

Factors influencing academics' research engagement and productivity: A developing countries perspective

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Academics are under increasing pressure to publish, particularly in peer-reviewed journals. This external pressure is clearly expressed by the “publish or perish” dictum. Studies have shown that academics' engagement in research and their research productivity are influenced by personal as well as environmental factors. Based on an extensive review of literature, this paper demonstrates that the various factors affecting research engagement and productivity of academics can be classified into three different levels: individual, institutional, and national. All these factors can be schematically summarised into an analytical or conceptual framework to study research engagement and productivity, particularly in developing countries. Pointing to the “North-South” gap in knowledge production and its implications for building knowledge economies, the paper concludes with directions for further research.

Introduction

There has been an increasing body of literature on academics' research engagement and productivity. A large number of empirical studies examining this topic have focused on research engagement and productivity, particularly of English language academics (see Anwaruddin & Pervin, 2015; Banegas, 2018; Keuk, 2015). Many researchers investigating this phenomenon seem to have taken the seminal work of Borg (2009) as a point of departure and used his definition of research engagement (Borg, 2010) as a frame of reference. Some researchers have either replicated Borg's (2009) study in a different context or adapted his questionnaire as a data collection tool (e.g. Kutlay, 2013; Moore, 2011; Sadeghi & Abutorabi, 2017).

According to Borg (2010), research engagement refers to both “engagement in research (i.e. by doing it) as well as engagement with research (i.e. by reading and using it)” (p. 391). This definition is precise; however, it is probably not inclusive enough. Although we have drawn on Borg, the definition of research engagement that we have adopted goes beyond his definition. In our broadened view, research engagement refers to academics' involvement in various research-related activities including, among others, initiation of research ideas and projects, conduct of research, writing of research reports, and dissemination of research findings.

With respect to research productivity, many researchers, particularly those who investigate research productivity of academics in developed or newly industrialised countries (e.g. South Korea), define research productivity by equating it with the “quantity” of published works academics have accumulated, or what is commonly termed “publication counts” (see Akbaritabar et al., 2018; Butler, 2003). In particular, academics' research productivity is measured by the number of publication of books, book chapters, journal articles (usually articles published in “peer-reviewed” journals), papers in conference proceedings, awarded research grants, and patents.

A number of other studies (e.g. Agarwal et al., 2016; Carpenter et al., 2014) have considered the quality aspect of academics' research productivity by using bibliometric methods (or bibliometrics) such as citation counts, citation rates, h-index and others, to determine the scholarly impact of a specific article, author, or publication. In their broad definition of research productivity, other researchers may include translation of books (or articles) from a foreign to a local/native language, reports written for consultancy work, research involvement (i.e. from initiating a research project to conducting, publishing and sharing research results), research-related presentations, and creative work (see Bai, 2010; Eam, 2015). In this review, this broad definition of research productivity is adopted.

The need for a comprehensive framework

With the pervasiveness of the “publish or perish” dictum, more and more academics in the Global North find themselves in a fierce academic competition. Not only do they compete with other academics or researchers to establish their name in their respective field, they also have to engage in self-competition. That is, they have to keep up with the publication trend and demand by continuing to publish on a regular basis. However, not all academics are research-active and research-productive. While many are active researchers and can establish themselves in the field through their research and publications, others, particularly those working in the Global South characterised by a resource-scarce environment, may lose out or simply may not have the necessary resources and expertise to actively engage in research and publication (see Altbach, 2003; Canagarajah, 2002; Medina, 2013).

Numerous studies have investigated factors that influence research engagement and productivity of academics (e.g. Bland et al., 2005; Kwiek, 2016; Teodorescu, 2000). Many of these studies have examined research productivity of academics in developed countries, with only a small though growing number of studies focusing on faculty in developing country contexts (Negash et al., 2019; Quimbo & Salabu, 2014). Amongst these studies, only a few (e.g. Bland et al., 2005) have provided a comprehensive model or framework of factors which influence academics' research engagement and productivity.

Many of the extant studies (e.g. Bland et al., 2005; Shin & Cumming, 2010; Teodorescu, 2000) have categorised factors influencing research engagement and productivity into two main groups: personal/individual and institutional/environmental. Personal/individual factors may include age, gender, academic rank, motivation, research knowledge and skills, research orientation, and collaboration. Institutional/environmental factors are an umbrella term that can refer to institutional missions, sizes, orientation, leadership, availability of resources, rewards, mentoring programs, and institutional research policy and culture.

