HIGHER EDUCATION AUTHORITY

"Ensuring Quality in Higher Education"

THE STATE OF HIGHER EDUCATION IN ZAMBIA

2023

Quality Assurance in Higher Education

EDITORIAL BOARD

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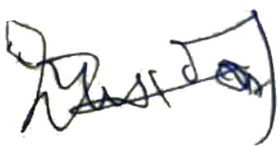
FOREWORD

The Government of the Republic of Zambia recognises higher education as the means for developing critical human resources required to foster innovation and drive the country's socio-economic development agenda, as articulated in various national policy and planning instruments such as the Vision 2030, National Higher Education Policy and successive National Development Plans. In the above context, an Act of Parliament was passed to establish the Higher Education Authority (HEA) with the mandate, among others, to promote quality assurance in higher education institutions (HEIs) to ensure quality in the development of human capital.

The 2023 State of Higher Education report whose theme is *Quality Assurance in Higher Education*, responds to the need to foster the culture of quality that will contribute to the enhancement of human capital and accelerated national development and promote recognition of Zambian higher education qualifications internationally. The report discusses the impact of the external quality assurance system on the internal quality assurance practices of HEIs and highlights the importance and necessity of enhancing quality assurance while also promoting collaboration and partnership in quality assurance.

It is my hope that the findings of this State of Higher Education report will play an important role in fostering a culture of quality across our HEIs. The Government will continue to render support to HEA in ensuring that quality is upheld in our HEIs.



Hon. Douglas M. Syakalima, MP.
MINISTER OF EDUCATION

ACKNOWLEDGEMENTS

I would like to extend my heartfelt gratitude to everyone who contributed to the publication of the report of The State of Higher Education in Zambia 2023: Quality Assurance in Higher Education.

First and foremost, I thank our authors and Editorial Board whose hard work, expertise, and commitment were instrumental in bringing this report to fruition. Their collective efforts in researching, analysing, and compiling this information have been invaluable. Their commitment to quality assurance in higher education has been a driving force behind this report.

I also appreciate the collaboration and insights from higher education institutions. Their contributions enriched the report and helped ensure its relevance and accuracy.

Lastly, I would like to express my gratitude to the Ministry of Education and the Higher Education Authority Board for their consistent support in helping the Authority fulfil its mandate to ensure quality in higher education in Zambia.

Professor Kazhila Chinsembu
DIRECTOR-GENERAL
HIGHER EDUCATION AUTHORITY

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EXECUTIVE SUMMARY

The Higher Education Act No. 4 of 2013 mandates the Higher Education Authority (HEA) to publish, on an annual basis, the state of higher education report. This report is the fifth in the series of the State of Higher Education in Zambia. The theme of this report is Quality Assurance in Higher Education and focuses on the important subject of quality assurance (QA) in higher education.

The report describes global commitment to quality assurance in higher education and how it has developed as a catalyst in the transformation of this sub-sector of education. It also discusses the emerging approaches to quality assurance that are necessary and important for responding to the rapid changes in the higher education environment. It emphasises the vital role of quality assurance in maintaining and improving academic standards, especially in the context of resource-limited settings. The report discusses the core concepts of QA in higher education, highlighting its significance for academic institutions striving for excellence. It expounds the evolution of quality assurance in higher education in Zambia and the important role that quality assurance plays in institutional credibility and student outcomes.

The results of studies carried out by the external authors are reported over several chapters. They highlight key theoretical approaches and trends in QA literature. They also identify gaps in the current research on quality assurance in higher education and suggest potential areas for future investigation. Further, they explore how higher education institutions (HEIs) can integrate new methodologies and technologies to enhance the effectiveness of their quality assurance systems. Results from the studies also reveal the unique challenges faced by HEIs in Zambia in implementing quality assurance measures, adopting strategies to maintain academic standards, and associated financial and infrastructural constraints.

The report demonstrates the importance of synergies between various sectors for the sustainable development of educational institutions through collaboration and partnership, illustrating how HEIs, industry, and government can work together to promote quality assurance in higher education. However, the report demonstrates how external collaboration may sometimes complicate the maintenance of internal QA standards and offers solutions to navigate these complexities.

The report underscores that quality assurance in higher education is a multifaceted and evolving field, and that strategic collaboration, innovation, and context-specific solutions are key for maintaining high academic standards across diverse HEIs in Zambia.

The report ends with an overview of the state of higher education in Zambia in 2023. It presents the higher education landscape in terms of growth of the higher education sub-sector and gives highlights of key quality assurance issues and associated activities that HEA undertook in 2023.

GEORGE BENSON CHRISTIAN UNIVERSITY COLLEGE

OVERVIEW OF GEORGE BENSON CHRISTIAN UNIVERSITY COLLEGE

George Benson Christian University College, initially established as George Benson Christian College of Education in 1995, is a distinguisged private, non-profit institution dedicated to higher learning with a specialization in teaching training. The institution is an outreach arm of Namwianga Mission, a Church of Christ-funded organization. Namwianga Mission is legally registered under the Societies Act Cap 119 and the Land Perpetual Succession Act Cap 186 of the Laws of Zambia.

The college was founded to address the pressing need for well-trained teachers in Zambia, adhering to the principles of Christian Education and Service. Over the years, it has earned a reputation for its commitment to academic excellence and moral integrity. In 202, George Benson Christian College of Education underwent a significant transformation, evolving into George Benson Christian University College. This transition marked a new era of growth and development, allowing the institution to expand its academic offerings. The University College is now registered with the Higher Education Authority, enabling it to provide a range of degree programs across various disciplines. This accreditation underscores the institution's adherence to high academic standards and its dedication to producing graduates who are well-prpared to contribute to their communities and the nation.

George Benson Christian University College remains steadfast in its mission to deliver quality education rooted in Christian values. The institution continues to play a pivotal role in the educational landscape of Zambia shaping future leaders and educators who are equipped with the knowledge, skills, and ethical foundation necessary to make a positive impact in society.

Program	Mode Of Study	Entry Requirements
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2. Bachelor of Education Arts with Education English Language and Religious Studies	**Full Time**	Five 'O' levels including English 'O' Level Merits in the Teaching Subjects
3. Bachelor of Arts with Education History and Religious Studies	**Full Time**	Five 'O' levels including English 'O' Level Merits in the Teaching Subjects
4. Bachelor of Arts with Education Mathematics and Business Studies	**Full Time**	Five 'O' levels including English 'O' Level Merits in the Teaching Subjects
7. Secondary Teachers' Diploma in the following subjects: ▸ Business Studies ▸ Integrated Science ▸ Computer Studies & Mathematics ▸ Computer Studies & English Language ▸ Zambian Languages and Religious Education ▸ Mathematics and Religious Education ▸ Social Studies	**Full Time & Distance**	Five 'O' levels including English 'O' Level Merits in the Teaching Subjects Primary Teachers' certificate/Early Childhood.

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ABBREVIATIONS AND ACRONYMS

AI	Artificial Intelligence
ATP	Association of Test Publishers
CIPP	Context, Input, Process and Product
CMM	Capability Maturity Model
COL	Commonwealth of Learning
DOI	Digital Object Identifier
ENQA	European Association for Quality Assurance in Higher Education [formerly European Network for Quality Assurance in Higher Education]
EQA	External Quality Assurance
ESG	European Standards and Guidelines
GEMR	Global Education Monitoring Report
HAQAA	Harmonisation of African Higher Education Quality Assurance and Accreditation
HEA	Higher Education Authority
HEI	Higher Education Institution
ICT	Information and Communication Technology
INQAAHE	International Network for Quality Assurance Agencies in Higher Education
IQA	Internal Quality Assurance
ISO	International Organisation for Standardisation
ISTP	Institution for Specialised Training of Professionals
ITC	International Test Commission
LMS	Learning Management System
NU	Northrise University
ODL	Open and Distance Learning

OER	Open Educational Resources
PDCA	Plan-Do-Check-Act
QA	Quality Assurance
QAHE	International Association for Quality Assurance in Pre-Tertiary and Higher Education [Quality Assurance in Higher Education]
R&D	Research and Development
SADC	Southern African Development Community
SADCQF	Southern African Development Community Qualifications Framework
THM	Tripple Helix Model
TQM	Total Quality Management
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNZA	University of Zambia
ZAQA	Zambia Qualifications Authority
ZQF	Zambia Qualifications Framework
ZSG-QA	Zambia Standards and Guidelines for Quality Assurance in Higher Education

CHAPTER ONE

OVERVIEW

1.1 Introduction

This report is the fifth in the series of the State of Higher Education in Zambia publications. The State of Higher Education in Zambia 2023 report is themed: Quality Assurance in Higher Education. The report focuses on the important subject of quality assurance in higher education. The report comprehensively analyses quality assurance in higher education in Zambia, addressing its development, current practices, and future directions. The report covers theoretical, empirical, and contextual perspectives on quality assurance, with emphasis on partnership, innovation, and adaptation in resource-constrained higher education settings.

1.2 Sources of Data for the Report

The report relies on both primary and secondary data. Primary data was provided by various authors in higher education institutions (HEIs). Secondary data was sourced from the Higher Education Authority (HEA), which maintains an updated directory of all established public and registered private HEIs in Zambia. The HEA's directory provides up-to-date data on the number and regional distribution of HEIs in the country. Additionally, the report draws on existing literature on quality assurance frameworks, policy documents, and international benchmarks.

