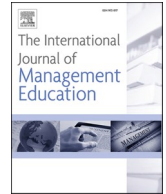




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# Doctoral education in business and management in Africa: Challenges and imperatives in policies and strategies

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## ABSTRACT

Our study provides an evaluative and a reflective analysis of doctoral business training in Africa to help develop a deeper understanding of the challenges and realities in increasing the Doctor of Philosophy (PhD) production in business/management. We begin by framing the context and structure of PhD programs in Africa. Using an illustrative sample of ten African business schools from five countries and available secondary data and reports on Africa's doctoral business training programs, we present a synoptic view of doctoral business education in Africa and provide an explication of four imperatives in policies and strategies. We end by offering a set of recommendations, including matching PhD production to resources; dealing with human and capital resource-shortage; providing guidelines and stringent regulations for PhD supervision; needing adequate financing to support doctoral students; collecting data to inform policymaking; exploring opportunities to enhance teaching and learning; and initiating intentional education to promote an inclusive academic environment where women are welcome and included for the development and management of business doctoral programs.

## 1. Introduction

In an era of knowledge economies, “every society must have the capacity to generate, acquire, adapt, and apply modern knowledge if it is to take advantage of the opportunities and reduce the risk posed by the rise of a knowledge society” (Sawyer, 2004, p. 215). Recently, the Chairperson of African Union Commission, Dr. Dlamini Zuma remarked that “no country grows based on primary education only ... higher education and Doctor of Philosophy (PhD) production are critical for the development trajectory of Africa” (Teferra, 2013) and Africa must “look at ways to train thousands more PhD students on the continent” (Cloete, Sheppard, & Bailey, 2015, p. 77). To compete in the knowledge economy, Africa needs to expand its PhD production to ensure a vibrant research community and to address social challenges (British Council & German Academic Exchange Service (DAAD), 2018). Indeed, Africa needs tens of thousands more PhDs to renew an aging professoriate, staff rapidly expanding higher education, and cope with the continent's development needs (MacGregor, 2013b, p. 2013; Nkomo, 2015).

The PhD is increasingly becoming the entry requirement for those seeking to teach at the university level. This mandate from the national accrediting boards in Africa serves as an impetus for PhD production (British Council & DAAD, 2018c,d,e,g; Tamrat & Fetene, 2019). Additionally, national planning agencies are seeing the doctorate as a primary driver for sustainable economic development and as an indicator of developmental capacity (National Planning Commission, 2012; Teferra, 2013).

That said, we seek to provide a descriptive, evaluative, and reflective analysis of doctoral business training in Africa, as well as

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develop a deeper understanding of the challenges the continent faces by increasing Africa's PhD production in business/management. We present a synoptic view of doctoral business education by examining the aims, duration, and entry requirements, as well as the type of PhD education model. We follow this with an explication of four imperatives needed in policies and strategies in Africa's business PhD training. Finally, we end with a set of recommendations and a conclusion. In terms of doctoral training, business schools offer the PhD, a research degree intended to enhance knowledge generation, and/or the Doctor of Business Administration (DBA), a professional doctorate intended to enhance business practice. In this paper, we focus on PhD training in business/management, which, like other PhDs, is a research degree (Commission for University Education, 2014; Wilkins, Neri, & Lean, 2019).

## 2. Methodology

Adopting a qualitative approach, we draw on several reports based on universities in six countries (e.g., British Council & DAAD, 2018a,b,c,d,e,f,g) and on seven flagship universities located in seven countries (i.e., Bunting, Cloete, & van Shalknyle, 2015, 2017), as well as secondary data sources and relevant literature (e.g., Darley & Luethge, 2016) to frame the context and structure of Africa's doctoral programs. Using an illustrative sample of ten business schools located in five countries, we analyze their websites for their PhD initiatives and programs in terms of aims, duration, entry requirement, and model type.

Thus, we provide a holistic view of the continent's doctoral training in business by following the tradition of several authors who have chosen to follow discussions about Africa along holistic lines (see, for example, Atuahene, 2011; Cloete, Sheppard, & Bailey, 2015; Kiggundu, 2013; Teferra, 2013). While African countries share common geo-socio-cultural features and common challenges and post-colonial experiences, we realize Africa is a complex continent with many countries and exhibits various poly-contextual dimensions and potentially many realities. Nonetheless, "identifying over-laying patterns is a useful enterprise" (Darley & Luethge, 2019, p.100; Gatune & Najam, 2011).

## 3. Framing the context

### 3.1. Doctoral training at the university level

According to a recent six-country study conducted in South Africa, Kenya, Ethiopia, Ghana, Senegal, and Nigeria, the numbers of PhD-qualified staff varied from region to region. PhD qualified faculty at the university level ranged from 8% to 43% with 8%, 31%, 34%, 43%, and 43% for Ethiopia, Ghana, Kenya, Nigeria, and South Africa, respectively (British Council & DAAD, 2018). Thus, a common feature was the shortage of PhD-qualified staff (British Council & DAAD, 2018a; Waruru, 2019, p. 2019). The low percentage of terminal degree holders and aging faculty, as well as the impending retirement of many senior faculty exacerbate the problem of insufficient "supervisor" faculty (Teferra, 2013). For example, about 20% of South Africa's faculty is expected to retire in the next ten years (Nkomo, 2015; British Council & DAAD, 2018g). Since many of these potential retiree-faculty members play supervisory and advisory roles, their retirement is likely to negatively impact the number of qualified supervisors in their specific university system (British Council & DAAD, 2018f).

