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Part 6
Research Education & Research Practice

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The Academic Research Enterprise: Current Climate Worldwide

Abstract

The effectiveness of academic research enterprise depends on several factors including talented and interconnected scholars, adequate and dependable resources, and quality research. These elements need to function in harmony in order to result in research knowledge that adds value to society. Given that research capacity and innovation are internationally recognized as main determinates of national progress and prosperity, most nations make significant investment in academic research and knowledge transfer. In addition, higher education institutions worldwide are increasingly pressured to build research capacity and to increase research activity. Meanwhile, researchers are expected to show high level of research productivity and efficiency to prove their research excellence. This exploratory research study is based on the voices of 32 respondents from 15 countries to showcase their perceptions on research productivity demands at their respective institutions. A literature review about current climate of research enterprise along with the respondents' voices clearly indicate that research productivity demands are growing and researchers find it difficult to meet expectations posed upon them. The findings lead to the conclusion that more attention needs to be dedicated to institutional policies and practices that influence researchers work and on a larger scale the effectiveness of academic research enterprise.

Keywords: higher education, research enterprise, research productivity, research capacity building

Introduction: Research enterprise

In the past few decades, competitiveness within research enterprise has intensified and research demands for scholars expanded. As a consequence, universities, researchers, administrators, and research funders were forced to position themselves in relation to the changing research system and reorganize research practice and policies according to their respective contexts.

According to the National Research Council (2014, p. 100) strong research enterprise sets on three pillars: "a talented and interconnected workforce, adequate and dependable resources, and world-class basic research in all major areas of science. To understand how these pillars interact to produce research discoveries, one must also understand how knowledge flows among domestic and global networks of individuals and institutions; how research is influenced by the

availability of scientific infrastructure, funds, and other resources; how the quality, including the usefulness, of research discoveries is affected by management, research environments, institutions, and peer review; and how all of these aspects interrelate". Furthermore, the National Research Council (2014) articulates that in order to grasp the functioning of research system one must know how the knowledge is generated; utilized by well-trained talented people; shared through networks of researchers and institutions; influenced by external factors and how it is applied for economic gain and other social benefits.

Since the research capacity and innovation are considered key determinates of national progress and prosperity, higher education institutions and researchers worldwide are pressured to prove their research excellence. Li, Millwater and Hudson (2008, p. 3) state: "Given the central role university research plays in a nation's competitive capacity in the world's market and the prominent position it occupies in the nation's overall research efforts, research becomes an important component of a university's mission and a key indicator of its performance".

It is an international practice to assess university's scientific productivity based on quantitative performance metrics, which lead to higher rankings. However, as indicated by Edwards and Roy (2016), the quantitative measures can be misleading, manipulated and even counterproductive. In addition, they state that: "Quantitative metrics are scholar centric and reward output, which is not necessarily the same as achieving a goal of socially relevant and impactful research outcomes" (Edwards & Roy, 2016, p. 52). On that note, increasingly, researchers are being asked to show not only research productivity but also the research impact of their projects and outputs. As explained by Cooper, Rodway and Read (2018, p. 2): "The rationale behind impact movements is that publicly funded research should have tangible benefits for citizens and governments need to demonstrate a return on investment in relation to research". Some scholars suggest (Cooper, Rodway & Read, 2018; Smith, 2010) that in order to demonstrate the impact, researchers should direct their publications not exclusively at academic communities but also making them accessible to audiences outside academia Yet, most universities still mainly focus on publications for academic circles.

Huenneke et al. (2017, p. 423) report that research development within research institutions is often implemented through strategies such as adding faculty members to existing units, providing mentoring, revision of institutional policies and infrastructure, and systemic prioritization of research for administrators as well as for individual faculty members. Although the research agenda of universities depends on factors specific to each nation, overall there are many similarities since their research agendas evolved in interaction with other nations. For instance, to maximize research prominence universities worldwide established research entities, management structures, and research-incentives. All these with the expectancy that researchers generate knowledge meant to solve complex social issues and provide value to society.

The study and its findings

This section describes the research study addressing the focus of this particular chapter along with the emerging findings. The key findings are linked to

international scholarly literature to place respondents' voices in the broader relevant literature.

The paper is based on a larger exploratory research study about research capacity and research productivity. For the purpose of this chapter, a selection of data from the larger study is considered in order to showcase respondents' perceptions specifically on research productivity demands at their respective institutions. The qualitative data was collected via SurveyMonkey software from 32 international scholars representing 15 countries across five continents. At the time of the data collection, 2018, the respondents were affiliated with the Comparative Education Society in Europe.

