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Elevation of postgraduate research status at South African universities: a systematic literature review

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Abstract

According to reports, a crisis is brewing in South African postgraduate education for the same reasons that tertiary education is in turmoil today. Since the dawn of democracy, governments and universities have sought equity in higher education within the constraints of limited public funds, resulting in difficult decisions and trade-offs. Thus, this study adopts a systematic literature review (SLR) to explore postgraduate research status at South African universities. The researchers used the "Preferred Reporting Items for Systematic Review and Meta-analysis" (PRISMA) guidelines as their research methodology. The researchers used Google Scholar, EBSCOhost, Sabinet and ResearchGate, as well as other databases, to retrieve and analyse information from journal articles, conference papers, and reports. To that end, this study identifies three (3) key themes associated with the enhancement of postgraduate research status at South African universities. The themes are (1) the importance of postgraduate research at South African universities; (2) challenges to postgraduate research at South African universities; and (3) strategies for improving the status of postgraduate research at South African universities. The collected data ranged from 2006 to 2024. The human capital theory (HCT) was chosen as the theoretical lens because it proposes that people invest in education for future benefits. The findings revealed numerous academic challenges affecting postgraduate research. These include issues with funding, training, and supervision, among other things. The paper recommends that universities invest in academic support programmes, training, and funding for postgraduate studies.

Keywords: Academic support, postgraduate research, postgraduate studies, research and innovation, South African universities

Introduction and Background

Today, there is a significant increase in demand for education, particularly higher education (Aslan, 2014). According to Hendrickse (2022:98), universities around the world are under intense government pressure to increase postgraduate output and, as a result, contribute to the knowledge economy. Furthermore, the above scholar mentions that "this pressure is then transferred to research supervisors, who must navigate the complexities of research supervision in order to meet not only postgraduate output targets set by the university in particular, but also postgraduate output targets set by the government as a whole." Universities South Africa (USAf) (2023) discovered that fewer and fewer South Africans are pursuing postgraduate studies. A national review of South African doctoral qualifications from 2020 to 2021 found that 56.7% of PhD graduates are international students and 43.3% are South Africans. Furthermore, USAf (2023) notes that undergraduate demographics are as follows: 96.9% of graduates are South African, with 3.1% being foreign.

Manyike (2017), who conducted a study on postgraduate supervision at an open distance learning institution in South Africa, believes that postgraduate research is an important component of the global university teaching and learning environment. As a result, proactive postgraduate supervision is a concern at universities around the world, even in the best-case scenario where postgraduate students study full-time. As a result, governments are putting pressure on universities to increase the throughput of postgraduates in areas

where supervisory guidance is required in order to produce quality graduates in a shorter period of time than previously thought.

Manyike (2017) also stated, in support of the preceding statement, that postgraduate supervision is a global policy phenomenon that is critical to the global economy because knowledge accumulation is a factor that influences a country's ability to produce goods and, as a result, its ability to compete on the global market. Among other things, the success of postgraduate study supervision is determined by how well supervisors and supervisees get along, particularly their ability to plan and coordinate their study projects effectively (Bitzer, 2011).

As for Aslan (2014), "while educational systems have rapidly developed to meet this demand, developing countries have also increased resources allocated to education in general, and higher education in particular, since WWII." For a variety of reasons, the state of postgraduate studies in South Africa has received increased attention in recent years (Mouton, 2007).

Mutula (2011) defines postgraduate research as a type of study offered by a university or other advanced learning institution. According to the author, postgraduate research focuses on developing systematic investigative skills during the research process. Mutula (2011) also emphasised that the majority of postgraduate research is basic, with some applied and/or collaborative research. Toncich (2006), on the other hand, argues that the goal of postgraduate research is not to make a breakthrough invention or a major scientific discovery, but rather to teach graduate students how to conduct a systematic investigation based on the work of peers in the field, and then to extend the current state of knowledge.