As noted by Dr. Suleiman Ramon-Yusuf, Director of the Directorate of Research Innovation and Information Technology of Nigeria's National Universities Commission, unqualified supervision is one of the major challenges in producing high-quality PhDs in Africa (Nakweya, 2019). Shortages of doctorate faculty members limit supervisors' availability to support PhD students (Sawahel, 2017) and compel some academics to take on supervision roles in topic areas outside their area of specialization (Nakweya, 2019).

In Senegal, a new quota for PhD supervision at the University of Cheikh anta Diop (UCAD) and the University of Gaston Berger established qualified faculty could supervise no more than ten doctoral students; before this, the number was not limited (British Council & DAAD, 2018f). In Nigeria, Nnamdi Azikiwe University has a policy that establishes a maximum of five supervisees to one supervisor (British Council & DAAD, 2018e). In Kenya, the maximum number of supervisees per academic staff in any given year is five (5) master's degree students, and three (3) doctorate students (British Council & DAAD, 2018d). These policies suggest that the institutions in question are beginning to institute some level of supervision quality control. However, when a supervisor takes on too many students for supervision, this compromises the supervision quality (Nakweya, 2019).

Funding to support PhD training is another challenge. In Senegal, students meet doctoral studies' costs through a combination of state scholarship and bursaries, temporary teaching contracts, and consultancy work (British Council & DAAD, 2018f). In Kenya, doctoral students must provide private funds towards their education or seek scholarships elsewhere (British Council & DAAD, 2018d). However, faculty members pursuing their doctorate receive grants and scholarships from staff development funds (British Council & DAAD, 2018d). In Ghana, doctoral students depend largely on personal funds to pay for tuition and related costs. The government support for doctoral students in the form of bursaries and grants is about \$400 a year, which may be augmented with the university's internal funds (British Council & DAAD, 2018c). In South Africa, the National Research Foundation (NRF) is the primary source of funding for PhD training, especially in areas aligned to national priorities. NRF offers about \$5000 per year for three years per applicant admitted to a South African university (British Council & DAAD, 2018g).

Gender disparities are present in several countries for students. In Kenya, 69% of the students enrolled in PhD programs are males and 31% are females (British Council & DAAD, 2018d). In Ethiopia, the data on the gender distribution of PhD students shows that females represented only 21.1% of the doctoral enrolments and 6.3% of the doctoral graduates (British Council & DAAD, 2018). Additionally, in Senegal and Nigeria, most doctoral students are male (British Council & DAAD, 2018e,f). Furthermore, data on eight African flagship universities (University of Botswana, University of Cape Town, South Africa, University of Dar es Salaam, Tanzania, Eduardo Mondlane University, Mozambique, University of Ghana, University of Mauritius, Makerere University, Uganda and

University of Nairobi, Kenya) shows that the average ratio for the doctoral students was 37% females to 63% males while for the permanent academic staff of these eight universities was only 27% females to 73% males (Bunting, Cloete, & van Schalkwyk, 2014).

### 3.2. Doctoral training in African Business Schools

Higher Education Research and Advocacy Network in Africa (HERANA), an expertise network aimed at developing higher education studies and research in Africa driven by the Center for Higher Education Trust (CHET) of South Africa, has the following input-targets for emerging research universities in Africa. Sixty percent of the permanent academic staff should hold doctoral degrees to sustain the university's production of high-level knowledge and support doctoral students' high-quality supervision (Bunting, Cloete, & van Schalkwyk, 2015). Other input-targets require that enrolment proportions be at least 70% undergraduates, 15% master's, 5% graduate diplomas, and 5% doctorate. In addition, the total doctoral graduates each year should be at least 15% of the doctoral head-count enrollments in that year and the doctoral program should have one to two supervisees per each PhD qualified supervisor (Bunting et al., 2015).

Table 1 presents data for seven HERANA flagship universities and their business schools.<sup>1</sup> The data are for business faculty with a doctorate, doctoral student enrollment, doctoral business graduates, and doctoral supervision ratios. The proportion of their business school faculty with doctorate ranged from 12% to 69% (Bunting, Cloete, & van Schalkwyk, 2017). Only the University of Ghana Business School (UGBS) and University of Dar es Salaam Business School (UDBS) met the high-level knowledge input target of 60% of academics with doctorate degrees for a research university (Bunting et al., 2017).

Doctoral student enrolments ranged from zero to 168 for 2015 (Bunting et al., 2017). Doctoral business student enrolments are an important input into high-level knowledge production in management. Also, the number of doctoral business graduates for 2015 ranged from zero to 23 (Bunting et al., 2017). The low number of doctoral graduates at most business schools suggests that doctoral business education is barely alive at these schools.

Additionally, the supervisory ratio ranged from zero to 2.4 (Bunting et al., 2017). A number above zero indicates that the business school has spare capacity, and doctoral-qualified faculty could supervise more doctoral students. Except for University Cape Town Business School, the remaining six business schools have excess supervisory capacity. They do not come close to the 1.5 to 1 HERANA's supervisory ratio of doctoral students to academic faculty with a doctorate.