The person-environment and/or individual-institutional dichotomy has been widely employed as a framework to investigate factors influencing academics' research productivity (e.g. Jung, 2012; Quimbo & Salabu, 2014; Shin & Cummings, 2010). However, there seems to be a relatively limited number of research studies which make use of a framework that incorporates all factors that may influence faculty's research

engagement and productivity, particularly those working in the context of the Global South where constraints to research engagement go beyond the individual-institutional dichotomy to include factors at a more macro level including politics, culture, and support from the government, industries, and donor agencies (Altbach, 2003).

Recognising this limitation, this article aims to explore factors that influence academics' engagement in research and publication. The key emphasis of the paper is on academics working in the Global South or the so-called peripheral academic community generally under-represented in the mainstream literature. In these Global South societies, not much is known about how academics engage in research and publication, or what factors influence their research engagement. The findings reported in this paper are based on a review of relevant literature, paying particular attention to academics and researchers in higher education contexts in developing societies. In what follows, the paper first describes the method for the literature review and then presents the main findings from the analysis of the relevant literature. We conclude with a set of recommendations for future research into the phenomenon of academics' research engagement and productivity in developing country contexts.

Method

As part of a larger research project, this paper starts out as an extensive literature review conducted to examine past research on academics' research engagement and productivity. The following methods were used to guide the review.

First, a number of databases including *ERIC*, *PsycINFO*, and *Scopus* were searched for relevant studies through the library website of a research-intensive university in Australia. An extensive search on *Google Scholar* was also conducted in order to select relevant studies for review. The following keywords guided the search: research engagement, research involvement, research productivity, research output, factors influencing research engagement/productivity, research engagement of academics/scholars in developing countries, and influences on research engagement/productivity. In addition to the database search, an examination of the reference list of key selected articles was also conducted to locate any relevant studies on the topic.

The aim of this review is to survey the literature to arrive at a synthesis of relevant studies which could inform the development of a comprehensive framework of factors influencing academics' research engagement and productivity. All relevant studies which matched the following set of inclusion criteria were selected for review:

1. The study was published in peer-reviewed journals, books, or edited volumes;
2. The study had to be doctoral dissertations, as master's theses were not included;
3. The study had to be data-driven, while non-empirical studies were not included; and
4. Short reports (e.g. Eng, 2014) were not included.

Based on these criteria and careful reading of abstracts and full texts for relevance, 65 studies were included in this review. Of these, 53 were journal articles, 2 were books, 6

were doctoral dissertations, and 4 were long research reports (see Appendix A for key details of each study).

It is important to note that although relevant studies would have been published in other languages, only publications in English were included for the review, due to their availability and the language expertise of the authors. Despite the authors' efforts to include as many relevant studies as possible, the review may have excluded papers not identified through the database or published after the 2018-2019 academic year when the search was conducted. Future reviews may address these limitations.

Results

Examination of the literature indicates that there are numerous factors which have potential effects on the level of research engagement and productivity of academics. The review shows that the majority of studies on this topic have been carried out mainly in Western, developed contexts or emerging economies such as South Korea and China. The various factors or determinants of research engagement and productivity, however, can be classified into three broad levels: individual, institutional, and national. The following sections discuss key factors at each of the three levels.

Individual-level factors

Numerous individual characteristics of academics are found to have considerable effects on academics' research engagement and productivity (Bland et al., 2005; Kwiek, 2016; Teodorescu, 2000). Such factors are related to demographic, professional, psychological, and attitudinal characteristics. In light of the limited research on research engagement and productivity of academics in developing country contexts, the review in this section relies largely on research conducted by or with academics working in institutions in developed countries. Moreover, only key factors which are commonly discussed in the literature are considered in this review.

First of all, age is one of the noteworthy individual-level factors which has received considerable attention in the literature on factors influencing research engagement and productivity. Previous research studies seem to reveal mixed results. Some studies found a significant relationship between middle age (approximately 35-55 years) and higher research engagement and productivity (e.g. Baldwin et al., 2005; Jung, 2014), while others revealed that older age is correlated with more research output (Kwiek, 2018; Vuong et al., 2017). However, many studies have found a curvilinear (i.e. inverted U-shaped) relationship between age and research productivity (e.g. Gingras et al., 2008; Kyvik & Olsen, 2008). Thus, in general, it seems that there is a decline in research productivity as academics age (Albert et al., 2016; Kyvik, 1990; Smeby & Try, 2005).

Gender is another variable commonly included in studies of academics' research engagement and productivity. Although findings from previous research are sometimes contradictory, most seem to suggest that male academics are more research-productive than their female counterparts (Jung, 2012; Kwiek, 2018; Stack, 2004). Despite this, there

are also studies which have reported little or no relationship between gender and research productivity (Chen et al., 2006; Ramsden, 1994; Teodorescu, 2000).