As a result, the purpose of this SLR study is to document and assess the state of postgraduate research in South African universities in terms of potential systemic challenges or shortcomings. Furthermore, the study sought to identify opportunities that could help raise postgraduate status in South African universities.

The initial section of this research is an introduction and background; the second section is problematisation of the postgraduate research status at South African universities; the third section is research objectives; the fourth section is the theoretical perspective of postgraduate research status at South African universities; the fifth section is the methodology and thematic foci; the sixth section is the study's limitations; and the final section is the conclusion and recommendations.

Problematisation of the Postgraduate Research Status at South African Universities

The Department of Higher Education and Training (DHET) has stated that there is an urgent need to improve pass rates, graduation rates, and the quality of graduates leaving many institutions (Cloete, 2009). Magano (2013) confirmed this as well. According to Magano (2013:211), "the South African government is concerned about the completion rate of master's and doctoral students enrolled in universities." The Academy of Science of South Africa (ASSAf) (2018) revealed in its report that the establishment of new postgraduate programmes at South African institutions is not currently supported. Furthermore, ASSAf (2018) discovered that a significant barrier to increasing the number of postgraduate graduates is a lack of supervisory capacity at higher education institutions (HEIs). ASSAf (ibid.) discovered that the number of staff with PhDs is relatively low, both in absolute numbers and in proportions. Ahern and Manathunga (2004) identify a challenge that many postgraduates face when their motivation wanes.

Research Objectives

RO1: To describe the importance of postgraduate research at South African universities.

RO2: To identify challenges affecting postgraduate research at South African universities.

RO3: To imply strategies to elevate the status of postgraduate research at South African universities.

Theoretical Perspectives of Postgraduate Research Status at South African Universities

HCT was deemed appropriate and relevant in this study for elucidating the significance of human knowledge and skill development in an organisation. "Education is an essential instrument for carrying out functions that are a direct federal responsibility," write Holden and Biddle (2016). As a result, Holden and Biddle (2016) went on to say that education is an investment in human resources that will yield positive returns in the form of increased productivity and faster technological advancement. Thus, Schultz (1961) defines human capital as knowledge and skills acquired through education and training as a type of capital, and this capital is the result of deliberate investment that yields returns. As a result, "health care, on-the-job training, and migration for better job opportunities were included as forms of human capital investment, and the analysis of these activities was part of the economics human capital research programme from its inception".

In support of the preceding statement, Debrulle, Maes and Sels (2014) state that as a knowledge-based economy emerges, organisations place a high value on scarce resources and knowledge supply in order to increase organisational, competitive, and organisational effectiveness. Furthermore, Wuttaphan (2017) asserts that knowledge, skills, and abilities are viewed as invisible assets that can be used to build a sustainable organisation.

Therefore, this theory is relevant to the study since it seeks to determine the significance of providing supervisors and postgraduate students with the knowledge, skills, and abilities required to compete in the corporate world. As a result, if supervisors are well-trained to supervise students, they will find it easier to ensure that students complete their studies on time. Furthermore, if students are well trained on research strands, it ultimately advances students in their postgraduate studies to ensure that they work hard and commit to having a good working relationship with their supervisors in order to complete their studies within the time frame set for postgraduate studies. McConnell, Brue and Macpherson (2009) support this by stating that "a more educated, better-trained person is capable of supplying a greater amount of useful productive effort than one with less education and training".

Methodological Perception

The researchers used PRISMA to improve postgraduate research at South African universities. Moher, Shamseer, Clarke, Ghersi, Liberati, Petticrew, Shekelle and Stewart (2015) provided a better explanation for PRISMA. According to the authors, "it is an evidence-based minimum set of items to report in systematic reviews and meta-analyses." In this regard, the researchers also used the SLR approach from the start of this study. Clarke (2011) stated that the goal of a systematic review is to provide a thorough summary of all available primary research in response to a research question. In support of the previous statement, Wright, Brand, Dunn and Spindler (2007) stated that "the first step in conducting a systematic review is to develop a primary research question as part of the study protocol." The goal of developing a research protocol is to allow for the formulation of review questions and methods prior to retrieving the literature. For this study, data was collected by searching scientific search engines for articles, reports, book chapters, and other scholarly documents.