That said, three plausible explanations can be offered for the existing apparent spare supervision capacity. First, the 1.5 to 1 ratio may be misleading because faculty may be over-burdened with a heavy teaching load and research supervision for bachelors and/or for the Master's level. Second, not all academic faculty with a doctorate are motivated to engage in the supervision of doctoral students. Third, not all academic faculty with a doctorate are immersed in "the broad body of knowledge within a field of study" or have acquired "a repertoire of research methodology and statistical skills" (Nkomo, 2015, p. 250) to supervise doctoral students. Fourth, just because an academic has a PhD or has published does not automatically qualify him or her to be a supervisor (Nakweya, 2019).

Furthermore, the available data suggests a gender imbalance in doctoral management education or training in Africa. For example, in Kenya's public and private universities, only 28% of the doctoral business students were women (British Council & DAAD, 2018d), and approximately 28% of the doctoral business students at the University of Dar es Salaam Business School (UDBS) in Tanzania were females (UDBS, 2018). Additionally, only 30% of the doctoral students at Free State University in South Africa and 30% of the doctoral students at Ghana Institute of Management and Public Administration (GIMPA) were women (British Council & DAAD, 2018c,g). The mentioned data suggests gender imbalance in male to female doctoral student enrollment in doctoral education.

### 3.3. Structure of PhD programs in Africa

An African seeking a doctorate in business has the following geographic options. The first option is the local business school. The second option is to pursue a doctorate in South Africa, a popular destination for doctoral training. For example, in 2014, 40% of the PhD students in South Africa were international students (British Council & DAAD, 2018g). Doctoral education in South Africa is relatively inexpensive compared to one in Britain or the USA. Doctoral education in South Africa costs about \$13,000 compared to \$46,050 in the United Kingdom and \$54,388 to \$70,490 per year in the United States (Cloete, Sheppard, & Bailey, 2015). Hence, South Africa is an inexpensive destination for PhD candidates from other African countries. A third option is to look outside the continent for doctoral training opportunities in Europe, North America, Australia, and New Zealand. Of note, African students who manage to study in North America and Europe may benefit from scholarships and graduate teaching assistantships. Also, China is becoming a major study-abroad hotspot for thousands of African students because of China's growing scholarship provision (Makundi, 2020). All things being equal, the African student's preference is for Europe because of the colonial umbilical connection and United States because of post-doctorate employment opportunities.

Whereas the quest for PhDs is pushing the frontiers of new modalities, "the traditional model of multi-year, full-time, overseas study (paid for with government scholarship or fellowship) has become untenable" (Teferra, 2013). Also, the "sandwich" doctoral programs where the student does part of his/her program at the home institution and the other half at a foreign institution are no longer efficient. Students in the "sandwich" model bring back new ideas to their home institution and reduce intellectual inbreeding

<sup>1</sup> Acronyms and abbreviations for seven flagship universities are: Botswana: University of Botswana; Dar es Salaam: University of Dar es Salaam (Tanzania); Cape Town: University of Cape Town (South Africa); Eduardo Mondlane: Eduardo Mondlane University (Mozambique); Ghana: University of Ghana; Makerere: Makerere University (Uganda); Mauritius: University of Mauritius.

**Table 1**  
Selected data for seven HERANA flagship universities' business schools.

| University        | Academics with         | Doctoral   | Doctoral  | Supervisory           |
|-------------------|------------------------|------------|-----------|-----------------------|
|                   | Doctorate <sup>a</sup> | Enrollment | Graduates | Capacity <sup>b</sup> |
| Botswana:         | 45%                    | 0          | 0         | 0.0                   |
| Cape Town:        | 46%                    | 168        | 2.3       | 2.4                   |
| Dar es Salaam:    | 60%                    | 15         | 3         | 0.2                   |
| Eduardo Mondlane: | 12%                    | 4          | 1         | 0.1                   |
| Ghana:            | 69%                    | 54         | 2         | 1.3                   |
| Makerere:         | 30%                    | 16         | 2         | 0.9                   |
| Mauritius:        | 43%                    | 0          | 0         | 0.0                   |

<sup>a</sup> Proportion of permanent faculty with a doctorate.

<sup>b</sup> Ratio of doctoral enrolments to academics with doctorate degree.