A significant portion of the report comprises research papers submitted by various authors in response to a call for papers on this report's theme. The authors utilised both primary and secondary data to address specific sub-themes of quality assurance in higher education. The research papers submitted by the authors have been included in the report as individual chapters, each providing unique insights into the complex nature of higher education quality assurance. This chapter-by-chapter approach allows each paper to stand alone while collectively building a comprehensive narrative on quality assurance in Zambian higher education.

1.3 Structure of the Report

The State of Higher Education in Zambia 2023 report comprises eight chapters. Chapter Two presents a global and regional overview of quality assurance, examining major frameworks and policies. It further explores the historical evolution and the current state of quality assurance in Zambia's higher education sub-sector. It outlines key policy shifts, the influence of national and international standards, and the establishment of quality assurance agencies like the HEA to enforce quality standards in higher education.

Chapter Three utilises bibliometric analysis to review major quality assurance models and frameworks worldwide. The findings reveal trends and gaps in the literature, providing insights that can help refine Zambia's quality assurance mechanisms.

Chapter Four is a case study on Northrise University, spotlighting strategies to maintain quality in resource-limited environments. The study highlights creative solutions and adaptable practices that may serve as a model for similar institutions in Zambia.

Chapter Five explores the Triple Helix Model of collaboration among academia, industry, and government. The chapter emphasises the benefits of such partnership for sustainable quality assurance and the broader development of the higher education sub-sector.

Chapter Six addresses the challenges and opportunities that collaboration presents for quality assurance. The chapter discusses the need for coherent policies and effective frameworks to manage partnership effectively.

Chapter Seven investigates ZCAS University's quality assurance practices, comparing internal and external quality assurance mechanisms. This case study emphasises the importance of a balanced approach to ensuring quality standards are consistently met.

Lastly, Chapter Eight provides a snapshot of Zambia's higher education sub-sector for 2023, highlighting the higher education landscape in terms of the number and types of HEIs, as well as the number of accredited learning programmes as at the end of the year. The chapter further sets the stage for ongoing quality improvements in higher education and reinforces the need for collaborative efforts in achieving internally-driven quality assurance in higher education. It ends by pointing out key quality assurance activities and collaboration efforts that were implemented by HEA in 2023.

This report relies on a rich blend of primary and secondary data sources, positioning it as a rigorous examination of quality assurance in higher education in Zambia. The integration of perspectives from researchers and quality assurance practitioners ensures that the findings and recommendations presented herein are relevant, evidence-based, and aligned with both the practical realities and the aspirational goals of Zambia's higher education sub-sector.

CHAPTER TWO

AN OVERVIEW OF QUALITY ASSURANCE IN HIGHER EDUCATION

by
Professor Richard Siaciwena – formerly Vice-Chancellor, Zambian Open University
Denny Nsokolo – Higher Education Authority

2.1 Introduction

Since the advent of globalisation in the 1990s, there has been an increased recognition of higher education as a major contributor to socio-economic development. According to Verma et al. (2024) higher education contributes to human capital formation through the development of a skilled and knowledgeable workforce. It enables individuals from different backgrounds to improve their socio-economic status and promotes economic equality. Higher education also promotes global competitiveness through international collaboration and partnership, such as international research partnership (Verma et al., 2024).

The important role of higher education in development is also highlighted in, among others, the United Nations Sustainable Development Goal 4, the Continental Education Strategy for Africa 2016-2025 and the Southern African Development Community (SADC) Regional Indicative Strategic Development Plan, 2020-2030.

The effective contribution of higher education to socio-economic development depends on the quality of its provision. This chapter, therefore, discusses the development of quality assurance in higher education. It provides a working definition of quality assurance and describes the effect of changes in the higher education environment and their implication for quality assurance.

The chapter also shows the global commitment to quality assurance in higher education and how various aspects of quality assurance have evolved. It is based on a desk review of the relevant literature, and broadly covers quality assurance internationally.

2.2 Concept and Dimensions of Quality Assurance

There is no single, universally accepted definition of quality assurance. Its definition is influenced by stakeholders' understanding of the concept and it is continuously expanding. This constant expansion comes from the rapid, uninterrupted activities and emerging quality assurance trends and practices in the academic world (Mandane-Garcia and Jamias, 2023).

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) defined quality assurance as 'a systematic process of assessing and verifying inputs, outputs and outcomes against standardised benchmarks of quality, to maintain and enhance quality, ensure greater accountability and facilitate harmonisation of standards across academic programmes, institutions and systems' (UNESCO, 2013).

Quality assurance has two components, namely internal and external processes. Internal quality assurance refers to the processes and mechanisms implemented within an educational institution to monitor and continuously improve the quality of education. It covers, among other areas, curriculum design and development, teaching and learning practice, assessment and valuation, learner support services and institutional research and data analysis (International Association for Quality Assurance in Pre-Tertiary and Higher Education (QAHE

[Quality Assurance in Higher Education], 2023).

External quality assurance refers to the evaluation and accreditation processes conducted by external agencies to assess the quality and standards of educational institutions. Some of the areas of external quality assurance are accreditation and certification, peer review and evaluation, compliance with regulatory requirements and continuous improvement (QAHE, 2023).

2.2.1 Benefits of Quality Assurance

Quality assurance is associated with a wide range of benefits. It enables higher education institutions (HEIs) to produce graduates with relevant knowledge and skills, which countries need to foster sustainable development and encourage trade and investment as well as to enhance citizenship and democratic values [https://haqaa3.obreal.org/about-us/]. Okebukola (2009) stated that quality assurance helps to protect students against poor quality programmes and maintain the credibility of their qualifications. It helps HEIs to institutionalise a culture of self-managed evaluation that builds on and surpasses minimum standards.

The QAHE summarised the benefits of quality assurance as follows:

a) Enhanced educational experience, which ensures that learners receive a high-quality education that meets their needs and prepares them for future success;

b) Accountability and credibility which entails that quality assurance processes provide accountability and credibility to educational institutions;

c) Continuous improvement achieved through monitoring and evaluating an institution's own practices; and

d) Recognition and mobility, that is, facilitating student mobility and recognition of qualifications (QAHE, 2023).

2.2.2 Changes in the Higher Education Environment: Implications for Quality Assurance

Over the years the higher education sub-sector has undergone rapid changes, namely massification of student enrolments, internalisation, and proliferation of private universities, integration of information and communication technology (ICT) in programme delivery, cross-border education and rapid development of open and distance learning (ODL). The evolution of higher education is also characterised by blended learning, online delivery, adoption of massive open online courses and open educational resources (OER) (Commonwealth of Learning, 2009; Uvalić-Trumbić, S. and Martin, M., 2021).

Buttar (2015) noted that these changes have helped to improve access, equity, management, efficiency, pedagogy and quality of teaching and learning. However, they have also been perceived to be comprising the quality of higher education. Waham et al. (2023) stated that internalisation is associated with significant challenges such as ensuring academic quality and standards across diverse educational structures

Karakhanyan and Stensaker (2020) observed that globalisation, massification of tertiary education and ICT revolution have radically altered the tertiary education environment posing new challenges to governments,

higher education providers and other key stakeholders in terms of relevance and credibility of provisions.

According to Buttar (2015) although ICT offers a wide range of benefits, there are some risks of using it in education, which need to be mitigated. Despite its long history of ODL and the high reputation of many open universities and other institutions, there are still negative perceptions about the overall quality of ODL programmes and qualifications (COL, 2009).

Regarding the proliferation of private higher education providers Uvalić-Trumbić and Martin (2021, p. 10) stated that 'within the context of financial constraints, private higher education had developed at a fast pace in many countries, often with inconsistent levels of quality. This led to a common belief that the quality of private higher education needed to be regulated'.

2.2.3 Commitment to Quality Assurance

Uvalić-Trumbić and Martin (2021, p. 9) noted that over the past three decades, the development of quality assurance systems has become one of the most important aspects of higher education reform worldwide. This is attributable to the rapid development of quality assurance systems, which is driven by the growing commitment to the provision of quality higher education.

At the 2009 World Conference on Higher Education, UNESCO and its Member States were called upon to pursue capacity-building for quality assurance in higher education in Member States, particularly developing countries, and to put in place and strengthen appropriate quality assurance systems and regulatory frameworks with the involvement of all stakeholders (UNESCO, 2013).

In line with the above call, UNESCO facilitated the establishment of one global and five regional conventions on the recognition of studies and qualifications in higher education, which have been ratified by many countries worldwide. The overall purpose of the conventions is to provide frameworks for facilitating mobility of students, teachers and researchers, development of effective quality assurance and accreditation mechanisms and recognition of qualifications at national, regional and international levels.

UNESCO (2019) stated that by ratifying the Global Convention, countries commit to strengthening international cooperation in higher education, raising its quality at home and worldwide, and helping make academic mobility and the recognition of qualifications a reality for millions around the world. The regional conventions are: the Regional Convention in Arab States (1978), Lisbon Recognition Convention in the European Region (1997), Tokyo Convention in the Asia-Pacific Region (2011), Addis Convention in African States (2014), and Buenos Aires Convention in Latin America and the Caribbean (2019).