In this study, the researchers were guided by the following three major phases: preparation, study selection, and assimilation.

Preparation

The preparation, according to Tandon, Dhir, Islam and Mäntymäki (2020), "consisted of two key steps: framing the research objectives and determining the search criteria and databases".

Landoll, Vargas, Samardzic, Clark and Guastaferro (2022) explained that "the preparation phase lays the foundation for optimisation and the subsequent phases of a multiphase optimisation strategy. In the preparation phase, the research team may use a variety of approaches, including a literature review(s), expert consultation, qualitative data collection, or other pilot or feasibility studies, to identify theoretically or empirically justified intervention components".

Framing the research objectives

The SLR begins with a relevant research question, objective, or purpose. To support the accentuation, the University of Tasmania (2024)

maintains that SLR is based on a pre-defined specific research question. Thus, the study adopted the following questions:

RQ1: What is the importance of postgraduate research at South African universities?

RQ2: What are the challenges affecting postgraduate research at South African universities?

RQ3: What are the strategies to elevate the status of postgraduate research at South African universities?

Determining search criteria and databases

The researchers of this study also went through this important step for systematic review purposes. The main reason was to locate relevant studies used in this study. This was mainly based on setting the search criteria and appropriate databases to retrieve the relevant research documents. It is well explained by Grewal, Kataria and Dhawan (2016:635) that a "literature search is a key step in performing authentic research. Also, it helps in formulating a research question and planning the study".

'Postgraduate Research Status' and 'South African Universities' were used by the researchers as the primary keywords and carried out a thorough search by using a range of secondary keywords to retrieve data for the study. Google Scholar, EBSCOhost, Sabinet, ResearchGate, and other databases were used to retrieve scholarly documents for the systematic review. Therefore, the researchers sought to include documents that were available in the above-mentioned databases through 2006 and 2024 and published in English. The researchers reviewed every article to determine if the inclusion and exclusion criteria were met as indicated under the sub-phase "Determining the inclusion and exclusion criteria".

Study selection

This phase concerned the identification of appropriate articles for further analysis. In line with this phase, Stoll, Izadi, Fowler, Green, Suls and Colditz (2019:539) clearly explained that "when performing a systematic review, the importance of study selection cannot be overstated." The above-mentioned authors added that decisions about which studies to include are considered among the most significant decisions made during the review process.

Therefore, this phase comprises the following steps: the initial databases search, determining the inclusion and exclusion criteria, and selecting the relevant studies.

Initial database search

The keyword-enabled search initially yielded 22,187 research documents from the various databases. The studies accessed include journal articles, conference papers, and book chapters, among others. After applying and checking the studies, the researchers were left with 261 studies published in various journals in English in total. These articles were then screened to identify duplicates, thereby yielding a total of 200 unique articles.

Determining the inclusion and exclusion criteria

In this step, the researchers of this study reviewed every article to determine if the inclusion and exclusion criteria were met. Table 1 below, depicts the inclusion and exclusion criteria for the study.