**Table 2**  
Synoptic view of Africa's PhD programs in business.

|   |
|---|
| Ghana Institute of Management and Public Administration Business School, Ghana:<br><i>Aim:</i> to prepare graduates for research, consulting and teaching careers in various academic institutions, business, and research departments of organizations<br><i>Duration:</i> three years<br><i>Entry Requirement:</i> Master of Science and Master of Research<br><i>Degree Type:</i> required core courses and doctoral thesis; coursework model  |
| Kenyatta University Business School, Kenya:<br><i>Aim:</i> to prepare graduates for research and teaching careers<br><i>Duration:</i> three years minimum, six years maximum<br><i>Entry Requirement:</i> Master of Science and Master of Research<br><i>Degree Type:</i> required core and discipline-specific courses; PhD by coursework and dissertation   |
| Mount Kenya University Business School, Kenya:<br><i>Aim:</i> to prepare students for careers in academia as professors, lecturers, and researchers<br><i>Duration:</i> three to five years<br><i>Entry Requirement:</i> master's degree from recognized universities<br><i>Degree Type:</i> required core and discipline-specific courses; coursework model  |
| University of Botswana Business School, Botswana:<br><i>Aim:</i> to provide roust, systematic research training for scholars who wish to pursue in-depth PhD studies in a discipline<br><i>Duration:</i> three years full-time<br><i>Entry Requirement:</i> MPhil<br><i>Degree Type:</i> required designated courses and doctoral thesis; coursework model  |
| University of Cape Town Graduate Business School, South Africa:<br><i>Aim:</i> to be able to demonstrate thought leadership in specialization<br><i>Duration:</i> three to four years<br><i>Entry Requirement:</i> a recognized master's degree<br><i>Degree Type:</i> independent research degree; research thesis only  |
| University of Dar Es Salaam Business School, Tanzania:<br><i>Aim:</i> to prepare students to evaluate the state of knowledge in a field and to advance it through the application of theories from business and related areas<br><i>Duration:</i> maximum of six years for a full-time student<br><i>Entry Requirement:</i> a master's degree from the University of Dar es Salaam or an equivalent master's degree from a recognized university<br><i>Degree Type:</i> PhD by thesis only or PhD by coursework and dissertation                                  |
| University of Ghana Business School, Ghana:<br><i>Aim:</i> to provide participants with the knowledge, skills, and competence in conducting and publishing original and scholarly research that contributes to ...<br><i>Duration:</i> four years<br><i>Entry Requirement:</i> master's degree in business from an accredited university plus two years relevant work experience<br><i>Degree Type:</i> required core and discipline-specific courses and dissertation; coursework model  |
| University of Nairobi Business School, Kenya:<br><i>Aim:</i> to enhance skills in the various areas of specialization, to provide an opportunity to the candidate to carry out and present scholarly work; and to carry out research in area of study ...<br><i>Duration:</i> minimum seven semesters and maximum of 15 semesters<br><i>Entry Requirement:</i> an MBA or a master's degree from University of Nairobi or any other recognized institution<br><i>Degree Type:</i> required core and discipline-specific courses and dissertation; coursework model |
| University of Pretoria GIBS, South Africa:<br><i>Aim:</i> to develop the required knowledge ... to contribute to business thought leadership and help drive growth on the African continent<br><i>Duration:</i> three years<br><i>Entry Requirement:</i> an MBA or a master's degree from a recognized tertiary institution<br><i>Degree Type:</i> independent research degree; research thesis only  |
| University of Stellenbosch Business School, South Africa:<br><i>Aim:</i> to emphasize the creation of knowledge that is particularly relevant to African organizations<br><i>Duration:</i> at least two years of registration<br><i>Entry Requirement:</i> a relevant master's degree<br><i>Degree Type:</i> independent research degree, research thesis only  |

(Woldegiyorgis, 2020). However, with the multi-year overseas study and the sandwich PhD programs no longer tenable, the national option for increasing the number of PhDs on the continent is to increase local and regional production of PhDs in Africa. One advantage of PhD's local output is that it is likely to lead to doctoral output that understands the local environment and can integrate business theory and principles into the African context (Darley & Luethge, 2019).

Furthermore, an African student who chooses to pursue a PhD degree in business in Africa has two or three doctoral program options. At one end is the PhD by research thesis-only model and at the other end is the PhD by coursework and dissertation. In the British approach, the doctoral degree is earned by research thesis-only with no coursework (i.e., classes in which they are taught); a faculty or co-supervisors oversee the doctoral student's production of an acceptable dissertation. With research thesis-only, the student jumps directly into his or her doctoral thesis. Accordingly, one concern over the quality of this type of PhD training is the absence of mandatory coursework (British Council & DAAD, 2018g). Of note, there are modifications or variants of the British model in operation today in many of the top business schools in the United Kingdom. For example, a 1 + 3 (master's + PhD) format is the expectation of a "taught" one-year Researched master's degree or equivalent.

Other programs employ the structured American model, where the PhD is obtained by the required coursework and subsequent dissertation. To serve as a foundational framework before undertaking the doctoral research thesis, a coursework-based model requires taking a set of courses. In addition to coursework requirements, the American model requires a committee of three or four faculty members including, a Committee Chair. The dissertation must be judged acceptable by the committee, the external examiners, the PhD Director, and the Dean of School Graduate Studies. In the American model, there is an oral defense of the dissertation or the viva in the British model.

Yet, a third option available at some institutions is the doctorate by publication. The student is expected to produce a series of peer-reviewed journal articles. The standard format is that the articles are preceded by a substantial introduction chapter and end with a concluding chapter. Of note, PhD by publication is a standard approach for doctoral studies in Europe. In Africa, the use of PhD by publication varies by discipline and institution (Woldegiyorgis, 2020). For a university faculty member without a PhD, the PhD by publication is often an effective route to a doctorate.

For an illustrative purpose, we present ten business schools, three from South Africa, three from Kenya, two from Ghana, one each from Botswana and Tanzania (see Table 2). Table 2 provides details in terms of aim, duration, entry requirement, and the PhD model type. The South African business schools provide PhD training through research thesis only, whereas the business schools in Botswana, Ghana and Kenya offer PhD training via the coursework plus dissertation model. University of Dar es Salaam's business school offers both options (Muff, Kapalka, & Dyllick, 2017; Nwagwu, 2020; UDBS, 2018).