Academic rank is also an important factor in research engagement and productivity. Many research studies have found a positive correlation between research productivity and academic rank. That is, academics with higher positions such as full professors are found to be more research-productive than their lower-ranked colleagues (Nasser-Abu Alhija & Majdob, 2017; Hassan et al., 2008). The explanation for this correlation may be that researchers with higher academic ranks have better research network, more skills and experiences, more opportunities, and higher cumulative advantages than lower-ranked academics. As a result, they are highly likely to be more research-engaged and research-productive.

Academic degrees have also been found to have effects on academics' research productivity and engagement. Previous studies have shown that faculty members with advanced academic degrees, particularly a PhD degree, are more research productive than those without a PhD (Nasser-Abu Alhija & Majdob, 2017; Smeby & Try, 2005). Related to this factor, many studies have indicated that formal research training during graduate studies contributes to the level of research engagement and productivity (Eam, 2015; Quimbo & Salabu, 2014). This finding is understandable, given that quality graduate programs that they attended may have helped build their research knowledge, experience, and network, allowing them to be research-competent and confident in carrying out research activities.

Academic discipline is another factor which has also received considerable attention in research in this area. Findings from previous studies tend to suggest that academics in 'hard' disciplines (e.g. natural sciences, engineering, and medical science) publish more than their peers in 'soft' disciplines (e.g., humanities, social sciences, and business) (Jung, 2012; Kyvik, 2003; Shin & Cummings, 2010). For example, Kyvik's (2003) surveys of faculty members at four Norwegian universities conducted in 1982 (N=1,569), 1992 (N=1,590), and 2001 (N=1,937) indicated that the number of publications of academic staff in 'hard' disciplines is higher than those in 'soft' disciplines. It is more common, however, for academics in the humanities and social sciences to publish books, than is the case in other disciplines. A similar publication pattern emerged in Jung's (2012) study of the research productivity of Hong Kong academics (N=811) across nine disciplinary fields. The data showed that academics in 'soft' disciplines tend to publish more books but fewer journal articles than academics in 'hard' disciplines.

Time spent on research is another significant factor predicting research productivity of academics. Shin and Cummings' (2010) study of academic publishing across several disciplines in higher education institutions in South Korea showed that time spent on research is positively correlated with research productivity. A cross-national survey of 17,211 academics from 11 European countries also produced similar results, highlighting that more time on research leads to more research productivity (Kwiek, 2016). Unsurprisingly, studies from Canada (Allison & Carey, 2007), China (Bai et al., 2013, 2014; Borg & Liu, 2013), Malaysia (Sanmugam & Rajanthran, 2014), Saudi Arabia (Borg &

Alshumaimeri, 2012), South Africa (Snowball & Shackleton, 2018), Turkey (Kutlay, 2013), and Vietnam (Hiep, 2006; Phuong et al., 2017) have suggested that a common hindering factor to academics' active involvement in research and publication is time constraints.

In addition to time spent on research, research collaboration, particularly collaboration with international colleagues, also influences research engagement and productivity of academics. Shin and Cummings' (2010) study indicated that academics who collaborated with international colleagues published 38% more than their peers who did not. Kwiek (2016) also found that international research collaboration was one of the most powerful correlates of high research productivity of academics in many European countries. Other studies have also indicated that international collaboration is a characteristic of prolific researchers (Akbaritabar et al., 2018; Kwiek, 2018; Kyvik & Reymert, 2017; Nguyen et al., 2017; Vuong et al., 2019).

Related to international research collaboration, the issue of proficiency in a foreign language, particularly the English language, cannot be overlooked, given that English has gained its high status as a language of science (Ammon, 2001; Kaplan, 2001) and a language for research and publications (Flowerdew, 2012, 2015; Lillis & Curry, 2010). Research has shown that researchers in non-English speaking countries, commonly referred to as peripheral countries, and those whose first language is not English face a number of disadvantages when it comes to writing and publishing in English (see Canagarajah, 2002; Ferguson et al., 2011). Some of the challenges include prejudice and technical problems with the language (Flowerdew, 1999a, 1999b), a need for more time to write and edit manuscripts (Curry & Lillis, 2004; Li & Flowerdew, 2007), and other disadvantages resulting from gatekeeping practices which tend to be highly critical of submissions from periphery scholars (Gibbs, 1995; Hewings, 2006; see also Lee & Maldonado-Maldonado, 2018). From this discussion, it becomes clear that high proficiency in English is a major contributing factor to research productivity and research involvement of academics from non-English-speaking countries.