Respondents provided a list of research productivity demands placed on researchers at their respective universities. The list included the following common points: publishing in high-impact journals, securing research funding, engaging in international research projects, participating in conferences, supervising postgraduate students. Publishing and securing funding was definitely high up on the reported list. The following voices of two scholars represent the responses of the majority of respondents:

> *Publish, publish, publish and then PUBLISH in accredited journals – preferably in internationally accredited, ISI-journals – ad nauseam! Nothing else even comes close to this demand.* (South Africa)

> *Research productivity is measured by a number of grant applications, PhD supervisions, publications, subjects delivered, courses (non-standard) delivered, money brought in, international collaborations, co-authored publications and multi-institutional grants.* (Australia)

Olesen, Amin and Mahadi (2018, p. 272) state that in the competition for limited academic positions and research funds, publications are used as the main indicator of research capabilities. The current "culture of 'publish or perish' means that a researcher's career advancement is heavily dependent upon the quantity rather than the quality of publications. As a result, some individuals may attempt to tread at the edge of unethical authorship practices or even indulge in research misconduct to amplify their publication".

While researchers are dedicated to generate knowledge and expand frontiers of their field, it is evident that the desired research productivity measurable through quantity of outputs does not always align with the quality of the outputs. As evident from literature (Niemczyk & Rossouw, 2019, p. 311), researchers pressured to produce research outputs may compromise their ethical decision making and "(a) become co-authors, even in instances where they do not substantially contribute to a written piece, (b) produce an abundance of articles based on a modest dataset, (c) excessively use students' datasets instead of conducting their own original studies or (d) compromise quality of the research process at the expense of getting data in an expedited way".

Besides pressures to publish, securing external research funding was reported by respondents as extremely competitive process, time consuming and difficult. As one of the respondents stated:

> *External funding is difficult due to the competitive nature of the process.* (Cyprus)

Altbach (2015, p. 7) echoes respondents' responses stating that in "most disciplines funding is difficult to obtain and the available resources are quite

limited". Respondents also highlighted that competing with colleagues for excellence and funding affected their sense of professional success, because securing funding is seen as a measure of accomplishment. In regard to social science researchers, McGinn et al. (2019) clearly state that: "The current research climate has heightened expectations for social science researchers to secure research grant funding at the same time that such funding appears to be more competitive than ever. As a result, researchers experience anxiety, confusion, loss of confidence, second guessing, and a lack of trust in the system and themselves".

As indicated by Li, Millwater and Hudson (2008) government funding and international ranking and status drive higher education institutions to strive for research excellence. It is nothing new or surprising that governing bodies are concerned with rankings when evaluating universities' performance. Similarly, higher education institutions assessing research productivity of individual scholars take into account the ability to obtain research funding. McGinn (2012, p. 5) reported that "research that is supported through external grants is rated higher than research that does not require such funding. Large-scale collaborations involving huge grants are seen as particularly favourable".

It is important to add that the respondents in the study reported the difficulty to meet the research productivity demands. Main factors identified as limiting or preventing achieving level of research productivity expected by their institutions included: lack of time allocated to research activity, teaching overload, long peer-review process, lack of mentorship for professional development, and tension between international criteria and national context. One respondent added that meeting institutional expectations in terms of research productivity is not only difficult but also dangerous as it may affect researchers' personal well-being.

> *... most academics who take these instructions [to be productive] seriously, are getting sick/ill sooner than ever before in the history of mankind – especially cancer and cancer-related illnesses.* (South Africa)

The overall results of the research study pointed out to the fact that institutional policies and practices greatly influence productivity of researchers (Harkavy & Hartley, 2012; Kyvik & Aksnes, 2015). Therefore, indicating that more attention needs to be dedicated to an "institutional approach based on social justice and holistic human development. Such an approach should be about equity, inclusion and a responsibility towards well-being. To ensure that the above-mentioned principles are respected, research managers and universities as institutions need to provide the necessary support to ensure that high research productivity demands can be accomplished without compromising researchers' professional and personal well-being" (Niemczyk & Rossouw, 2019, p. 312).

Connecting the dots

Considering that academic research enterprise relies on talented scholars, adequate resources, and quality research, it is essential to pay attention to the effectiveness and harmony of these elements. Special attention needs to be directed to those who are involved in research activities, namely researchers. National Research Council (2014, p. 46) accurately states that well-trained researchers, "their talent, abilities, knowledge, skills, and experience and the networks of professional

connections they have made – is one of the most valuable products of the system of research".

