.
- Masaiti, G. & Simuyaba, E. 2018. University Education in Zambia: Trends and Current Status. In Masaiti, G. (Ed.) *Education in Zambia at 50 Years of Independence and Beyond: History, Current Status and Future Prospects*. Lusaka: University of Zambia Press.
- Mulamfu, J. 1998. Evaluation of Financing University Education in Zambia. Unpublished MBA Thesis. Copperbelt University, Kitwe, Zambia.
- Nonaka, I. & Takeuchi, K. 1995. *The Knowledge Creating Company*. New York: Oxford University Press.
- Okiki, O.C. 2013. Research productivity of teaching faculty members in Nigerian federal universities: An investigative study. *Chinese Librarianship: an International Electronic Journal*. 36.
- Oloruntoba, A & Ajayi, M.T. 2006. Gender and research Attainment of Academics in Nigerian Agricultural Universities. *Journal of Higher Education in Africa*. 4(2): 83-98.
- Qiang, Z. 2003. Internationalization of higher education: Towards a conceptual framework. *Policy Futures in Education*. 1(2): 248–270. <https://doi.org/10.1111/j.1466-7657.2005.00425.x>.
- Schulze, S. 2008. *Academic research at a South African higher education institution: Quality issues*. Pretoria: University of South Africa Press

- Stafford, T. 2011. Faculty Research Productivity at Addis Ababa University. Unpublished Doctoral dissertation. University of North Texas, Denton, United States of America.
- Sulo, T., Kendagor, R., Kosgei D., Tuitoek D. & Chelangat S. 2012. Factors Affecting Research Productivity in Public Universities of Kenya: The Case of Moi University, Eldoret. *Journal of Emerging Trends in Economics and Management Sciences*. 3(5).
- Times Higher Education (THE). 2019. *World University Rankings 2019 Methodology*. Available: <https://www.timeshighereducation.com/world-university-rankings/world-university-rankings-2019-methodology>. Accessed: 16 April 2021.
- Tipton, E. 2013. Stratified sampling using cluster analysis: A sample selection strategy for improved generalizations from experiments. *Evaluation Review*. 37(2): 109-139
- Ubogu, F. & Heever V.M. 2014. Collaboration on academic research support among five African universities. *Qualitative and Quantitative Methods in Libraries*. 2: 207-219.
- Usang, B., Akuegwu, B., Udid, L. & Udey, F. 2007. Academic staff research productivity: a study of Universities in South-South Zone of Nigeria. *Educational Research and Review*. 2 (5): 103-108.
- University of Zambia (UNZA). 2018. *Strategic Plan 2018-2022*. Lusaka: University of Zambia Press.
- University of Zambia (UNZA). 2019. *Directorate of Research and Graduate Studies, Research Output Report*. Lusaka: University of Zambia Press.
- Xiangping K. 2000. 'A study of merit pay as a motivator of faculty performance at a public university'. Unpublished Doctoral dissertation. University of Northern Colorado, Greeley, United States of America.
- Zhang, K.H. 2014. How Does Foreign Direct Investment Affect Industrial Competitiveness? Evidence from China. *China Economic Review*. 30: 530-539.



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