Apart from UNESCO, the Commonwealth of Learning (COL), International Institute for Educational Planning, International Council for Open and Distance Learning and the World Bank have also contributed greatly to the promotion of quality assurance in higher education.

Other contributors are the African Union, European Union, Association of African Universities, Southern African Regional Universities Association, SADC, the African Council for Distance Education, and the Inter-University Council for East Africa. The German Academic Exchange Service and the Dialogue on Innovative Higher Education have also demonstrated commitment to promoting quality assurance in higher education.

Many countries in the world have demonstrated their commitment to quality assurance in higher education by

establishing national quality assurance agencies or units. Networks of quality assurance agencies also contribute to the global quality assurance movement (Uvalić-Trumbić and Martin, 2021).

2.2.4 Partnership

Out of the eight quality assurance-related partnerships retrieved, UNESCO was the principal partner in seven of them. Others involved in the eight partnerships were the Shenzhen Municipal Government of China, COL, African and Malagasy Council for Higher Education, Inter-University Council for East Africa, World Bank, International Institute for Educational Planning and the Association of African Universities. Others were the Harmonisation of African Higher Education Quality Assurance and Accreditation (HAQAA) Initiative, the European Association for Quality Assurance in Higher Education (ENQA [formerly European Network for Quality Assurance in Higher Education]) and the German Academic Exchange Service.

The partnerships were in the areas of strengthening quality assurance capacities of national quality assurance agencies, human resources capacity development, strengthening quality assurance networks, development of training toolkits and modules as well as research in quality assurance.

2.2.5 Harmonisation of Higher Education, Quality Assurance and Qualifications

Another important aspect to consider is harmonisation of higher education, quality assurance and qualifications. The importance of harmonisation in the provision of quality higher education is highlighted by Agbor (n.d., p. 6), who stated that:

Harmonised quality higher education systems are imperative for Africa to realise the vision of an integrated, prosperous and peaceful continent. The African Union has, at the highest level, called for the harmonisation and strengthening of the quality of higher education in Africa to make it both locally relevant and globally competitive …. Diverse systems of higher education have resulted in the lack of mutual recognition of university degrees, constraining academic integration and the mobility of students across the African continent.

Frameworks, standards and guidelines have been developed in different regions of the world to promote harmonisation of higher education, quality assurance and qualifications. Uvalić-Trumbić and Martin (2021) observed that in Europe different forms of harmonisation in higher education on regional and sub-regional levels were driven by the Bologna Process.

In Africa, the Harmonisation of African Higher Education Quality Assurance and Accreditation (HAQAA) Initiative was established to support the development of a harmonised quality assurance and accreditation system at institutional, national, regional and Pan-African continental levels.

In Europe, members of ENQA developed Standards and Guidelines for Quality Assurance in the European Higher Education Area in collaboration with other organisations. They constitute an international code of good practices in quality assurance in relation to internal and external quality assurance, including that of external quality assurance (EQA) agencies themselves (Uvalić-Trumbić and Martin, 2021).

In the Asia-Pacific region, the Asia-Pacific Quality Network developed the Chiba Principles with a view to guiding the development of quality assurance in the Asian region. They provide a common framework based on existing codes of good practice, guidelines, and recommendations (Uvalić-Trumbić and Martin, 2021).

The International Network for Quality Assurance Agencies in Higher Education (INQAAHE) developed International Standards and Guidelines of Quality Assurance in Tertiary Education whose primary purpose is to acknowledge and embrace the diversity of tertiary education provisions and promote the relevance of quality assurance measures (INQAAHE, 2022).

2.2.6 Quality Assurance of ODL

The COL (2023) stated that while the expansion of ODL has significantly increased participation in education, upholding the quality of provision cannot be overemphasised. It has been observed that the majority of the quality assurance measures in most countries are generally designed for conventional higher education institutions and not for alternative methods of delivery, particularly ODL. This concern has led to the development of quality assurance frameworks, standards and guidelines specifically for ODL by various organisations, quality assurance agencies and HEIs (COL, 2019). There is a growing number of countries that include ODL in their mainstream quality assurance and accreditation standards (Uvalić-Trumbić and Martin, 2021).

2.3 Quality Assurance in Higher Education in Zambia

Quality assurance in higher education in Zambia is supported by solid legal and policy frameworks and a clearly defined and comprehensive quality assurance framework. Therefore, this section describes the relevant policy and legal frameworks and how they have impacted the development of quality assurance in higher education. It also describes the various processes and procedures that HEA implements to promote quality assurance in higher education in Zambia.

2.3.1 Policy frameworks

The development of higher education in Zambia is supported by two policies, which provide for the promotion of quality assurance in this sub-sector. The first one is Educating Our Future: National Policy on Education of 1996, which recognises the central importance of higher education to the economic and social development of a country. It also highlights the importance of quality as a sine qua non for relevant higher education. It states that 'the calibre of teaching staff, adequacy of physical facilities, sufficiency of consumables, quality of library holdings, and availability of necessary transport, all play an important role in determining the quality of those who emerge from higher level institutions' (Ministry of Education, 1996, p. 96). More importantly the policy provided for the creation of a Higher Education Authority, which would be responsible for coordinating policy and practice in the higher education sub-sector.

The second one is the National Higher Education Policy of 2019, which provides a more comprehensive framework for promoting quality assurance in higher education. Some of its objectives, which are underpinned by relevant policy measures, are: to enhance quality and relevance in the provision of higher education; to increase equitable access to, and participation in, quality education as well to enhance efficiency and effectiveness of higher education (Ministry of Higher Education, 2019, p. 12).

2.3.2 Legal Frameworks and Organisational Structures

Currently there are two legal frameworks that guide and support the provision of quality higher education, namely the Higher Education Act of 2013 (read together with the 2021 Amendment Act). It provides for, among others, quality assurance and quality promotion in higher education. The second one is the Zambia

Qualifications Authority Act of 2024, which has replaced the 2011 Act. It provides measures aimed at ensuring that standards and registered qualifications of Zambian HEIs are internationally comparable.

The 2021 Higher Education (Amendment) Act provides for a more comprehensive and coordinated higher education system, with a harmonised external quality assurance system. It provides a legal framework for collaboration between the HEA and professional bodies. This is expected to eliminate institutional conflicts that had characterised the accreditation space before the amendments.

The 2021 Amendment Act has redefined HEIs to include not only universities but all other HEIs, except those that fall under the purview of the Technical Education, Vocational and Entrepreneurship Training Authority, under one national quality assurance agency, the HEA. The Act also broadens the role of the HEA in the registration of private HEIs, which now includes registration of other HEIs that make up the country's restructured higher education system, mostly those that were previously under the purview of the Health Professions Council of Zambia, the Nursing and Midwifery Council of Zambia, and the Teaching Council of Zambia.

The Zambia Qualifications Authority (ZAQA) and the HEA were established to operationalise these legislations. Both the HEA and ZAQA have developed regulations and guidelines to promote, guide and support quality review and improvement in HEIs.

2.4 The HEA Quality Assurance Framework

In furtherance of its mandate to promote quality in higher education, the HEA has developed a quality assurance framework, which is elaborated below. The 2021 Higher Education (Amendment) Act, which has provided for diversification and differentiation in the types of HEIs that make up Zambia's higher education, has also led to some changes in the quality assurance system.

2.4.1 Registration of HEIs and Accreditation of Learning Programmes

Prior to 2013, universities in Zambia were registered by the Ministry of Education, as there was no designated quality assurance body to oversee the higher education sub-sector. Under the Higher Education Act of 2013, however, all HEIs are now required to register with the HEA. To streamline the registration process, the HEA has developed specific registration tools for different types of HEIs. The registration tools are accessible on the HEA website [www.hea.org.zm/downloads].

There are two sets of registration requirements and procedures. The first set applies to colleges, university colleges, and technical university colleges and serves as the basis for evaluating registration applications for these types of HEIs. The second set is for universities and technical universities. According to the Higher Education (Amendment) Act of 2021, a university or technical university can only be registered if it has operated as an HEI for at least five years and meets the prescribed standards.

The Higher Education (Amendment) Act of 2021 also restricts HEIs from offering learning programmes that have not undergone the quality assurance process for accreditation. To ensure that learning programmes meet minimum quality standards, the HEA works with academics from diverse fields to evaluate curricula, ensuring that accredited programmes align with societal needs.

2.4.2 Institutional Audits of HEIs

To promote continuous quality improvement in HEIs, the Higher Education (Amendment) Act of 2021 mandates the HEA to conduct annual institutional audits for all HEIs, both public and private. An annual institutional audit involves HEA, as an external quality assurance body, systematically evaluating an institution's policies, systems, strategies, and resources used to manage the quality of its core functions – namely, teaching, learning, and public service.

An institutional audit process operates on the premise that each HEI has established internal mechanisms to ensure continuous quality improvement. Through the institutional audit, HEA assesses whether the institution's internal quality assurance mechanisms are sufficient and effectively implemented. This external review enables the HEA to confirm that the HEI's internal quality management practices align with established standards and the legal framework, thereby ensuring that quality assurance remains robust across all operational areas of the HEI.