Table 2 also shows that the course model's duration is three to four years of full-time study. Where coursework is required, the courses tend to consist of mandatory courses, foundation/research methods course, plus substantive discipline-specific courses/seminars. For the research thesis only, the minimum duration is two years, with three years being the modal duration value. For the PhD by coursework and dissertation, the minimum duration is three years, with three to four years being the modal duration. Additionally, all schools require a master's or MPhil degree from a recognized university for entry.

### 3.4. Teaching and learning

The Covid-19 pandemic has affected education at all levels in profound ways, and its impact is likely to be long-term. It has caused a transition from face-to-face to the hybrid model to the virtual environment at the faculty level. The virtual environment requires technological infrastructure, adequate technical support, adequate faculty preparedness, as well as internet connectivity at the institutional level. At the student level, it requires access to connecting devices such as smartphones and laptops, airtime costs, as well as adequate and reliable internet connectivity. Among the many challenges the continent faces are internet access and internet stability.

Digital transformation of education requires, for most African institutions, upgrading of the technological infrastructure, provision of adequate interconnectivity, equipping faculty with new skills (i.e., online presence, online facilitation, online student engagement), and in the use of online tools (e.g., a learning management system). These new technologies or platforms and their attendant skill requirements create challenges for the university, faculty, and students.

The new demands come at a time when many African countries are facing financial or budgetary constraints. Nonetheless, they offer enhanced opportunities for African business schools to partner with better-endowed foreign higher education institutions for African students to participate in doctoral seminars and take classes outside the continent via zoom. In terms of doctoral training, this could mean opportunities for importing *trans*-continental "Zoom-delivered" seminars and lectures from resource-rich doctoral programs in the West to resource-deprived doctoral programs in Africa.

Darley and Luethge (2016) also report the following perceived research challenges from 57 business faculty based in Africa. These include the inability to access recent journals due to poor library facilities and services, inadequate skillset to meet international journal standards, and infrastructural difficulties (i.e., erratic access to the Internet and unreliability of electricity supply in some countries) (Darley & Luethge, 2016). Also, limited or non-existing research support for attending international discipline-based conferences affects access to human resources and global academic networks in the fields of business (Nkomo, 2015).

## 4. Imperatives in policies and strategies

Next, we discuss quantity, quality, efficiency (e.g., dropout rates, completion rates), and demographic transformation and equity (e.g., gender equity) as four imperatives in policies and strategies. These imperatives intersect in current debates and discourse on PhD

programs in Africa (Cloete, Mouton, & Sheppard, 2015). They are distinct and yet inter-related concepts. For example, the rapid expansion of PhD production and efficiency issues can affect program quality (Sawahel, 2018).

#### 4.1. Quantity

Three forces converge to increase demand for and production of PhDs in Africa. The first is the mandate from the National Accrediting Boards requiring those who teach at the tertiary level to have a PhD. For example, the National Universities Commission (NUC) of Nigeria declared in 2015 that a PhD is the minimum qualification for engagement as a lecturer in the Nigerian university system (British Council & DAAD, 2018e), and Kenya's Commission for University Education (CUE) regulation mandates a PhD qualification for university teaching staff by 2018 (CUE, 2014; British Council & DAAD, 2018d) and in 2019, CUE re-directed all non-PhDs to acquire a PhD degree to qualify to teach at the tertiary level (Nganga, 2019). Furthermore, the National Accrediting Board of Ghana requires teaching at the tertiary level a Researched master's degree (e.g., MPhil). The Board notes that given the shortage of PhD holders, it would be too high a demand to set PhD as the minimum standard for teaching at the degree level for now (British Council & DAAD, 2018c; National Accrediting Board, 2014). However, for most public universities in Ghana, a PhD is part of the requirement for promotion to a senior lecturer (British Council & DAAD, 2018c). Thus, there is an implicit expectation of academic staff in Ghana to obtain PhD (Ansah, Swazy, & Obeng, 2019).

Causally related to the first impetus is the need to fill academic positions with PhDs. In Ethiopia, for example, the expansion in PhD enrollment is driven by the need to fill academic positions (British Council & DAAD, 2018) to meet the national requirement of 30% PhD and 70% master's (British Council & DAAD, 2018b; Tamrat & Fetene, 2019). The current academic staff qualification mix is 32%, 60% and 8%, respectively for bachelor's, master's, and PhD (British Council & DAAD, 2018). This is below the government's aspirational requirements (i.e., 70% master's and 30% PhD) (British Council & DAAD, 2018b).

The second impetus is the increasing realization that doctoral training is needed for the national development trajectory and for a country to compete in the knowledge economy. For the university to be at the cutting edge of research and knowledge, it needs to expand its PhD production. For example, South Africa's National Development Plan 2030 (National Planning Commission, 2012) recognizes that the doctorate is a key driver of sustainable development and seeks to increase the number of academic staff with PhD qualifications from 43% in 2015 to 75% in 2030. In addition, South Africa's National Development Plan (National Planning Commission, 2012) has set a target requiring 75% of permanent academic staff should have a doctorate by 2030 (British Council & DAAD, 2018g). Thus, building PhD capacity is necessary to fulfill its teaching needs, serve the public interest, and address national development initiatives (British Council & DAAD, 2018d).