Selecting the relevant studies

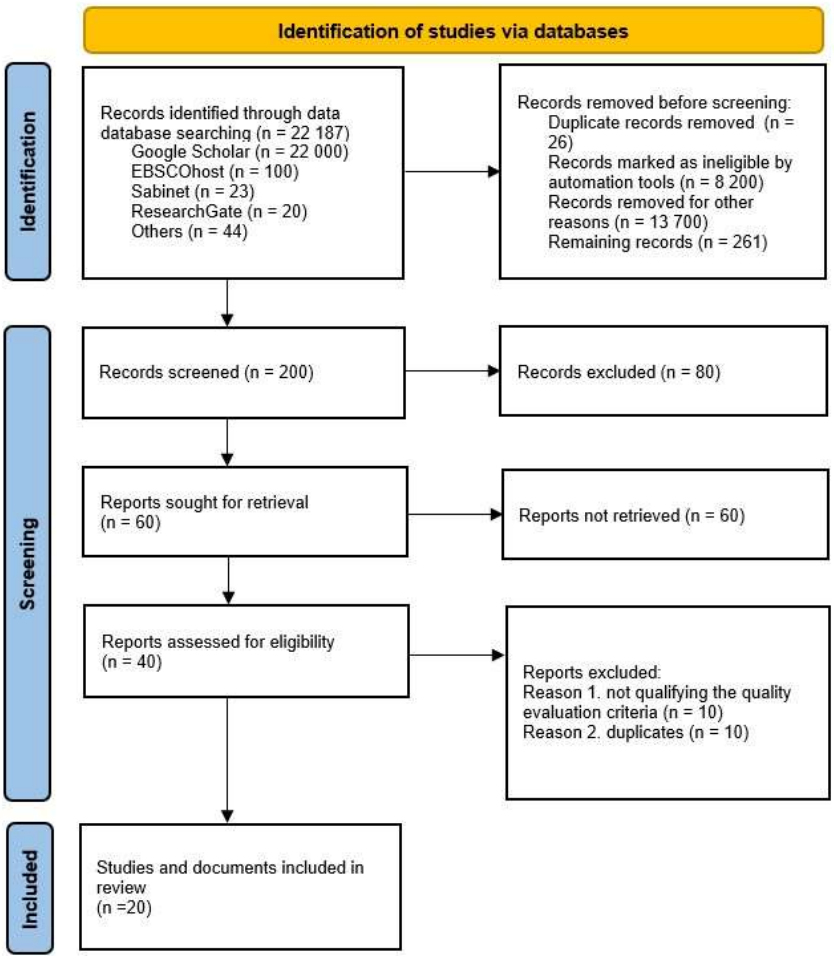
The selection of appropriate studies was involved in this step. Therefore, the researchers were then involved in assessing the relevance and quality of the articles in the review. To distinguish articles pertinent to this study's objectives, the screening process first focused on the titles, abstracts, findings, and recommendations of the 200 studies to gain basic ideas about them. Only 120 studies managed to serve the purpose, thus excluding 80 studies that did not conform to the scope of the present study. Therefore, the researchers then read the full-text versions of the 60 articles to understand their research aim and objectives, research methodologies, and recommendations, and they applied all of the inclusion and exclusion criteria mentioned above to select 40 studies for eligibility. The final screening was performed to ensure the quality of the articles selected for the review. In the process of screening, 10 articles were removed for not

qualifying the quality evaluation criteria, leading to 30 articles being identified as the most suitable papers for this SLR. Also, the researchers identified duplicates of ten articles, which were later excluded for not satisfying the quality evaluation criteria. Therefore, 20 articles qualify for the final evaluation, as depicted in Figure 1 below.

Table 1: Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
• Scholarly documents in the English language. • Scholarly documents on the elevation of postgraduate research status at South African universities. • Global studies that covered variables of the study. • Scholarly documents published from 2006 to 2024.	• Scholarly documents not published in the English language. • Scholarly documents that did not focus on postgraduate research status at South African universities • Global studies did not cover the variables of the study. • Scholarly documents published before 2006.

Figure 1:Steps followed by the researchers during the process of searching for scholarly documents



Assimilation

In this phase, the researchers extracted information from the selected journal articles and

carefully organised and analysed the content of the study to address the objectives of this study. The profile of the literature was presented here, and the researchers also explored the three themes of the study.

Research profiling

The researchers profiled the studies under review to understand the postgraduate research status at South African universities. This was accomplished by presenting the descriptive in terms of the authors' names, the year in which the studies were published, countries of publication, consulted studies, methodologies, and lastly, theoretical framework(s). The status of postgraduate research at South African universities was recognised, and the topic gained prominence and increased attention from scholars in South African and international contexts. Therefore, the assimilation for this study is summarised in Table 2 below.