Besides the above-mentioned factors, other individual psychological characteristics such as research orientation or preference for research, motivation including extrinsic and intrinsic motivation, research confidence or self-efficacy, and desire for achievement and recognition, among others, are also important factors which impact upon academics' research engagement and productivity. Numerous studies have investigated the relationship between these factors and research productivity and there seems to be a consensus that academics who are research-active and research-productive are those who are oriented towards research, extrinsically and intrinsically motivated to do research, and have a high level of research self-efficacy (Chen et al., 2006; Kwiek, 2016; Ramsden, 1994; Shin & Cummings, 2010).

In a survey of 890 academics in 18 Australian higher education institutions, for example, Ramsden (1994) found that academics with an early interest in research are three times more productive than their colleagues whose early interest was primarily in teaching. Shin and Cummings (2010) also found a similar result in a South Korean context, reporting that academics who preferred research to teaching or who identified themselves as

researchers published 43.2% more than their colleagues who weighted teaching over research or identified themselves as teachers. Likewise, Kwiek (2016) found that being research-oriented or having a strong research role orientation is an important characteristic of highly productive academics or top research performers across 11 European countries. Other studies which examined predictors of research performance have also shown that faculty's preference for research is one of the key factors in explaining their research productivity (Bland et al., 2005; Kwiek, 2018; White et al., 2012).

Motivation, together with desire for recognition, is another crucial factor that has frequently been shown to influence academics' research engagement and productivity. Older studies like Bland et al. (2005) and Chen et al. (2006) confirmed the impact of motivation on research productivity. Findings of these studies are corroborated by more recent investigations which reported that motivation, especially intrinsic motivation, is a major enabling factor for academics' research engagement and productivity (Horodnic & Zait, 2015; Ryan, 2014; Snowball & Shackleton, 2018).

Another individual psychological characteristic which has received great attention in the literature is research self-efficacy. According to Bandura (1986), self-efficacy refers to "people's judgements of their capabilities to organise and execute courses of action required to attain designated types of performances" (p. 391). Based on this definition, research self-efficacy refers to "one's confidence in being able to successfully complete various aspects of the research process" (Kahn & Scott 1997, p. 41). This individual characteristic has consistently been found to have a positive association with academics' research productivity (Eam, 2015; Pasupathy & Siwatu, 2014; Quimbo & Sulabo, 2014). For example, in a survey-correlational study of 377 faculty members from five state universities in the Philippines, Quimbo and Sulabo (2014) found that research self-efficacy is a significant determinant of research productivity.

In summary, academics' research engagement and their research productivity are influenced by a number of individual characteristics, including age, gender, academic rank, degree, discipline, time spent on research, collaboration, English proficiency, research orientation, motivation, and self-efficacy.

Institutional-level factors

In addition to the individual characteristics examined in the previous section, the review shows that institutional characteristics also play a critical role in influencing academics' research performance. Key institutional factors which are commonly investigated in previous research include, among others, availability of resources and funds, institutional orientation, institutional research policies, institutional culture, reward and incentive systems, leadership styles, and availability of leading researchers (see Bland et al., 2005, 2006; Dundar & Lewis, 1998; Quimbo & Sulabo, 2014; Tien, 2016).

Dundar and Lewis (1998), for example, conducted a large-scale study which examined the relationship between research productivity and institutional factors of 1,834 research-doctorate programs in 90 research universities in the United States. The researchers

identified several institutional characteristics associated with enhanced research productivity, including larger department or faculty size, more full professors and 'star' (i.e. highly productive) faculty members, more resources and infrastructure support, larger numbers of graduate students, and privately controlled institutions.

In another study which investigated factors influencing research productivity of academics and departments within the context of a large medical school in the United States, Bland et al. (2005) found 15 institutional characteristics that enhanced research productivity. They included: (1) recruitment and selection of faculty members; (2) clear coordinating goals; (3) research emphasis; (4) a culture that values research; (5) positive group climate; (6) mentoring opportunities; (7) communication with professional network of colleagues; (8) accessible resources; (9) sufficient work time to devote to scholarly activities; (10) diversity in size, experience and expertise of faculty members; (11) clear communication; (12) appropriate rewards; (13) brokered opportunities for professional development; (14) decentralised organisation; and (15) assertive-participative leadership where active participation of members is expected.

In the context of Vietnam, Nguyen's (2015) mixed-methods study that examined factors influencing research productivity of Vietnamese academics found that research productivity was influenced by many key institutional factors. These included institutional research policies, teaching loads, availability of research infrastructure and funding, access to scholarly resources and collaborative research groups, involvement in postgraduate teaching and supervision, and availability of professional meetings such as research seminars and workshops. Similar findings were also reported in a study by Tien (2016) who explored factors that impacted Vietnamese academics' research capacity.