Third is the high expectation of the national planning agencies for PhD production in Africa. Many African countries are encouraging local institutions to expedite the production of PhDs. For example, Ghana and Nigeria have plans to produce 1500 and 3500 PhDs per year, respectively (Teferra, 2013), while Kenya has plans to produce at least 1000 PhDs every year to drive its economic development ambitions (Nganga, 2019). Ethiopia also has plans to produce 5000 PhDs in ten years. It has invested heavily in its higher education system, but these national plans to increase PhD graduates' production do not provide adequate support to achieve quality education outcomes (Tamrat & Fetene, 2019). Additionally, South Africa's government has plans to increase the annual production of PhDs from its current 1700 graduates a year to 5000 per year in 2030 (Cloete, Mouton, & Sheppard, 2015; MacGregor, 2013a; Teferra, 2013).

#### 4.2. Quality

"Quality" of a doctoral program is an elusive and a complex construct. In our exposition, quality is viewed as having various dimensions: quality of the doctoral candidate (e.g., qualifications, experience, and preparedness), doctoral program, doctoral supervision, supervisory process, doctoral graduate, and doctoral thesis (Cloete, Mouton, & Sheppard, 2015).

First, the average doctoral student enters at about 40 years old. They often have family obligations, have several years of work experience to their advantage, are likely to be self-financing their doctoral education or have some grant support and attend the doctoral program on a part-time basis (British Council & DAAD, 2018a,b,d). For example, in South Africa, 70%–80% of doctoral business students attend part-time and the average doctoral graduate is 40 years of age or older (National Planning Commission, 2012; Nkomo, 2015). These entry characteristics have implications for student preparedness, student commitment to studies, dropout rates, and whether remedial training is needed in research methodology and statistics. Some doctoral students may have had a long hiatus from academic study or may be rusty in research methods and statistics. Such students are encouraged or required to make up for any apparent deficiency by taking courses from the MPhil or Post-Graduate Diploma in Business Studies (PGDip) program to develop the skills to understand and employ needed methodology and analytical techniques. In passing, the output quality is mainly affected by what the student brings to the program, their self-efficacy, and their commitment to continuous professional development.

Second, the program quality varies depending on the type of doctoral program (i.e., PhD by thesis only, PhD by coursework and dissertation, and PhD by publications) and the program's support system. Whereas PhD by research thesis only makes it possible for under-resourced African universities to offer doctoral programs (Nkomo, 2015), those obtaining doctorates through research thesis only route have "little opportunity for immersion in the broad body of knowledge within a field of study or to acquire a repertoire of research methodology and statistical skills" (Nkomo, 2015, p. 250). Students of PhD thesis only find themselves "playing catch-up in keeping up with developments in their field, may have limited theoretical scope and limited breadth in data analysis methods and techniques" (UDBS, 2018, p. 9). Also, PhD by thesis only "demands concentrated supervision" and a lower student/faculty ratio (UDBS, 2018, p. 9). In contrast, PhD by coursework and dissertation can easily stretch beyond three years to complete because the coursework

component alone can take one to two years. Whereas the coursework model may take longer to complete, it gives the student more opportunities to acquire the latest methodology and analytical techniques. PhD by coursework and dissertation offers a better opportunity for students “to broaden their knowledge base in the discipline” before concentrating on their research dissertation (UDBS, 2018, p. 9).

On the other hand, a PhD that relies solely on publications has its share of concerns. Teferra (2013) notes that with the fraudulent publication outlets springing up globally and the inadequate capacity of African universities to track them, quality measured by publications alone is open to question. Furthermore, PhD by publication model misses the importance of engaging the student in the research process, which is critical to nurturing a capable academic researcher (Teferra, 2015).

Third, supervisor quality is influenced by the supervisor’s knowledge, experience, competence, workload, style, and how they relate to doctoral students. Over-burdened faculties have teaching workloads across undergraduate, graduate, and post-graduate levels, plus research supervision for bachelor’s, master’s, and doctorate levels (Nkomo, 2015). Two examples illustrate the issues with doctoral supervision. The first faculty member supervised mini-dissertation research for 6–8 MBA students and 2–3 doctoral students annually (Darley & Luethge, 2016; Nkomo, 2015). The second faculty member supervised 15 master’s degree students per year and five part-time doctoral students per year (Darley & Luethge, 2016; Nkomo, 2015).

Fourth, the supervisory process can impact doctoral program quality. Inadequate incentives for supervisors, a heavy burden of supervision, and lack of supervisors (British Council & DAAD, 2018g; Teferra, 2015; Waghid, 2015) affect supervisor quality. Other problems associated with supervision are a lack of guidelines for doctoral supervision, and lack of commitment from existing supervisors (British Council & DAAD, 2018b). The low proportion of PhD academic staff means a proportional increase in the “burden of supervision” for doctoral supervisors (Nkomo, 2015). Lack of an adequate number of qualified supervisors for PhD candidates and long waiting times to meet supervisors have implications for quality (British Council & DAAD, 2018f). Also, aging qualified faculty reduces the capabilities for supervision of doctoral students (British Council & DAAD, 2018f; Nkomo, 2015). That said, the proportion of PhD holders in business in the tertiary system is low, limiting the potential of senior faculty supervision of doctoral work in business (Bunting et al., 2017).