Table 2: Summary of the scholarly documents used in the review

Authors, year, and country of publication	Documents consulted	Methods	Theoretical framework(s)
Cloete, Sheppard and Baile (2015), South Africa	Book chapter	Quantitative	N/A
National Research Foundation (NRF) (2023), South Africa	Funding framework	Qualitative	N/A
Council on Higher Education (CHE) (2022), South Africa	Report	Qualitative and Quantitative	N/A
Weiss (2017), South Africa	Study proposal presentation	N/A	N/A
Mutula (2011), South Africa	Journal article	Qualitative research	N/A
Daniel-Oghenetega (2020), South Africa	PhD thesis	Qualitative design, Semi-structured interviews, Narrative analysis and critical interpretation	Bourdieu's theory of practice
Tanga and Maphosa (2018), Netherlands	Journal article	Qualitative, In-depth interview, Focus group discussions, Thematic analysis	N/A
Academy of Science of South Africa (ASSAf) (2018), South Africa	Report	Qualitative, Quantitative	Feminist theory
van Biljon and Mwapwele (2023), South Africa	Journal article	Qualitative, Interview, Thematic analysis	N/A
Department of Higher Education and Training (DHET) (2023), South Africa	Report	Quantitative	N/A
Mouton (2007), South Africa	Journal article	Quantitative	N/A
Zakri (2006), France	Conference paper	Qualitative	N/A
Olivier (2007), South Africa	Journal article	Qualitative	N/A

Manathunga (2012), Australia	Journal article	Qualitative, Poststructuralist discourse analysis	N/A
National Research Foundation (NRF) (2021), South Africa	Funding guide	Qualitative	N/A
Saidi (2024), South Africa	Journal article	Qualitative	N/A
Magano (2013), Canada	Journal article	Qualitative, Constructivist-interpretive paradigm	Wellness model
Kumar and Stracke (2007), United Kingdom	Journal article	Quantitative	N/A
Magano (2011), United Kingdom	Journal article	Qualitative, Constructivist-interpretive paradigm, Interviews	N/A
Manyike (2017), South Africa	Journal article	Qualitative, Purposive sampling	Community of practice theory

Thematic foci

Importance of postgraduate research at South African universities

Cloete, Sheppard and Baile (2015) found that the importance of postgraduate research in South Africa, such as doctorates, has grown disproportionally in terms of contribution to overall graduate output. Cloete et al. (2015) noted that postgraduate research has focused on higher education's increasingly important role in the knowledge economy, particularly in terms of high-level skills. In this regard, it is emphasised in the funding framework of the National Research Foundation (NRF) (2023), that the Foundation aims to promote and support research through funding, human resource development and the provision of the necessary research facilities, in order to facilitate the creation of knowledge, innovation and development in all fields of research, including indigenous knowledge and thereby contributing to the improvement of the quality of life of all the people of the Republic.

According to the Council on Higher Education (CHE) (2022), postgraduate studies are clearly a major concern for most universities. Weiss (2017) also says postgraduate students (master's and doctoral students) are extremely important to South Africa. Highly skilled workers are in short supply, so they are critical to the economy. This is recognised in the National Development Plan, where education is a key strategic imperative, with a focus on the number of master's and doctoral students.

Weiss (2017) also states that postgraduate students are very important to universities because graduation subsidies and research are important revenue streams for universities. CHE (2022) emphasises the importance of postgraduate studies at South African universities, stating that many institutions provide research skills training, as well as various workshops and writing retreats, either through faculties or central institutional postgraduate offices. Furthermore, some universities reported the need to expand these programmes.

Mutula's (2011) study demonstrates the importance of postgraduate research. According to the study, the Department of Library and Information Science (DLIS) at the University of Zululand (UniZulu) has implemented commendable research practices. Collaboration and joint authorship among staff and postgraduate students contribute significantly to DLIS's research output. One can agree that authorship by

staff and postgraduate students could help raise the status of research at the university.