Other studies of this nature have also highlighted the relationship between institutional characteristics and academics' research performance. Shin and Cummings' (2010) study of the determinants of academic publishing in South Korea indicated that faculty publications were influenced by three key institutional factors: supportive attitude of administrative staff, institutional goal orientation and institutional mission. Borg and Alshumaimeri (2012), in their study of university educators' research engagement in Saudi Arabia, also found that the participants' level of research engagement was considerably determined by the actual institutional support they received for research activities. Similarly, in the context of higher education institutions in the Philippines, Quimbo and Sulabo (2014) found that research benefits and incentives were important predictors of research self-efficacy and research productivity of almost 400 faculty members who participated in their survey-correlational study.

The impact of various institutional factors on academics' research engagement and productivity was also reported in studies in many other higher education contexts. For instance, within the last ten years, there have been several such studies emanating from different contexts such as Cambodia (Eam, 2015; Kwok et al., 2010), China (Bai et al., 2014; Zhang, 2014), India (Paul et al., 2017), Iran (Hedjazi & Behravan, 2011), Thailand (Lertputtarak, 2008; Pornsalnuwat, 2014), Vietnam (Phuong et al., 2017; Tien, 2016), and some African countries (Ragasa, 2016; Negash et al., 2019).

Overall, previous research seems to suggest that faculty research productivity and their research engagement are influenced, in one way or another, by various institutional factors. Such factors may include institutional orientation and research policies, research infrastructure and funding, research rewards and incentives, research culture, opportunities for collaboration and professional development, and effective leadership, among others.

National-level factors

Besides the individual and institutional characteristics discussed above, other factors such as national policies, politics, culture, academic freedom, government investment, and support from industries, development partners and international donor agencies also play fundamental roles in influencing research performance of academics and institutions. Although the literature on faculty research engagement and productivity tends to focus more on individual and institutional factors (see Bland et al., 2005; Chen et al., 2006; Quimbo & Salabu, 2014), national-level characteristics can in fact have powerful effects on academics and institutions' research productivity, particularly in the context of developing and emerging economies (see Negash et al., 2019; Pornsalnuwat, 2014; Sam & Dahles, 2017; Tien, 2016). The following paragraphs illuminate this issue.

In Vietnam, Tien (2016), employing an interpretive case study approach, examined research engagement of academics in three Vietnamese higher education institutions (HEIs). He found that, in addition to factors at individual and institutional levels, factors at a societal or national level also exerted considerable influence on Vietnamese HEIs' research capacity and academics' research engagement. Three national-level factors that were identified in the study included socioeconomic, sociocultural and political factors. The author explained that Vietnam's socioeconomic growth and sociocultural factors including cultures of respect and recognition of academics, culture of achievement, and academic freedom all have considerably impacted the research capacity and productivity of Vietnamese HEIs and their academics.

In a similar vein, factors such as politics and academic freedom have been found to greatly influence research engagement and productivity of Cambodian academics (CICP, 2016). Political sensitivity, for example, can have effects on the development of research and scholarly activities in Cambodia. CICP's (2016) study highlighted that research on topics involving political sensitivity may be questioned or banned by authorities or institutions involved, making it almost impossible to carry out research. The study also underlined problems with data collection, as respondents tend to be uncooperative and unwilling to provide honest answers to questions that they considered politically sensitive, once again making the conduct of research in Cambodia a difficult task (see Morgenbesser & Weiss, 2018, for guidance on how to conduct field research in Southeast Asia).

In Thailand, Pornsalnuwat (2014) found that research productivity of Thai faculty members was significantly influenced by various individual, institutional, and national factors. Key national-level factors, including government and private sector support and some aspects of Thai culture, were found to play a decisive role in determining the level of

research engagement and productivity of Thai academics. Specifically, the study showed that Thai faculty's research productivity and engagement were negatively affected by aspects of Thai culture, characterised by "low self-confidence; low self-respect; a tendency to seek immediate rather than delayed gratification; conformity rather than creativity; and education based on memorisation rather than critical thinking" (Pornsaluwat, 2014, p. 93).

Another factor beyond the scope of individual and institutional levels is support from donor agencies. Sam and Dahles (2017) argued that in an aid-dependent country like Cambodia, international development institutions, such as the World Bank and the Asian Development Bank, play significant roles in the development of higher education. These donor agencies generally provide financial and technical assistance to developing countries and target capacity building and infrastructure development, which may arguably create a conducive environment for research to thrive. Previous reports and studies have shown that donor agencies like the World Bank are vital for the development of higher education and individual and institutional research capacity in developing countries (see Fussy, 2017; World Bank, 2009).