Fifth, institutional support can affect program quality. Lack of scholarships and bursaries for students, research facilities, and institutional policies can affect program quality. African universities have increased their doctoral admissions without a corresponding or proportional increase in the number of PhD qualified academic staff (British Council & DAAD, 2018b; Nkomo, 2015; Tamrat & Fetene, 2019).

#### 4.3. Efficiency

Consistent with Cloete, Mouton, and Sheppard (2015), we use the following indicators to reflect efficiency: retention rates/dropout rates, completion rates, graduation rates, progression rates, and productivity rates. In Senegal, delays in the production of PhDs—sometimes up to ten years—are caused in some instances by candidates and their supervisors taking too long to identify a research topic. Also, the relevance of a student’s proposal to the supervisor’s area of expertise influences the time it takes for proposal approval (British Council & DAAD, 2018f) and, by extension, the completion rates.

Kenya has set its national benchmark for doctoral graduation completion rate at 20% to ensure that 20% of every cohort graduate within three years. However, the national average graduation rate is 11% and the average time to completion is six years. Furthermore, PhD dropout rates over the last ten years are as low as 5% in some institutions and as high as 20%–50% in others. Indeed, low completion rates and increasing dropout rates remain a challenge (British Council & DAAD, 2018d). In Ethiopia, the proportion of PhD dropouts within ten years was 10.7% with completion rates averaging six years (British Council & DAAD, 2018). In South Africa, the completion rates vary from as low as 25% in the University of South Africa to 60% at University of Western Cape (British Council & DAAD, 2018g).

The following presentation is but one example of a governmental attempt to push for efficiency using extrinsic motivation. South Africa’s Department of Higher Education and Training (DHET) is providing institutional rewards for PhDs who graduate in three years and has budgeted \$580 million yearly to support this effort (Cloete, Sheppard, & Bailey, 2015). South Africa’s National Funding Framework (NFF) is also allocating funding support based on criteria and a weighting system in line with efficiency. The funding is based on research Masters graduates, doctoral graduates and accredited research publications weighted (1:3:1) a university produces each year. To reflect the importance attached to the production of doctoral degrees, a doctoral graduate is worth three times the value of a research master’s graduate or an accredited research publication. This funding or grant to the universities is controlled by South Africa’s DHET and encourages universities to improve their doctoral graduation rates. A pro-rated share of the accrued grant for doctoral graduation goes into the supervisor’s professional development funds and the supervisor could conceivably cash in or use as a research fund (British Council & DAAD, 2018g). Furthermore, in South Africa, supervisors who accept as many students as allowed and can graduate them in three years are rewarded. Thus, there is the perception that “the primary imperative is to get as many doctoral students as possible to complete within the shortest possible time period” (MacGregor, 2013b, p. 2013). These actions put pressure on institutions, academics, and administrators (Cloete, Sheppard, & Bailey, 2015; Teferra, 2013); and are likely to sacrifice quality for quantity.

#### 4.4. Demographic transformation and equity

Gender equity is high on African government agendas (Khodabocus, 2016). In South Africa, for example, demographic transformation has focused on gender and race (Department of Higher Education and Training, 2014; Loots, Ts’ephe, & Walker, 2016),

whereas for other African countries, the focus is on gender. Of note, gender imbalance in the higher education system is not an African peculiarity; it manifests itself in other parts of the world (Ellen, Cotte, & Goodman, 2019).

It appears that Africa's business schools are gendered institutions, and their practices are designed around men's life experiences to benefit men at the expense of women. To explain gender imbalance in Africa's business schools, we employ hegemonic masculinity as theoretical underpinnings for the gender imbalance. *Hegemonic masculinity* "represents a socially constructed set of practices that allow men to dominate women in a hierarchical organization" (Bird, 1996; Connell, 1987; Connell & Messerschmidt, 2005) and "reflects a masculine gendered view of how things should work in an organization" (Connell, 1995; Trevino, Balkin, & Gomez-Mejia, 2017, p. 444). This theory explains why female students and faculty are treated differently when it comes to doctoral program access and admissions. In any event, stereotypical male gender-role perceptions influence judgments and behavior in academia in favor of men (Ridgeway, 2009; Trevino et al., 2017).

In addition to a masculine-gendered academic environment, there is a plausible cultural explanation for the imbalance. First, there is the general cultural belief that the more education a woman gets, the more difficult it is for her to find a suitor (Sifuna, 2006). Second, the cultural belief system places a higher value on marriage and motherhood and less value on female education (Odhiambo, 2011). Thus, both attitudinal and behavioral changes are needed to mitigate against the cultural belief system that favors men over women.

## 5. Recommendations and the way forward

As a way forward, we offer a set of recommendations that include matching PhD production to resources and competitive advantage; dealing with human and capital resource-shortage; providing guidelines and stringent regulations for PhD supervision; needing adequate financing to support doctoral students; collecting data to inform policymaking, exploring opportunities to enhance teaching and learning; and initiating intentional education to promote a socially inclusive environment for the development and management of business doctoral programs.