2.4.3 Classification of HEIs

To ensure that universities offer learning programmes and conduct research in line with their capacities, the HEA uses a tiered classification system to classify universities. The classification serves as a quality assurance mechanism, allowing HEA to categorise HEIs based on their strengths in teaching, learning, research, and innovation. The primary objective of classifying universities is to provide a basis for guiding learners and the public on the level of education that each university can offer. The classification criteria consider key factors such as the institution's human and financial resources, infrastructure, research experience and capacity.

There are four classification tiers based on the level of qualifications on the Zambia Qualifications Framework (ZQF). These are provided in Table 2.1.

Table 2. : Tiers in the Classification System

Tier	Tier Entitlements
ZQF 10 University/Technical University	A university in this tier can offer learning programmes up to doctoral level (from ZQF 5 to 10)
ZQF 9 University/Technical University	A university in this tier category can offer learning programmes up to a Master's degree level (from ZQF 5 to 9).
ZQF 7 University (University College/Technical University College)	An institution in this category can offer programmes up to Bachelor's degree level (from ZQF 5 to 7).
ZQF 6 College	An institution in this category can offer programmes up to Diploma level (from ZQF 5 to 6)

2.4.4 Reassessment of Existing Universities

It is now a legal requirement that universities that were registered prior to the Amendment Act are assessed to determine whether they can continue to operate as universities or technical universities. This implies that such HEIs can be downgraded to a university college or technical university college, which in turn would affect the level of qualifications that the downgraded institutions would be allowed to offer.

2.5 Zambia Standards and Guidelines for Quality Assurance in Higher Education

The rapid increase in the number of public and private higher education providers requires systematic monitoring of the quality of provision in these institutions. The HEA has, therefore, developed the Zambia Standards and Guidelines for Quality Assurance in Higher Education (ZSG-QA) in accordance with its mandate.

The standards and guidelines are aimed at fostering a culture of quality review and improvement in Zambian HEIs and to provide a shared understanding of quality assurance in the higher education sub-sector. The ZSG-QA focusses on 15 key areas that are critically important for quality higher education provision and for developing a robust higher education sub-sector. They are used by the HEA in external quality assurance activities and processes, namely registration of HEIs, institutional audits, accreditation of learning programmes and classification of HEIs. The standards and guidelines are, therefore, important for strengthening and harmonising quality assurance across HEIs.

HEIs are expected to use the standards and guidelines in the development and implementation of their quality assurance systems and for conducting self-assessment for institutional audits, classification and in the development of learning programmes for accreditation.

2.6 Issues and Challenges

The commitment of various stakeholders at national, regional and international levels has been demonstrated through the establishment of regional and international conventions, quality assurance frameworks and the attendant standards for promoting quality higher education provision. They are also committed to partnership, human capacity development and research. While these are important, it is necessary to adopt a more holistic approach, which takes into account other key factors that influence quality assurance such as governance, curricula, physical infrastructure and financial resources.

It is also important to address challenges that negatively impact quality higher education provision. According to Kalaivan (2022) some of the challenges are poor infrastructure, examination-ridden curriculum, memory-based examinations, lack of quality faculty members, poor teaching methods and lack of funds. However, the impact of these challenges varies in different institutional and national environments as well as wider geographical regions.

2.7 Conclusion

Quality assurance is an indispensable aspect of quality higher education provision. Global commitment to quality assurance is growing at national, regional and international levels. The rapid changes in the higher education landscape are likely to continue to create challenges, which need to be addressed by building on achievements, so far, in various aspects of quality assurance in higher education. More importantly, it requires adopting new and more comprehensive approaches to quality assurance.

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CHAPTER THREE

A BIBLIOMETRIC ANALYSIS OF MODELS AND FRAMEWORKS IN QUALITY ASSURANCE IN HIGHER EDUCATION

by
Dr. Dennis Luchembe – Mukuba University

3.1 Introduction

Quality Assurance (QA) in higher education institutions (HEIs) is critical to sustaining and improving educational standards in the country. This study explores models and frameworks for QA in higher education published from 2000 to 2023. This period was chosen because it marked a significant time for increased internationalisation, student mobility and a heightened global focus on educational standards (Uvalic-Trumbic and Martin, 2021). Srikanthan and Dalrymple (2002) observed that there was lack of a broadly agreed model for quality management and attempts to adopt industrial quality management models have been ineffective. This emphasises the need of exploring various models and frameworks used in QA. Therefore, this study is crucial as it will not only map and provide an overview of the existing landscape in relation to models and frameworks but it is also expected to identify trends and gaps in QA.

3.2 Distinguishing Models and Frameworks

The terms 'model' and 'framework' are frequently used synonymously in academic and professional literature. For example, Vagnoni and Cavicchi (2015) described the Deming Cycle, which was originally employed in the field of quality management, as a model, whereas Sangpikul (2017) referred to it as a framework. Such usage of terminology in literature leads to misunderstanding. According to Jasti and Kodali (2014), scholars often use these two terms interchangeably. However, in their recent work, Jasti and Kodali (2016) made a distinction. They claimed that the term 'model' answers the question 'what is', referring to a physical representation of a process. In contrast, a 'framework' answers the 'how to' question by providing an organised strategy for addressing specific difficulties. This is the criterion adopted in this study.

A model provides a structured system that provide a descriptive view of processes that can be used to assess and enhance the effectiveness of educational institutions (Noaman et al., 2017). In contrast, a framework is actionable and prescriptive, offering guidance for implementing and improving QA strategies. Despite these distinctions, the argument over the terms 'model' and 'framework' remains.

3.2.1 Quality Assurance Frameworks

In Europe there is the European Standards and Guidelines (ESG) which is a direct result of the Bologna Process (Brady and Bates, 2016). According to Alzafari and Ursin (2019), 'the ESG aims to set a framework for a QA system applying to teaching and learning activities' (p. 2). The other framework is the Total Quality Management (TQM). According to Asif et al. (2013), TQM was a widely known management philosophy that focused on improving customer satisfaction and organisational performance. Other notable QA frameworks include the Malcolm Baldrige National Quality Award, which originated from the USA and according to Peng and Prybutok (2014), it has experienced the appropriate adaptations over the years.

In Africa, there is the African Standards and Guidelines for Quality Assurance (ASG-QA). The ASG-QA,

produced under the Harmonisation of African Higher Education Quality Assurance and Accreditation (HAQAA) Initiative, aim to enhance educational quality by aligning qualifications with programme and institutional objectives. According to the HAQAA Initiative (2017), the ASG-QA incorporated significant feedback from African education stakeholders and international institutions. In the Southern African region there is the Southern African Development Community Qualifications Framework (SADCQF). The SADCQF aims to harmonise and improve the quality of education and qualifications within the region. The 'SADCQF is a regional mechanism for comparability and recognition of full qualifications, credit transfer, creation of regional standards and facilitation of quality assurance' (SADC, 2022, p. 5).

For ZSG-QA is a comprehensive framework for ensuring and improving the quality of higher education. These standards and guidelines, developed and implemented by the Higher Education Authority (HEA) (2021), in conjunction with major education stakeholders, are critical to the maintenance of good educational standards. The ZSG-QA, was benchmarked against international best practices including the ASG-QA (HEA, 2021). These illustrations explain how QA in higher education worldwide uses a variety of frameworks to promote high standards of education.

3.2.2 Quality Assurance Models

HEIs build internal QA systems by using models tailored to their specific needs. Achieving uniformity remains difficult. For example, Ashour (2017) observed that the United Arab Emirates created several QA systems for higher education, with each Emirate taking a distinct approach: Dubai chose private and foreign institutions, Abu Dhabi stuck to federal requirements and Ras Al Khaimah followed Dubai's lead. According to Ashour, this 'created an environment where there was a significant duplication of degree offerings, varying levels of regulation, insufficient coordination throughout the sector and concern about the quality of education in some market-driven institutions' (p. 2). This can hinder the ability to determine whether the education system is moving in the intended direction. This uncertainty and the resulting hindrance were also observed by the United Nations Development Programme and the Mohamed bin Rashid Al-Maktoum Foundation (2014).

There are several major QA models used in higher education. For example, International Organisation for Standardisation (ISO) 9000: 2000, Capability Maturity Model (CMM), Six Sigma, Plan-Do-Check-Act (PDCA) cycle and the Context, Input, Process and Product (CIPP) model. ISO was originally created for companies in manufacturing industries to predict the reliability of products and quality control. ISO approved the use of ISO 9001 in the education sector as a quality management standard. Its emphasis is on customer focus, leadership, staff engagement, process understanding, continuous improvement, evidence-based decision-making and stakeholder relationship (Kamusoko, 2020).

The CMM was originally designed to assess government contractors' ability to complete software projects. The CMM is organised into maturity levels, each of which represents the institution's current ability to manage and improve important processes. Typically, the levels run from one (lowest) to five (highest). Strong leadership, a willingness to change and an investment in improvement are all required for successful implementation. Carvalho et al. (2019) highlighted that in the education sector, CMM has been employed to evaluate HEIs across multiple dimensions such as management, curricula and accreditation.

Six Sigma was developed by Motorola in the 1980s to reduce manufacturing defects (Antony, 2012). This model requires trained personnel for its effective application. To systematically identify, address and sustain process improvements, Six Sigma employs a five-step roadmap: Define, Measure, Analyse, Improve and Control. Another important model is the PDCA cycle, which can be applicable at the programme level (Schellekens et al.,

2023) and can also be effectively used in other QA processes where continuous improvement is required (Asif and Raouf, 2013).