Although there were reports (see Maassen, 2012; Rappleye & Un, 2018) of failure and unfavourable consequences derived from international donor agencies' efforts to improve higher education and local research capacity in developing countries, the importance of their contribution to the overall development of higher education and research in aid-dependent countries cannot be overlooked. As statistics in the UNESCO's (2015) report indicate, many African governments devoted less than 1% of their GDP to research and development, and around 90% of their funding for research came from bilateral and multilateral donors (Kraemer-Mbula & Scerri, 2015; Urama et al., 2015). Donor agencies, Salmi (2017) argued, could play very important roles in supporting developing countries by providing financial and technical assistance and helping to diagnose and solve key challenges, among others.

The preceding discussion shows that a number of national-level factors, such as politics, culture, academic freedom, and support from governments, industries, and donor agencies, can exert a profound influence on academics' research engagement and productivity. These factors are generally not adequately discussed or excluded in studies about academics in developed countries.

Overall, this review has demonstrated that academics' research engagement and productivity are influenced by a number of factors which can be classified into three levels: individual, institutional, and national, as represented in Figure 1. These factors, especially those related to the individual and institutional characteristics, may overlap to some extent with one another and may operate in a complex way to influence the extent to which academics are engaged in research and knowledge production.

Figure 1's framework may be best used to understand the relationship between different influences associated with the extent of research engagement and productivity of academics in higher education institutions in developing countries. As the arrows indicate,

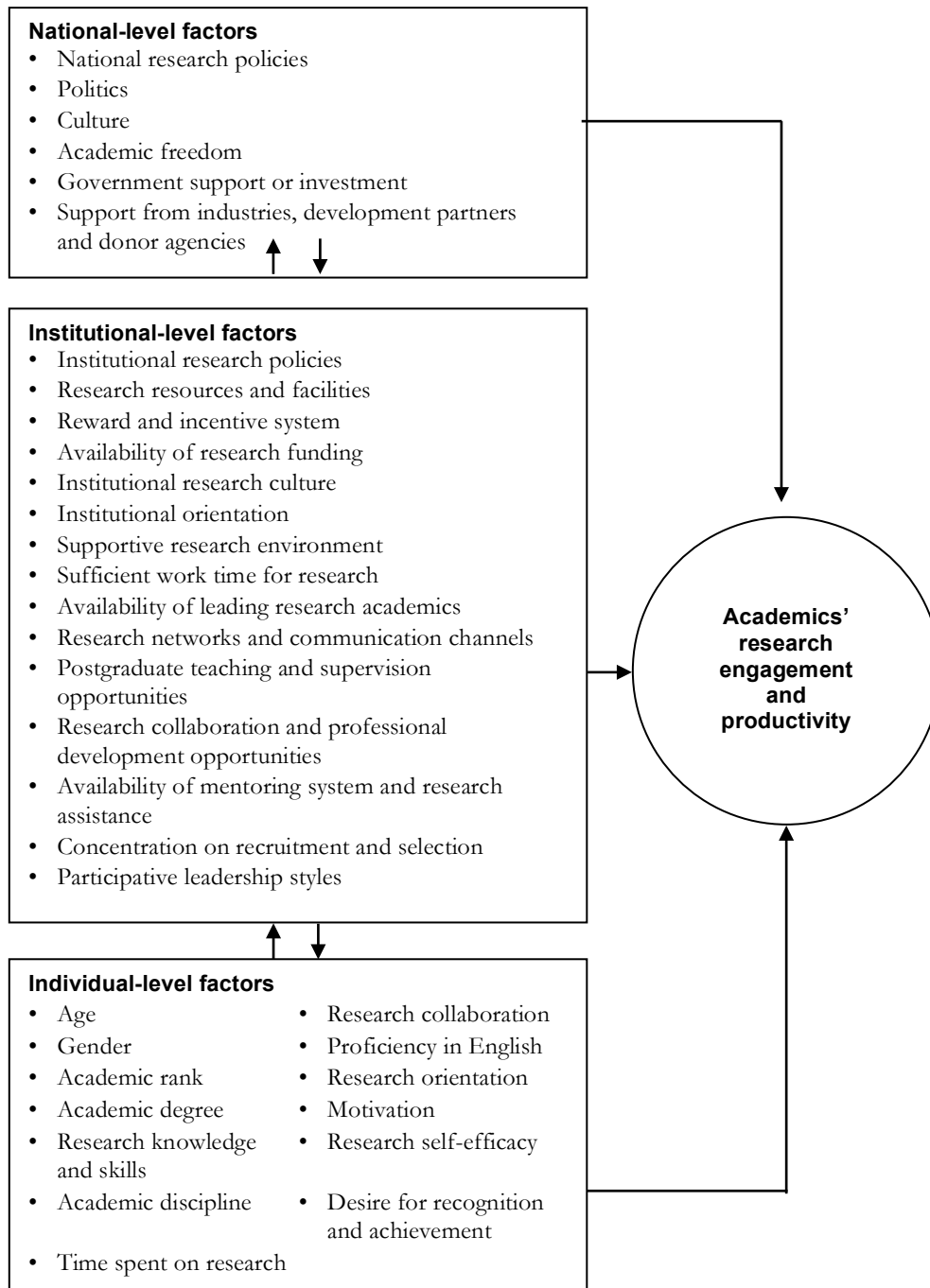


Figure 1: Framework of factors influencing academics' research engagement and productivity.