Furthermore, Mutula (2011) emphasised that another "positive aspect of DLIS's (UniZulu) research portfolio is the use of ICT in teaching, documentation, and reporting research output through annual reports and conference proceedings published online".

Furthermore, CHE (2022) states that the quality of a postgraduate qualification, such as a doctorate, is critical not only to the NRF and the CHE, but also to the general public, potential employers of doctoral graduates, doctorate-granting institutions, and their students. Furthermore, doctoral qualifications are included in the funding framework for public higher education institutions.

According to Daniel-Oghenetega (2020:20), "regarding the importance of postgraduate education in light of its function as a means of academic capacity building in general and in the context of South Africa, it appears that there is a need for more students to attain completion by learning from and adopting strategies used by those who are in the process of achieving or have achieved academic success".

Challenges affecting postgraduate research at South African universities

Mutula (2011:186) emphasised that "research in most universities in (South) Africa is hardly coordinated. Often, variations exist in approach and even in fulfilment of requirements for postgraduate research programmes not only in different universities but also in the same university in such areas as the number of years to complete a master's or doctoral degree for full-time as well as part-time students".

Further, Mutula (2011:187) revealed that "in South Africa, the transformation of technikons into universities of technology created a serious research skills shortage." From the finding of Mutula (2011), it could be argued that the transformation has made universities in South Africa restructure themselves to fit into the higher education landscape.

According to Tanga and Maphosa (2018), there is a high dropout rate. Further, the researchers revealed that in some universities, this is the result of a lack of support. According to the ASSAf (2018) report, there is a severe shortage of highly qualified staff in most disciplines, including engineering. As a result, measures to address this should make academic careers more appealing with commensurately higher qualification requirements. In addition to this, van Biljon and Mwapwele (2023:10) revealed that in South Africa, "novice researchers have a restricted expectation of research collaboration, which would inhibit them from promoting collaborations at a national or international level".

Again, Tanga and Maphosa (2018) revealed that a poor socio-economic background is one of the hurdles that affect postgraduate students. Furthermore, Tanga and Maphosa (2018:3) defined "socio-economic status as the relative position of a family or individual in a hierarchical social structure, based on their access to or control over wealth, prestige, and power." Relatively, Mutula (2011:187) found that the postgraduate students affected by academic challenges are "mainly from poor families who drop out before completing their studies on account of pregnancy, finding campus life too boring and structured, social and personal problems, having to care for sick relatives, peer pressure, and more".

Tanga and Maphosa (2018:3) further maintain that "there has been a lack of adequate public funding and initiatives for academic development to support under-prepared students, and this has had negative implications for quality education at the higher level, compromising the education and training of students who possess the knowledge, competencies, and skills required by the labour market, in turn affecting economic development adversely." Sharing the same sentiment, the 2022/23 annual report compiled by the DHET (2023) revealed that the higher education sector is currently facing challenges in sourcing funding for postgraduate qualifications, and this caused a decrease in the number of enrolments which ultimately affected graduate output. DHET (2023) further explained that this could be due to student debt from undergraduate

studies and the state of the country and the ability to employ graduates.

According to the study published by Mouton (2007:1090) in South African HEIs, "there are indeed serious systemic issues that require attention, such as too many overburdened and inexperienced supervisors, insufficient research preparation for doctoral students, insufficient national and institutional financial support for students, and insufficient institutional attention and resources devoted to postgraduate support".

Author such as Zakri (2006) in this regard indicates that there are three main challenges affecting the research process. According to the above-mentioned author, "these challenges include research capacity, research productivity, and research utility. Research capacity relates to the availability of research facilities and trained human resources capable of doing research".