There is also the CIPP model, which is a comprehensive evaluation process for education. It evaluates not just the results (Product), but also the context (Context), resources and strategies (Input) and methods (Process) that influence the outcomes. According to Stufflebeam (2003, p. 2):

context evaluations assess needs, problems and opportunities within a defined environment; they aid evaluation users to define and assess goals and later reference assessed needs of targeted beneficiaries to judge a school programme, course of instruction, counselling service, teacher evaluation system, or other enterprise.

3.3 Problem Statement

Quality assurance is an important aspect of maintaining and improving academic standards. HEIs strive to align with international standards. While there is a global rise in publications concerning QA, there is a gap in region-specific studies, particularly in Southern Africa, where the knowledge and application of these models and frameworks is still growing.

3.3.1 Purpose

The purpose of this study is to utilise bibliometric analysis to systematically map the landscape of QA models and frameworks globally. The study focuses on identifying trends, gaps, key models and frameworks.

3.3.2 Research Question

What are the predominant models and frameworks published in quality assurance for higher education globally from 2000 to 2023?

3.4 Methods

Publication trends were generated using Dimensions, a platform by Digital Science and Research Solutions Inc. This study adopted a bibliometric analysis to systematically examine the literature on QA frameworks and models from 2000 to 2023. Bibliometric analysis is a quantitative research technique used to map scientific knowledge by analysing patterns in academic publications.

3.4.1 Data Collection and Analysis Procedure

The study collected data on QA frameworks and models from the Dimensions database and used VOSviewer to analyse and visualise keyword co-occurrence. Data sources considered for inclusion were those published between 2000 and 2023. Non-English papers were excluded as were those that lacked keywords and abstracts.

3.4.2 Data Analysis

Figure 1 shows publications trends related to quality assurance frameworks and models. The Figure shows an increase in publications from 2000 to 2018 with a notable surge peaking at 1,250 papers in 2020. This spike is attributed to the impact of the COVID-19 pandemic. Aviv-Reuven and Rosenfeld (2021) observed that during

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COVID-19, 'our analysis showed a significant increase in published papers both in peer reviewed journals and in preprint servers compared to previous years' (p. 6782).

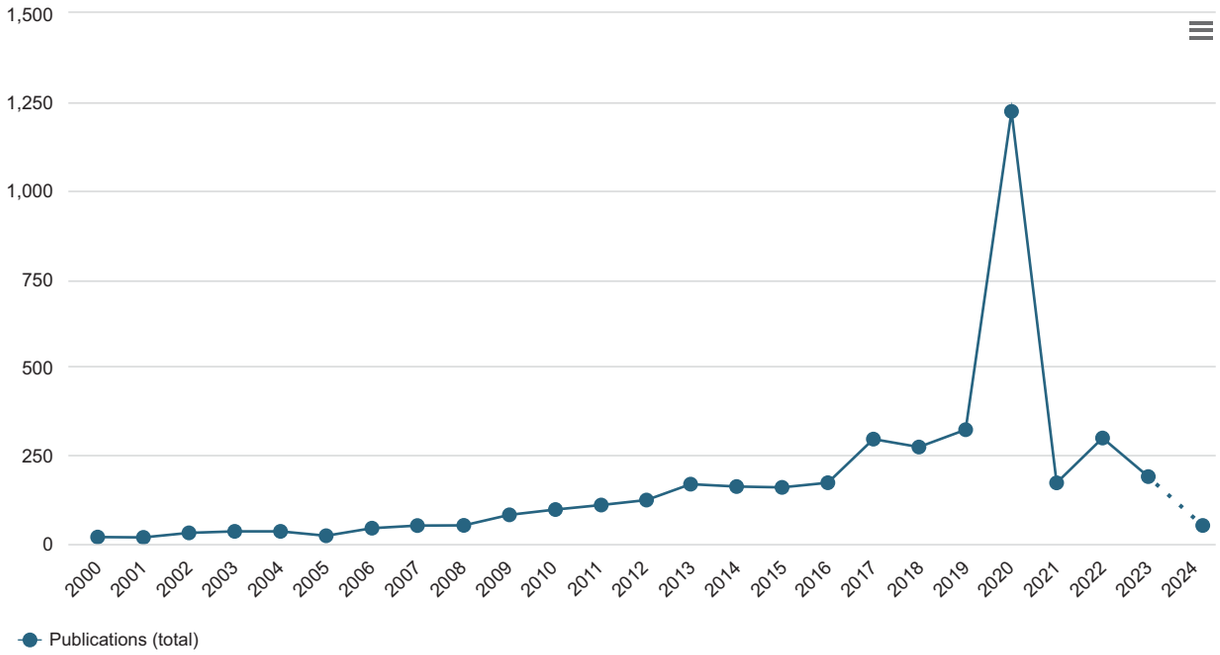

Figure 1: Publications from 2000 to 2023 on QA Framework

Source: Digital Science and Research Solutions Inc., 2024

The pandemic-driven shift to online learning created challenges in sustaining education quality, prompting a greater focus on QA. After 2020, there was a dramatic drop, demonstrating the pandemic's eventual stabilisation. Similar trends were observed in QA models, though at a lower scale. For example, the surge in QA models had a peak of 500 publications.

3.5 Quality Assurance Frameworks in Higher Education

The network visualisation map in Figure 2 shows the co-occurrence of terms in literature. The generated map displayed various clusters of terms, each cluster representing a thematic area in QA.

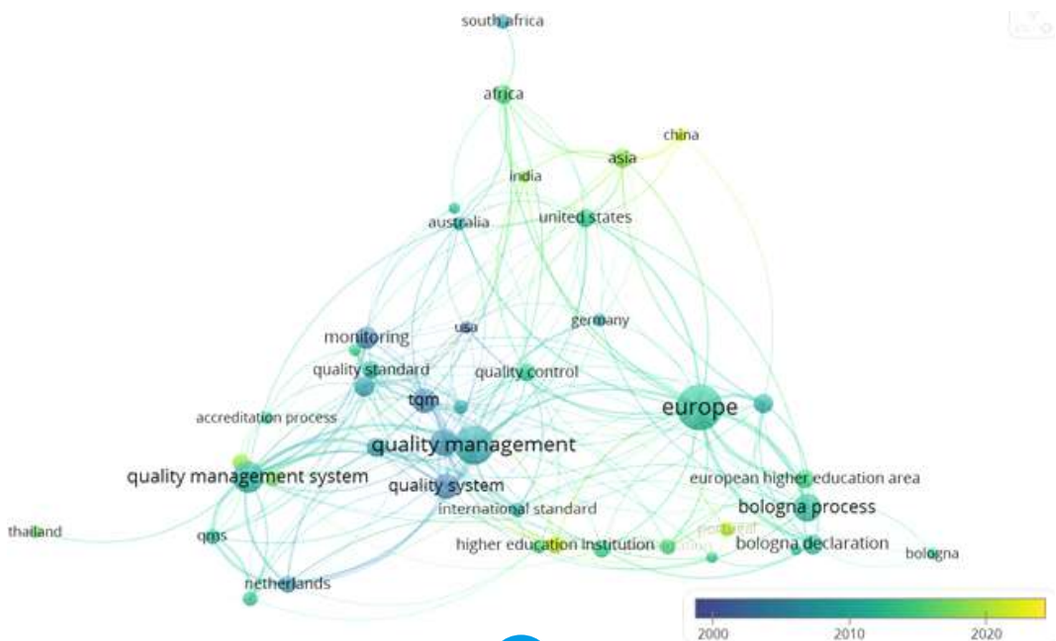

Figure 2: Network Map of Relationships Among QA Frameworks and Other Related Concepts

The blue cluster focuses around 'quality management'. The central node on the network map indicates Europe's prominent role in publications on QA, particularly those involving the Bologna Process. The green cluster includes terms like 'European Higher Education Area', and 'Bologna Process'. The map shows that the European Higher Education Area is frequently mentioned, particularly in relation to the Bologna Process. This cluster emphasises the substantial effect of the Bologna Process on QA publications in Europe. It also shows that TQM is a popular topic.

The network map shows that recent publications (2010-2023) have switched to Asia and Africa, where publications on QA are gaining traction. In Africa, countries such as South Africa are gradually increasing their publication frequency. African Standards and Guidelines are noted for their role in harmonising quality standards across African higher education. The Zambia-specific ZSG-QA and the ASG-QA framework, though not shown on the network map, are important for QA efforts. The ZSG-QA and ASG-QA frameworks were not visible in the network map which implies that they had limited representation in the global bibliometric data set. The frameworks have not yet gained sufficient international recognition to be visible in the broader academic literature. As the frameworks continues to evolve and gain traction, future analyses may reflect their influence.

3.6 Quality Assurance Models in Higher Education

The network visualisation map in Figure 3 depicts the co-occurrence of terms in the literature linked to QA in higher education.