these three levels of factors are interrelated and associated with academics' research engagement and productivity. In other words, factors at individual levels may exert influence on institutional-level factors, and vice versa. Similarly, institution-related factors can have impact on national-level influences which in turn may shape the nature of institutional factors in a top-down manner.

Conclusion and directions for further research

The literature review reported in the present paper provides a synthesis of factors associated with the research engagement and productivity of academics, especially those operating in developing country contexts usually characterised by the scarcity of resources. The differences between the context in which academics live and work are important and should be included in any studies which aim to understand the nature and level of research engagement and productivity. Although there are various factors which have been discussed in the literature, the contextual factors, particularly those at the institutional and national level, which are specific to academics or scholars in developing or peripheral country contexts should not be overlooked. The evidence presented in this review prompts us to believe that many scholars in peripheral contexts live and work in environments which tend to hold them back from engaging actively in research and publication (see Uzuner, 2008, for a review of challenges facing multilingual scholars who engage in international publishing).

The framework of factors influencing academics' research engagement and productivity presented in this paper provides a lens through which we can understand a variety of factors that play important roles in determining the level of research engagement and productivity of academics, particularly those operating in developing country contexts. The division of all influential factors into three distinct categories of individual, institutional, and national levels is helpful because it offers a clear overall picture of key determinants of research engagement and productivity. It also shows the relationship and interconnectedness among these factors at the macro (national), meso (institutional), and micro (individual) levels.

Clearly, many studies have been conducted to investigate factors that influence academics' engagement in research and publication; however, more research is needed to gain a deeper understanding of the phenomenon of research engagement and productivity of academics, in particular those from the developing country contexts who are currently not well-represented in the literature. Thus, this review points to the North-South gap in knowledge production with implications for global competitions for building knowledge economies. There are also implications for publishers as well as journal editors and reviewers, sometimes referred to as 'gatekeepers' of academic publications. They need to accord greater recognition and appreciation of the uniqueness of contexts, perspectives, and local knowledge coming from researchers in the Global South who may wish to become part of the global dialogue and need research publications for educational advancement and career progression (see Atkinson, 2019; Lee & Maldonado-Maldonado, 2018).

Future studies may consider employing in-depth interviews and longitudinal studies as methods for gaining more detailed insights into the practices of research engagement and publication. Another matter is the need for more studies employing mixed-methods approaches to explore research engagement and productivity of academics in developing countries. Future studies could survey larger sample sizes, and try to gain deeper insights through follow-up interviews with a sub-sample. In so doing, we may be able to better understand the nature of research engagement and productivity of peripheral country academics and perhaps we will be able to see more diverse contributions to the international academic community from those scholars.

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Appendix: Studies included in the review (N = 65)

Study	Context	Participant and dataset
Akbaritabar et al. (2018)	Italy	Analysis of publication records of 1227 sociologists indexed in <i>Scopus</i>
Albert et al. (2016)	Spain	Analysis of publications by 3846 academic PhDs
Nasser-Abu Alhija & Majdob (2017)	Israel	Survey of 161 teacher educators
Allison & Carey (2007)	Canada	Survey of 22 language teachers and follow-up group discussions with 17 teachers
Bai et al. (2013)	China	Interviews with six TEFL academics
Bai et al. (2014)	China	Survey of 36 TEFL teachers and follow-up interviews with six teachers
Baldwin et al. (2005)	United States	Analysis of profiles of 10,315 full-time faculty
Bland et al. (2005)	United States	Survey of 465 full-time faculty
Bland et al. (2006)	United States	Analysis of profiles of 5,226 full-time faculty
Borg & Alshum-aimer (2012)	Saudi Arabia	Survey of 82 university teacher educators
Borg & Liu (2013)	China	Survey of 725 college English teachers and follow-up interviews with 20 teachers
Canagarajah (2002)	Sri Lanka	Author's own publishing experience and his colleagues' publishing experience
Ragasa (2016)	Nigeria and Ghana	Survey of 344 agricultural scientists in Nigeria and 237 agricultural scientists in Ghana
Chen et al. (2006)	United States	Survey of 320 business faculty members
CICP (2016)	Cambodia	Survey of 183 faculty members, interviews with 91 key informants, and roundtable discussions with unnumbered students
Curry & Lillis (2004)	Hungary, Slovakia and Spain	Analysis of written texts and multiple interviews with 16 scholars
Dundar & Lewis (1998)	United States	Analysis of research productivity of 1841 doctoral programs
Eam (2015)	Cambodia	Survey of 444 faculty members
Ferguson et al. (2011)	Spain	Survey of 300 academic staff
Flowerdew (1999a)	Hong Kong	Survey of 585 academics
Flowerdew (1999b)	Hong Kong	Interviews with 26 scholars