Supervisor-supervisee challenges revealed in the study conducted by Mutula (2011:187) include "delays in receiving feedback, a lack of supervision guidelines, poor supervision, i.e., no schedule for meetings, no records of discussions, no mechanism for redress, supervisors always too busy to meet students, a lack of support for students from non-LIS disciplinary backgrounds, inadequate preparation for postgraduate study, heavy teaching loads for faculty, and unnecessary administrative assignments".

Olivier (2007) points out "cultural differences between the supervisor and the student, with the privileged background of the former acting as a barrier to a mutual understanding with students who come from relatively underprivileged backgrounds".

The study conducted by Manathunga (2012) found that "the supervisors at this distance e-learning institution are not involved in the selection of the postgraduate students. As a result, they do not know what their students are capable of or what their needs are. This made it difficult for both the students and the supervisors to establish a sound relationship, which is important in the supervision process".

Strategies to elevate the status of postgraduate research at South African universities

As for Mutula (2011:188), "despite the challenges facing postgraduate research, especially in (South) Africa, there is an emerging gleam of hope." This shows that if postgraduate research is well taken care of, this could elevate the status quo. As an example for the aforementioned statement, it was indicated by NRF (2023:1) that "in 2021, the NRF implemented the DSI-NRF Postgraduate Student Funding Policy wherein postgraduate funding allocations are underpinned by the principles of equity of opportunity; representivity; prioritisation; and enhanced access, success and throughput". As a way of elevating the status of postgraduate research south African universities funding guide for NRF (2021:1) explained that "DHET and the Department of Science and Technology (DST) have agreed to make available Research Development Grants for nGAP scholars in the first and second year of appointment to enable these young academics to develop and submit applications in funding instruments such as the Thuthuka PhD and Post-PhD tracks".

In support of the above, Saidi (2024:15) discovered that "other agencies such as the National Institute for Humanities and Social Sciences (NHISS), the Water Research Commission (WRC), and the Technology Innovation Agency (TIA) fund postgraduate students in specialised niche study fields".

Since the creation of new postgraduate programmes at higher education institutions, ASSAf (2018:18) suggested that "existing postgraduate programmes should rather be strengthened and supported, taking due consideration of the scarce resources, both human and physical, in South Africa." The study conducted by Magano (2013:212) suggested that "the postgraduate student requires supervision and support to produce research that is of good quality, and thus the relationship between supervisor and supervisee determines how it will be driven." In support of her statement, Kumar and Stracke (2007:462) highlight that "the supervisor-student relationship can propagate a power relationship

whereby one is the 'master' and the other the 'learner'".

Most importantly, ASSAf (2018) further recommends that there should be a promotion of the involvement of women in postgraduate programmes such as engineering to ensure inclusivity and full utilisation of the entire population's skills.

To elevate the status of postgraduate research, the study conducted by Mouton (2007) recommended four proposals that are directed at postgraduate challenges, and these include: the need to attract more doctoral candidates to selected, well-established, and effectively managed doctoral programmes through targeted financial support schemes; the need to encourage institutions to think creatively about making doctoral appointments within a structured career planning framework (that includes post-doctoral career options); the need to actively lobby NRF and Treasury to increase funding for postgraduate studies in order to provide realistic support for full-time doctoral studies; and there should be serious consideration of launching a national doctoral or postgraduate academy to provide prospective candidates with a better foundation in research methodology and thesis management; and provide high-quality seminars and workshops to build the capacity of our supervisors.

According to ASSAf (2018:19), there should be the appointment of "permanent teaching staff with PhDs, but this will not be realistically achievable in the foreseeable future." The study conducted by Mutula (2011) revealed that engaging postdoctoral or visiting faculty could contribute to enriching the robustness of the postgraduate programme.

To elevate the status of postgraduate research at South African universities, Mutula (2011) further emphasised that universities should, on their own, try to find alternative ways of generating third-stream funding. As emphasised by the CHE (2022:18), "funding issues encompass a number of different aspects, such as internal and external funding for bursaries, resourcing for recruitment of postgraduate students, support for international travel and mobility, maintenance and development, where required, of research facilities, and capacity building for emerging academics and supervisors".