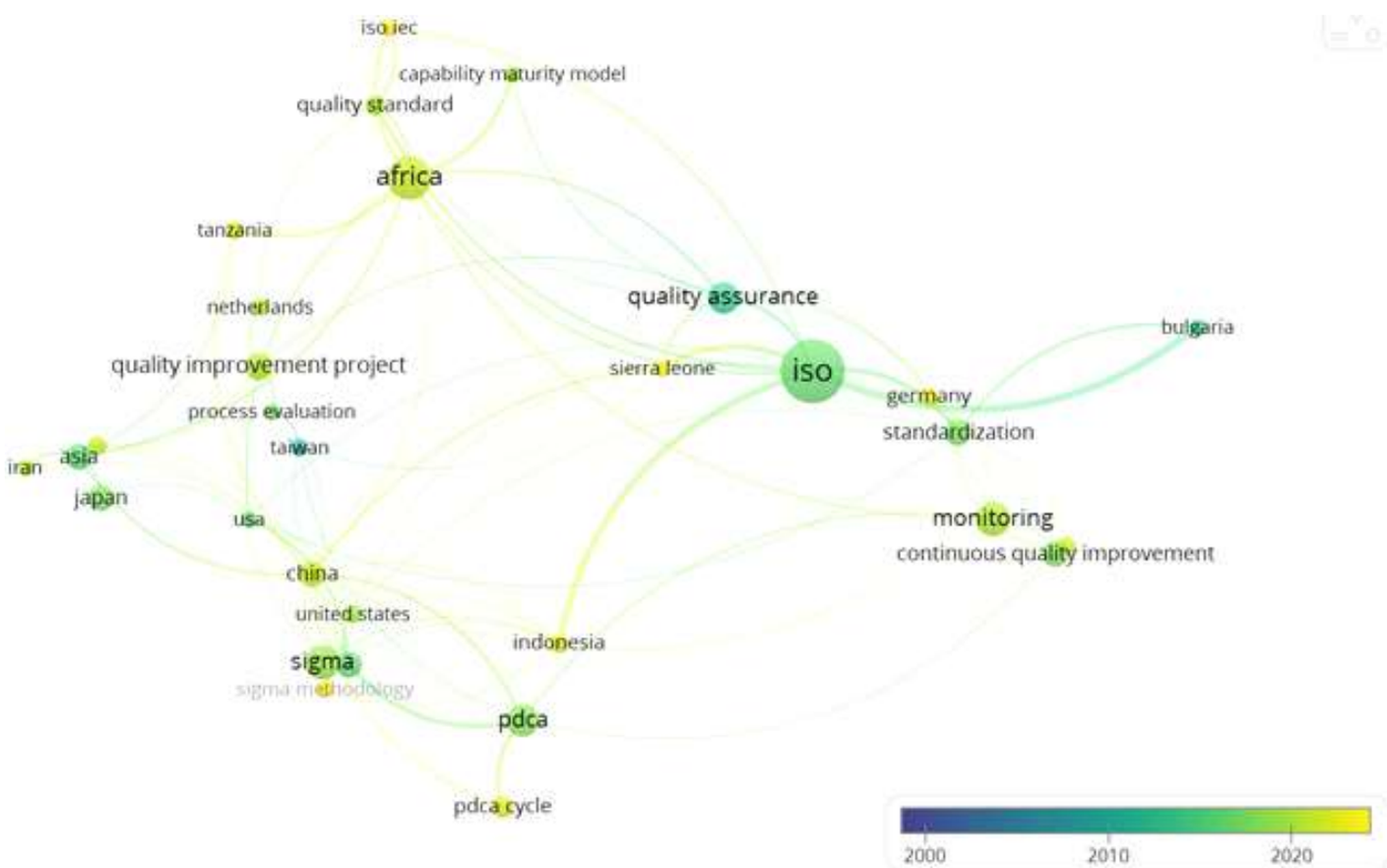

Figure 3: Network Map of Relationships Among QA Models and Other Related Concepts

Figure 3 illustrates the evolution of publications on QA models in education. The green cluster highlights important concepts such as 'ISO'. It shows a shift from ISO in the early 2000s to more dynamic models like CMM by the mid-2000s. Recent trends (2010-2023) highlight a focus on models such as the PDCA cycle and Six Sigma. The network map also shows publications that focused on the adaptation of industrial models like CMM in African education systems, reflecting the globalisation and regional customisation of QA models.

3.7 Discussion

Based on the criteria established for this study (Jasti and Kodali, 2016), distinct models and frameworks have been identified. This study categorised ESG, TQM, Malcolm Baldrige, ASG-QA, SADCQF and ZSG-QA as frameworks, while ISO, CMM, Six Sigma, PDCA and CIPP were classified as models. Europe has dominated the discourse, owing largely to the Bologna Process. Interestingly, QA frameworks such as Malcolm Baldrige and ESG were not visible in the Dimensions database. This could be because these frameworks have been integrated into larger projects, such as the Bologna Process, rendering them less distinct in bibliometric analysis. Despite Europe's sustained leadership in QA publications, there is a noticeable rise in publications from regions like Asia and Africa. This trend could be attributed to the increased usage of global QA approaches.

Although Africa appeared on the network map for QA frameworks, its visibility is restricted, with South Africa standing out prominently. This underrepresentation suggests a need for scholars from other African countries to participate more in QA research. Increased academic output from the continent would not only raise the profile of Africa contributions to QA, but would also strengthen the region's internal QA mechanisms.

Africa's prominence in quality assurance models as compared to frameworks shows the higher frequency of publications and citations connected to the globally recognised models. African countries are increasingly visible in the model network since they rely on, and contribute to, studies aimed at adopting and adapting these models to local situations. In contrast, the lesser representation in frameworks indicates fewer publications on region-specific quality assurance frameworks, which may be in the early phases of development. Therefore, the bibliometric trends reflect Africa's strategic focus on implementing known international models rather than a focus on framework-building studies.

3.8 Conclusion

Analysis of the Dimensions database identified ISO, CMM, Six Sigma and PDCA as the most prominent global models. The ESG and TQM are emerging as the leading global quality assurance frameworks. However, notable frameworks specific to Africa, such as ASG-QA, SADCQF, and Zambia's ZSG-QA were not as visible. This underscores the need for continuous research and refinement of existing frameworks to align with the evolving demands of higher education. The study also highlighted a global increase in publications on QA models, yet there still remains a significant gap in research focusing on such topics within Southern Africa, particularly in Zambia. This scarcity indicates a pressing need for specialised studies to focus on quality assurance frameworks and models in HEIs in Zambia and the broader SADC region.

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CHAPTER FOUR

QUALITY ASSURANCE IN RESOURCE-LIMITED SETTINGS: A CASE STUDY OF NORTHRISE UNIVERSITY'S TECHNOLOGY-BASED ASSESSMENT PRACTICES

by

Dr. Musonda Emmanuel Kabaso – Northrise University
Peter Lungu – Northrise University
Dr. Jan Andries Wium – Northrise University

4.1 Introduction

Quality assurance (QA) is paramount in higher education to ensure graduates possess the necessary skills and knowledge for global success (Heil and Ifenthaler, 2023). It fosters continuous improvement, benefiting students and society (Global Education Monitoring Report, 2023 (GEMR), 2023). While technology-based assessments offer potential, resource limitations in Africa can hinder their effective implementation. Equitable access to technology and robust data security are key challenges (International Test Commission and Association of Test Publishers, 2022 (ITC and ATP), 2022; GEMR, 2023).

This case study examines how Northrise University (NU) in Zambia has addressed these challenges and enhanced quality assurance through the implementation of technology-based assessments. Despite resource limitations, African institutions such as NU are seeking solutions by sharing best practices, and exploring technology tailored to their context.

4.2 Quality Assurance Considerations for Technology-based Assessment

Technology-based assessments offer a revolutionary approach to measuring student learning in Zambia. To align with the Zambia Standards and Guidelines for Quality Assurance (ZSG-QA) framework, careful consideration of several factors is necessary. These factors include validity, reliability, fairness, security, and usability. Valid assessments accurately measure intended learning objectives through clear rubrics and well-designed questions (Stewart et al., 2010; Zhang et al., 2023). Reliable assessments consistently measure learning across different uses, achieved through standardised procedures and consistent scoring methods (ITC and ATP, 2022). Fairness is ensured by providing equal opportunities for all students, addressing accessibility issues, and mitigating biases (Heil and Ifenthaler, 2023). Security measures, such as secure platforms, invigilation, and student codes of conduct, are crucial to preventing cheating and maintaining assessment integrity (GEMR, 2023). Lastly, usability involves an intuitive interface, clear instructions, and adequate technical support for both students and faculty (GEMR, 2023).

4.3 Technology-based Assessment in Higher Education

The specific technologies used in technology-based assessments vary depending on the institution's resources and goals. Common tools include familiar Learning Management System (LMS) platforms for hosting quizzes and assignments (ITC and ATP, 2022). For a more personalised approach, Computerised Adaptive Testing dynamically adjusts question difficulty based on student responses (Heil and Ifenthaler, 2023). E-portfolios provide students with a platform to highlight their work holistically, incorporating multimedia projects, essays,

and reflections.

4.4 The Potential and Challenges of Artificial Intelligence in Technology-based Assessment

Artificial intelligence (AI) is reshaping technology-based assessments. Large language models and other AI tools offer exciting possibilities for enhancing assessments, but also raise concerns that require careful consideration.