Fussy (2017)	Tanzania	Interviews with 42 key informants and group discussions with 37 postgraduate students
Gingras et al. (2008)	Canada	Analysis of publication records of 6,388 professors in Thomson Reuters-indexed journals
Hassan et al. (2008)	Malaysia	Survey of 294 academics
Hedjazi & Behravan (2011)	Iran	Survey of 280 agriculture faculty members
Hiep (2006)	Vietnam	Interviews with seven English language educators
Horodnic & Zait (2015)	Romania	Survey of 506 academics and analysis of publication records of 1,422 academics
Jung (2012)	Hong Kong	Survey of 665 academics
Jung (2014)	South Korea	Survey of 894 academics
Kraemer-Mbula & Scerri (2015)	Southern Africa	Analysis of data drawn mainly from World Bank, UNESCO Institute for Statistics, and Thomson Reuters
Kutlay (2013)	Turkey	Survey of 52 university English instructors
Kwiek (2016)	11 European countries	Survey of 17,211 academics
Kwiek (2018)	Poland	Survey of 2,525 academics
Kwok et al. (2010)	Cambodia	Interviews with 19 key informants and eight higher education experts
Kyvik (1990)	Norway	Survey of 1,569 academics
Kyvik (2003)	Norway	Three surveys of 1,569, 1,590, and 1,937 faculty members in 1982, 1992 and 2001, respectively
Kyvik & Olsen (2008)	Norway	Three surveys of 1,585, 1,815, and 1,967 academic staff in 1982, 1992 and 2001, respectively
Kyvik & Reymert (2017)	Norway	Survey of 1481 professors and analysis of a Norway-based bibliographic database
Lertputtarak (2008)	Thailand	Interviews with 11 academic staff
Li & Flowerdew (2007)	China	Interviews and email communications with 12 doctoral science students and four professors/ supervisors
Lillis & Curry (2010)	Hungary, Portugal, Slovakia and Spain	Analysis of written texts and multiple interviews with 50 scholars

Negash et al. (2019)	Anglophone Sub-Saharan Africa	Survey of 32 academics and interviews with 22 academics
Nguyen (2015)	Vietnam	Interviews with 19 academics and a survey of 526 academics
Nguyen et al. (2017)	Vietnam	Analysis of original articles from Vietnam published in ISI-indexed journals between 2001 and 2015
Pasupathy & Siwatu (2014)	United States	Survey of 109 faculty members
Paul et al. (2017)	India	Survey of 200 agricultural scientists
Phuong et al. (2017)	Vietnam	Survey of 103 English university lecturers
Pornsaluwat (2014)	Thailand	Interviews with 12 key informants and eight faculty members
Quimbo & Salabu (2014)	The Philippines	Survey of 377 faculty members
Ramsden (1994)	Australia	Survey of 890 academic staff
Ryan (2014)	United Kingdom	Survey of 405 research scientists
Sam & Dahles (2017)	Cambodia	Interviews with 46 key respondents
Sanmugam & Rajanthran (2014)	Malaysia	Survey of 68 lecturers
Shin & Cummings (2010)	South Korea	Survey of 787 faculty members
Smeby & Try (2005)	Norway	Survey of 1811 professors
Snowball & Shackleton (2018)	South Africa	Survey of 174 academic staff and follow-up focus group discussions with 21 staff
Stack (2004)	United States	Survey of 11,231 academic PhDs
Teodorescu (2000)	10 countries	Survey of 11,572 full-time faculty
Tien (2016)	Vietnam	Survey of 95 academics and interviews with 26 academics
Urama et al. (2015)	East and Central Africa	Analysis of data drawn mainly from World Bank, UNESCO Institute for Statistics, and Thomson Reuters
Vuong et al. (2017)	Vietnam	Analysis of <i>Scopus</i> -indexed publications by 410 researchers
Vuong et al. (2019)	Vietnam	Analysis of <i>Scopus</i> -indexed publications by 406 social scientists
White et al. (2012)	United States	Survey of 236 faculty members
World Bank (2009)	Sub-Saharan Africa	Analysis based largely on World Bank data
Zhang (2014)	China	Survey of 431 academic staff and focus group interviews with 32 staff

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