Also, it's important to focus research on niche areas instead of doing the same things that other universities are already doing. Such niche research areas would be the basis for dissertations written by graduate students and research done by faculty and students together (Mutula, 2011).

According to the study by Magano (2013), "postgraduate students who are of a mature age should be able to balance their academic and social lives so that they can achieve the objectives they set before starting their academic journey."

Again, Magano's (2011) study made it clear that people should be encouraged to go to graduate school by the desire to learn more and the pleasure of adding to their knowledge in a certain field. A student will feel better if they have made their own discoveries, particularly if they came up with the research topic themselves.

There is a need to establish a community of practice to help supervisees who are still developing the necessary skills, as Manyike's (2017) study suggested. Furthermore, supervisors who work together and share information with regard to the supervision process also form a 'community of practice. 'As members of a 'community of practice', they are able to discuss issues of common concern, bounce ideas off each other, and find solutions to problems experienced in their postgraduate study and supervisory journey.

According to Cloete et al. (2015), if South Africa is to focus its internationalisation efforts on postgraduate (and specifically doctoral) education rather than undergraduate education, postgraduate education should become more closely linked to an innovation and brain circulation economy/migration model. NRF suggested in the CHE (2022) report that, while there was a need to increase the number of doctoral candidates and graduates nationally, the emphasis should be primarily on quality assurance at this level of postgraduate study.

To elevate postgraduate research status at South African universities, CHE (2022) further emphasised that postgraduate offices dedicated to

the administration of postgraduate programmes can provide valuable support in roles such as planning and monitoring of enrolments and progress, as well as the development of policies, structures, systems, and processes relating to postgraduate studies.

Limitations of the Study

There are certain limitations to this study, as is the case with most research endeavors. The current study, akin to other social science investigations, is subject to certain literature constraints. According to the findings of this study, there is a paucity of research on the advancement of postgraduate research status at South African universities. Consequently, future research should aim to address this gap by collecting data on the advancement of postgraduate research status at South African universities. Moreover, to yield more generalisable findings, it is advisable to replicate this study among a nationally representative sample and to incorporate samples from other countries to evaluate differences and similarities.

Conclusion and Recommendations

This study aimed to document and assess the status of postgraduate research in South African universities, focusing on potential systemic challenges or shortcomings. The findings of this study are in line with the HCT which argues that "education is an investment in human resources that will yield positive returns in the form of increased productivity and faster technological advancement." Therefore, the theory adopted in this study helped the researchers to formulate research questions which guided the researchers to have interesting study findings. It was found that postgraduate research plays a vital role in the knowledge economy, particularly in developing high-level skills. Additionally, postgraduate education was noted to contribute to the enhancement of academic capacity in South Africa. However, the study revealed that postgraduate students at South African universities encounter significant academic obstacles due to their low socioeconomic backgrounds and insufficient public funding, among other factors.

Therefore, a substantial increase in postgraduate research programmes and capacity building at the postgraduate level across various disciplines will be necessary to enhance the status of postgraduate research at South African universities. This could also help counter South Africa's net professional outflow and attract international talent as researchers, postgraduate students, and supervisors.

Based on the study's findings, researchers concluded that there is an urgent need to improve pass rates, graduation rates, and the quality of postgraduates at many institutions. In summary, postgraduate students require support and mentoring from their supervisors on various issues, as discussed. Furthermore, the study advocates for urgent improvements in postgraduate research supervision. Training in effective supervision practices and the adoption of multiple supervision models may be necessary to enhance postgraduate research output.

The study also identified an urgent need for Africa to establish incentives and mechanisms to retain local talent and attract those who have left, based on its findings. A more supportive and responsive higher education system will be well-positioned to achieve this.

Research Ethics

Since this study is based on a systematic review, no ethics clearance was sought for the study.

Conflict of Interest

The authors have been personally involved in the practice described and analysed in this study and declare no conflict of interest.

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