On the positive side, AI can significantly improve efficiency. With the potential of AI to automatically generate exam questions, grade essays, and detect plagiarism, educators can be freed from these time-consuming tasks (Malik et al., 2023). Additionally, AI can personalise the learning experience by tailoring assessments to individual student performance, leading to better learning outcomes (Khan and Jian, 2023).

However, there are potential drawbacks to consider. AI algorithms can perpetuate biases present in the data they are trained on, leading to unfair assessments for certain student groups (Chembe et al., 2023). Additionally, AI may struggle to assess complex skills such as critical thinking and creativity, which require human evaluation (Tapalova and Zhiyenbayeva, n.d.). Overreliance on AI could also diminish the role of educators and create less personalised learning experiences (Khan and Jian, 2023). Finally, some AI algorithms lack transparency, often referred to as the 'black box' problem, raising concerns about fairness and accountability (Zerilli et al., 2022).

To leverage AI effectively, educational institutions need to be proactive. Establishing oversight mechanisms for AI-generated assessments and maintaining a balance with human expertise is crucial (Khan and Jian, 2023). AI should be used to complement other assessment methods, ensuring a holistic approach that evaluates complex skills alongside the benefits of AI automation (Khan and Jian, 2023).

4.5 Affordable Resources that Complement Technology-based Assessment

Soaring textbook costs threaten student access to quality learning materials. Thankfully, publishers are exploring a promising solution: alternative models with affordable resources that work together with technology-based assessments. Publishers are increasingly offering open educational resources (OER), subscription models, and modular content (Berti, 2018). OER are freely available, openly licensed textbooks that seamlessly integrate with technology-based assessments (BCcampus Open Education, n.d.). Faculty can customise them to their specific course needs and assessments, creating a more dynamic learning environment.

These affordable options create a win-win situation for both students and faculty. Students benefit from reduced costs, easing the financial burden of accessing quality learning materials. Faculty also gain increased flexibility with OER and modular content. These resources empower them to customise courses and assessments, incorporating the latest research and tailoring them to the specific elements of technology-based assessments (BCcampus Open Education, n.d.). Studies even suggest students utilising OER achieve learning outcomes comparable to those using traditional textbooks (Hilton, 2016).

Despite the promise of affordable textbooks, some challenges need to be addressed. Ensuring quality is crucial; clear criteria are needed to evaluate how well these alternative resources align with learning objectives and integrate effectively with technology-based assessment elements (BCcampus Open Education, n.d.). Faculty support is also essential. Training and ongoing resources are necessary for faculty to successfully utilise and integrate these affordable options into technology-based assessment-based courses (Hilton, 2016). The case study of NU highlights several strategies being implemented to address the challenges of technology-based

assessment in resource-limited settings.

4.6 Learning Management System Features and Free Technology-based Assessment Tools

Technology-based assessment does not require a heavy budget (Heil and Ifenthaler, 2023). Institutions can leverage existing resources and explore free online tools to implement effective technology-based assessment practices.

A first step involves utilising the functionalities of a learning management system (LMS) already in place (ITC and ATP, 2022). Platforms such as Blackboard or Moodle often offer built-in features for online quizzes with various question formats, saving faculty time through automated grading for multiple-choice and Likert-scale questions. Additionally, LMS features like assignments and discussions can facilitate electronic submissions, instructor feedback, and online forums for student interaction.

Beyond the LMS, several free online tools can be valuable for technology-based assessments, particularly formative assessments. Google Forms offers a user-friendly platform for creating and sharing quizzes, surveys, and polls with various question types, even providing basic auto-grading for certain formats (Stewart et al., 2010; Zhang et al., 2023). For interactive assessments, Socrative allows for creating quizzes, polls, and exit tickets with real-time feedback for both students and instructors. Kahoot! injects some fun into learning with its gamified platform for creating engaging multiple-choice quizzes with a free basic version (Heil and Ifenthaler, 2023). Finally, Quizlet, known for flashcards, also allows creation of online quizzes and study sets with various question formats and basic analytics on student performance.

4.7 Strategies Used to Overcome Challenges at Northrise University

NU has adopted technology-based assessments to improve its assessment practices and address resource limitations. Recognising the importance of reliable internet access, they invested in electricity generators to ensure a stable online learning environment, especially critical for online assessments (ITC and ATP, 2022). The costs associated with implementing technology-based assessments will depend on the specific institution and its requirements, such as the size of the student body, the complexity of the assessments, and the level of technical support needed. NU implemented online programmes for delivering course materials, benefiting both online and traditional (face-to-face) students. Online materials, assignments, tests, and exams supplement traditional in-person learning, providing a blended learning experience. This online component gained momentum during the COVID-19 pandemic.

Furthermore, acknowledging the digital divide, NU strives to support students in acquiring laptops and tablets for those who lack personal devices. This ensures more equitable access to technology and facilitates participation in technology-based assessments. Faculty and staff are also equipped with laptops and internet connectivity to support the effective implementation of technology-based assessments.

NU recognises that digital literacy is crucial for successful technology-based assessments. To address this, they have established an ongoing training programme for faculty and students, especially new members. The programme utilises a Google Classroom platform, providing easy access to training videos and quizzes to solidify understanding of technology usage

NU utilises a blended approach, strategically incorporating online assessments such as exams, tests, and assignments alongside traditional final exams. This complements in-person learning experiences. For online

students, all assessments are conducted entirely online.

To ensure academic integrity during online assessments, NU requires students to have webcams allowing invigilators to monitor their workspace. Additionally, exam-browser is installed to restrict access to only the exam webpage during assessments (Heil and Ifenthaler, 2023). In more recent facilities, they have installed cameras in exam rooms for further invigilation.

The effective use of rubrics for qualitative assessments provides clear guidelines for both grading and effective student responses, benefiting both faculty and students. NU leverages the versatile features of Google Forms to maximise its potential for assessments, creating clear rubrics and promoting strong student responses.

However, technology-based assessments also present challenges. Table 4.1 summarises the challenges and mitigation strategies employed at NU.

Table 4.1: Challenges and Mitigation of Technology-based Assessment at Northrise University

Challenges of technology-based assessment	Mitigation of challenges
Reliable power and internet	Investment in alternative sources of energy and backup internet
Becoming acquainted with digital technologies in teaching and a need for digital literacy	Ongoing training programme for students and staff on technology-based assessments
Quality of assessments	A blended approach is used where course assessment includes online assignments and tests, alongside a traditional final exam
Academic integrity	Webcams with invigilators, exam-browser, cameras in exam rooms
Artificial intelligence (AI)	Reformulate assignments, use AI as a teaching tool, request justification and interpretation of AI compilations

4.8 Stakeholder Responses to a Survey on Technology-based Assessment Strategies at Northrise University

A survey among NU faculty explored their perspectives on technology-based assessments. Approval for the questionnaire survey was obtained from the Northrise University Research Ethics Committee.

The survey was conducted using Google Forms, a user-friendly platform that ensures data security (Yuen et al., 2018). No personal identifiers were collected, and all responses remained anonymous to encourage honest feedback (Nederhof, 2018). With an expected confidence level of 95 per cent, an assumed population percentage of 90 per cent, and 18 responses received from a population of 25, the margin of error is calculated to be 8.2 per cent. This margin of error falls within acceptable ranges for studies focused on gathering feedback and informing programme development (De Vaus, 2021).

In the survey, questions were first asked about background of the participants, including their level of education, courses taught, and number of semesters technology-based assessments has been implemented in these courses (refer to Table 4.2 where the various numbers are provided for the responding staff). These questions were followed by enquiring about their personal and their students' experience with technology-based assessments, academic integrity, grading, with AI and with publisher educator resources.

Table 4.2: Profile of the Questionnaire Survey Participants (18 in total)

Highest level of education	Master's degree: 18	PhD degree: 0			
Teaching experience in years	≤ 2 years: 5	2< years ≤ 5: 3	>5 Years: 10		
Programme taught	Business Administration, Finance and Accounting: 10	Law: 3	Information technology, computer science: 7	Nursing: 4	Theology: 1
Number of semesters using technology-based assessments	≤ 2 semesters: 5	2 < semesters ≤ 4: 2	4 < semesters ≤ 6: 3	6 < semesters ≤ 8: 3	>8 semesters ≤: 5

4.9 Personal and Student Experience of Technology-based Assessment

The following paragraphs report on the personal experience of staff and student experience with technology-based assessments. Table 4.3 captures how participants became proficient with technology-based assessments and the method they would most prefer. The table shows the percentage of respondents for each of the considerations.

Table 3: The Way in Which Participants Became Proficient with Technology-based Assessment

	Institutional training sessions	**Web-based videos**	**Self-study**	**A combination of the methods**
Becoming proficient	33%	0%	6%	61%
Preferred proficiency approach	17%	11%	0%	72%

In addition, challenges experienced by staff and students were explored by questioning the impact of technologies on technology-based assessments. These included the impact of internet, electricity supply, and computer and software challenges. Table 4 shows the feedback received. A relatively high percentage (+60%) of respondents reported challenges for both staff and students. The exceptions are computer and software challenges experienced by staff (33% and 56% respectively).