As stated earlier, researchers are expected to show high level of research productivity. At the same time, the findings of the reported study indicate that scholars across nations find it difficult to meet research productivity demands, which heavily rely on "quantitative performance metrics, including publication count, citations, combined citation-publication counts (e.g., h-index), journal impact factors (JIF), total research dollars, and total patents" (Edwards & Roy, 2016). The Goodhart's Law seems to be of essential consideration: "When a measure becomes a target, it ceases to be a good measure" (Koehrsen, 2018). Translating to our context, the narrow objective to showcase a quantitative performance may result in researchers making decisions that compromise their integrity and quality of their work.

It is evident in the reported research findings that researchers find it challenging to meet expectations to publish and secure funding for their research projects. The pressure to publish may in fact affect their ethical decision making. As reported earlier, this may result in overproduction of articles based on a modest dataset or excessive use of projects conducted by students. Researchers whose potential to get employed, get promoted, secure tenure, or achieve successful professional appraisal depend on record of tangible outputs may feel trapped in the research productivity race (Rónay & Niemczyk, 2020). Olesen, Amin and Mahadi (2018, p. 277) add that "not only is the number of publications and authorship order used to evaluate a researcher's career, but the journal impact factor is also important for review and promotion. At the same time, the available incentives and reward for these achievements indirectly enhance and encourage some researchers to engage in authorship misconduct… Pressure to publish, coupled with a heavy workload, and reward systems that are obsessively and disproportionately focused on quantity rather than quality of publication, is a breeding ground for unethical authorship practices". Along those lines, Edwards and Roy (2016, p. 51) warn that "… the combination of perverse incentives and decreased funding increases pressures [that] can lead to unethical behavior. If a critical mass of scientists become untrustworthy, a tipping point is possible in which the scientific enterprise itself becomes inherently corrupt and public trust is lost…".

It is fair to deduct that current research productivity pressures are not conducive to a healthy research culture. Shore and Wright (2004, p. 114) state that such circumstances, when individuals are under pressure and do not meet the expected criteria for success, may create "a culture of blame". In such culture of blame researchers in order to avoid low performance and low assessment of themselves may compromise their professional integrity. In addition, this can compromise their well-being, personal lives and relationships with colleagues (Niemczyk & Rossouw, 2019).

It is time to acknowledge that some researchers may never meet the research productivity expectations set by their institutions. In fact, not all scholars are able to maintain a balance between teaching – supervising – researching – producing research outputs – fundraising – providing service to academic and local community. This ideal combo of multi-roles creates many tensions and may require changes in terms of scholarly appointments and promotions criteria.

Edwards and Roy (2016, p. 51) advice that: "Academia and federal agencies should better support science as a public good, and incentivize altruistic and ethical outcomes, while de-emphasizing output". On that note, it would be advisable for institutions to moderate influence of metrics in decision-making and to introduce multiple measures of research excellence. The need to find alternative ways of assessing scientific research outputs gained momentum in San Francisco in 2012. After annual meeting at The American Society for Cell Biology, a group of editors and publishers of scholarly journals developed a set of recommendations, referred to as the San Francisco Declaration on Research Assessment (DORA). DORA (2013) aims to promote "real change in research assessment. One of the keys to this is the development of robust and time-efficient ways of evaluating research and researchers that do not rely on journal impact factors. We are keen to gather and share existing examples of good practice in research assessment, including approaches to funding and fellowships, hiring and promotion, and awarding prizes, that emphasize research itself and not where it is published".

In addition, we need to be reminded that quality leadership at every institutional level is important to encourage and support a balanced approach to research productivity. In their book, Hamel and Prahalad (1994) talk about sense of direction and discovery as a strategic intent to succeed. Although their book was written in 90s and directed towards business field, it is also relevant nowadays in case of HEI as organization. In terms of direction, the message indicates that most organizations are over-managed and under-led meaning that more effort goes into the exercise of control than into the provision of direction. Possibly, it is time to evaluate current sense of direction of academic research enterprise and ask the following questions: Are the incentives serving the desired purpose or potentially stimulate unethical behaviour in a highly competitive research environment? Are we sacrificing quality for quantity? Are the evaluation criteria of research and researchers fair and effective?

Conclusion

As stewards of the academic profession we have the responsibility to re-evaluate the effectiveness of academic research enterprise. This work provides evidence that more attention needs to be dedicated to institutional policies and practices that influence researchers' work and well-being.

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