First, mandates from the national accrediting boards for universities to upgrade their faculty qualifications and national planning agencies for doctoral training to meet national development needs have necessitated expansion of PhD production. However, such an expansion must be matched with adequate human, capital, and financial resources. Business schools must establish the right balance between graduating students within a reasonable timeframe and output quality; between national demands and the pursuit of excellence in academia; and between the necessary expansion and program quality.

Second, to deal with human and capital resource-shortage, *trans*-disciplinary relations between departments can be explored to facilitate opportunities for sharing resources, funding, and supervision capacities (British Council & DAAD, 2018f). The *trans*-disciplinary strategic alliance would enhance the production of doctoral graduates and address the doctoral training deficiency. Cross-listing of courses will enable doctoral students to take pre-approved relevant courses from other departments. Bringing in experienced retired or active academics and researchers on a short-term basis to work in the doctoral program and collaborating with local, regional, and foreign universities (British Council & DAAD, 2018b,d,f), as well as tapping into the resource of Africans in diaspora (Waruru, 2019, p. 2019) can be helpful. Third, the student-supervisor relationship is critical to the doctoral experience and the success of the doctoral dissertation. Strengthening and improving supervision, as well as building supervisory capacity in collaboration with other well-endowed institutions within the country or in the region or outside of the region to increase efficiency in graduation rates can be helpful (British Council & DAAD, 2018f; Sawahel, 2017). Training supervisors in pedagogical leadership to increase the quality of supervision can also be helpful (Nakweya, 2019). Additionally, pre-identified expectations such "regular student-supervisor meetings", "time required for supervisors to read and review drafts", and "the number of drafts the supervisor is willing to review" (Fowlie, Roche, & O'Driscoll, 2019, p. 302), as well as maintaining well-structured progress reports of PhD candidates (Nakweya, 2019) can help minimize misunderstandings.

Fourth, funding is a significant source of student anxiety and negatively affects doctoral studies. Initiating funding targeted at marginalized groups can increase their doctoral participation and offer equal opportunity for these groups. Additional financing such as scholarships and bursaries can ensure quality and commitment to full-time study and timely completion of the doctoral program. For example, South Africa's National Research Foundation's Thuthuka Program is worth exploring. To address past inequalities, 80% of all funded grant holders on the PhD track go to blacks and up to 60% to females (British Council & DAAD, 2018g). Targeted funding can ensure equality of opportunity in doctoral programs for underrepresented groups.

Fifth is collective, extensive, and reliable data to inform policymaking around PhD provision (Sawahel, 2018). Such data could include doctoral tracer studies and PhD career-tracking to show whether there is a reasonable match between labor market demand and doctoral business graduates' skills (Khodabocus, 2016). For informed policymaking, it is important to periodically, and on a timely basis, collect data regarding academic programs, disciplines, enrollments per gender, completion times per gender, and areas of pursuit after completion per gender (Nakweya, 2019). More importantly, data collected should be made readily available and accessible to stakeholders.

Sixth, in terms of teaching and learning, taking advantage of the COVID-19 era, African business schools can intentionally seek strategic partnerships with better-endowed business schools outside the continent to get them to share seminars and courses in research and methodology areas or even in advanced discipline-specific areas. Additionally, the partnership arrangement could include limited access to databases subscribed by the well-endowed partners. Also, university authorities need to be cognizant of the Wi-Fi system's challenges and the learning management systems, work towards improving internet access and stability, as well as enhance skill development for the needed learning management systems. In addition to acquiring the doctorate, which ensures the holder possesses specialized knowledge in their field, it might be necessary to enforce a policy requiring a credential in university



teaching of every doctoral graduate to enhance pedagogical skills (Ansah et al., 2019).

Seventh, given that the environment within which the doctoral training occurs can impact student progress of students and student difficulties, establishing an enabling environment for both genders is necessary. Using female supervisors can (a) serve as important role models for female students, (b) offer female students a more favorable mentoring experience (Ligami, 2021), and (c) help mitigate the masculine-gendered academic environment. Public dialogue and intentional education are needed to promote an academic environment where women feel welcome and included at the university and business school level.

## 6. Conclusion

In our exposition, we presented the challenges of doctoral training, the structure of business doctoral training, four imperatives for policies and strategies pertaining to PhD production in business/management in Africa, and a set of recommendations. We sought to develop a deeper understanding of the quantity, quality, efficiency, and equity issues related to Africa's doctoral education in business to better inform the promotion and development of Africa's doctoral business programs.

The general expectation is for business schools to increase their PhD production to meet local demand and fulfil national development planning needs. Using HERANA's doctoral enrollment criterion to academic staff with a doctorate of at least 1.5 to 1 (Bunting et al., 2017), schools with a high percentage of PhD qualified academic staff could explore expanding or offering doctoral programs if this fits with their strategic focus. Several schools are beginning to grow their PhD qualified faculty and, hence, would be able to expand their doctoral supervision capacity. Two of Africa's top business schools (i.e., American University of Cairo and Lagos Business School) do not offer PhD programs but could.

From our presentation and discussion, doctoral training in business in Africa is indeed needed, notwithstanding the challenges. We hope that this presentation will bring stakeholders together to explore ways to improve or strengthen Africa's doctoral programs in business. In this regard, the Association of African Business Schools (AABS) can play a significant role by collecting relevant demographic and program data to identify underrepresented groups and share best practices among African business schools.

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No potential conflicts of interest with respect to the research, authorship, and or publication of this article.

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