Table 4: Percentage of Respondents Reporting Challenges on Technology

	Poor internet connectivity or electricity connection	Computer challenges	Software challenges
Percentage of respondents identifying challenges for STUDENTS	66%	61%	72%
Percentage of respondents identifying challenges for STAFF	72%	33%	56%

In contrast to the feedback on challenges experienced by staff (Table 4 – mainly internet, electricity, and software challenges), 67 per cent of staff members reported having experienced both formulation of questions and technology relatively easy to manage as shown in Figure 1. This supports the finding that the staff challenges (Table 4) are mostly related to electricity and internet services.

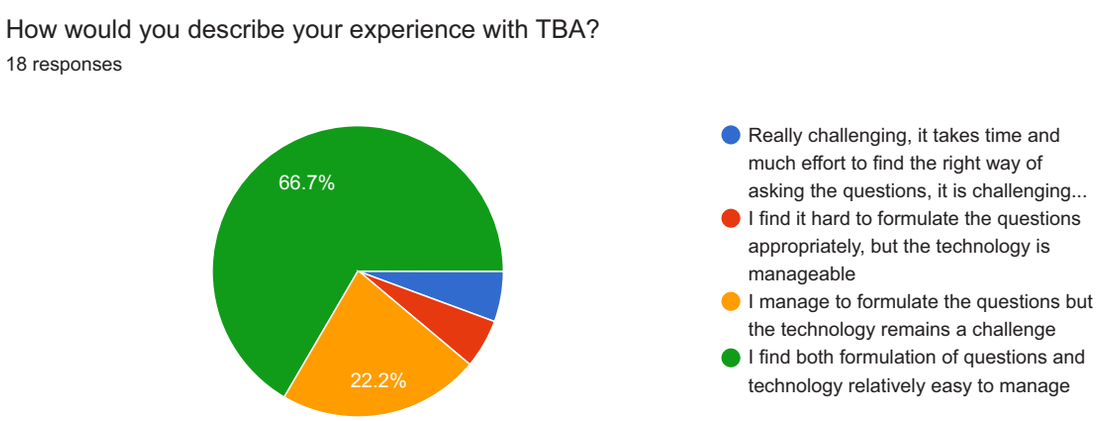


Figure 1: How Would You Describe Your Experience with Technology-Based Assessment?

When asked which of the listed items were positives and negatives of technology-based assessment, management of the technology (internet and electricity supply), together with management of the integrity of the technology-based assessment process were identified to be the most negative (with scores of 13 and 18 out of 18 respondents respectively). Setting up the assessment, management of software and hardware, and management of the grading process were the most positive items (15, 13, and 18 respectively).

4.10 Academic Integrity

From the possible academic integrity verification alternatives (webcam, exam-browser software, plagiarism checker) the method that is most favoured appears to be plagiarism checking software (Figure 2).

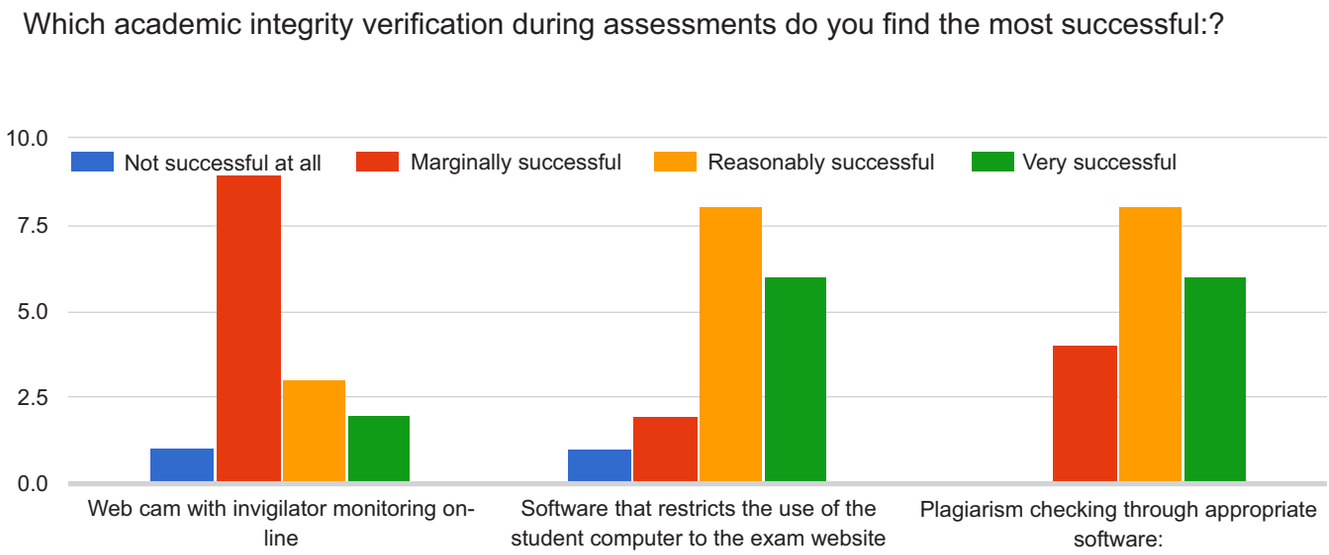
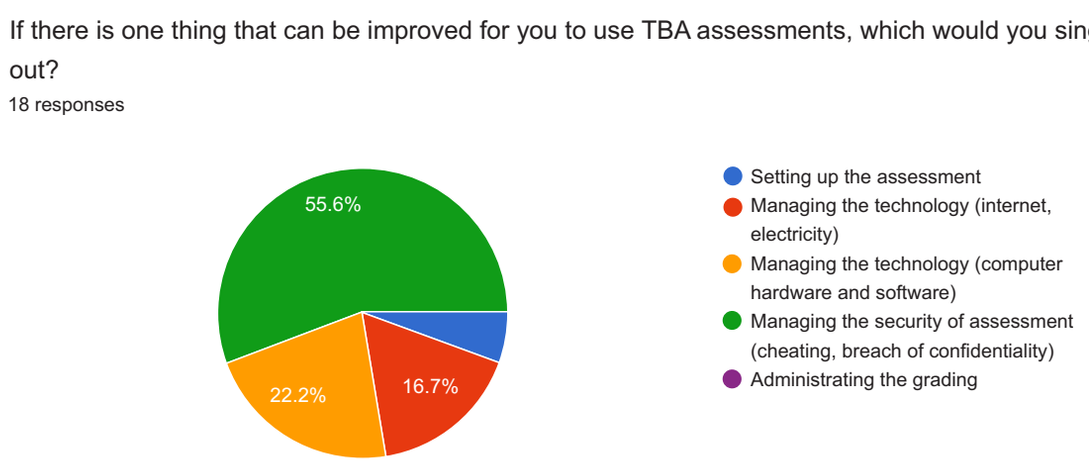


Figure 2: Experience by Staff of Academic Integrity Verification Options

4.11 Grading of Assessments, Tests and Exams

Concerning grading of assessments, tests, and exams, the majority of respondents indicated that technology-based assessment is faster, and the quality is managed better when the process is automated. When it is not automated, grading remains equally difficult to conventional grading methods. Items considered to be positive aspects of technology-based assessments are setting up of the assessment (83% of respondents), managing the technology of computer hardware and software (72% of respondents), and administering the grading (100% of respondents).

Respondents were also asked which between technology-based assessments and paper-based assessments they would prefer. An overwhelming 72 per cent of respondents opted for a hybrid approach, using both technology-based assessments and paper-based methods. Each participant provided feedback on their suggested single item to be improved for them to use technology-based assessments as shown in Figure 3. The setting up of the assessment (56% of respondents) received the highest score.



4.12 The Role of Artificial Intelligence

The rise of artificial intelligence (AI) in education presents exciting possibilities, but also significant challenges. A recent survey at NU highlights these contrasting perspectives concerning the availability of AI, which can be a threat to technology-based assessments; only 22 per cent of respondents reported that they make it part of the assignment and expect that students use the technology. The remainder (44% of respondents) reported having trouble with the availability of AI, and 33 per cent instructed students not to use it, but had no way of verifying the reaction.

As previously mentioned, AI algorithms can be biased and struggle to assess complex skills like critical thinking. Therefore, integration of these increasingly prevalent tools is crucial for the future of assessments at NU.

4.13 Publisher Educator Resources

NU recognises the need for affordable and flexible learning materials. To address this, they are forging innovative partnerships with leading publishers like Pearson and Cengage. This goes beyond simply finding cheaper textbooks. NU, along with these publishers, is developing resources that seamlessly integrate with technology-based assessments. This not only creates a financially accessible learning environment but also promotes educational equity and student success.

4.14 Discussion

As highlighted in Table 2, NU has significant experience with technology-based assessments, with most participants (66%) becoming proficient through a combination of training methods. While a majority of respondents (66%) reported student challenges related to internet connectivity, electricity supply, software, and computer problems, staff faced fewer difficulties, primarily related to internet and electricity disruptions (GEMR, 2023). These findings suggest a potential disparity in access to reliable technology infrastructure between students and staff.

Regarding the integrity of technology-based assessments, participants identified exam browser and plagiarism checking as effective measures, while webcam monitoring proved less successful (Heil and Ifenthaler, 2023). When considering the use of technology-based assessments versus traditional paper-based assessments, a hybrid approach was favoured by 72 per cent of respondents.

Finally, the survey revealed that AI presents a significant challenge for academic staff, with only 22 per cent incorporating it into their instructions. This suggests a need for further exploration and development of AI tools to support technology-based assessments effectively (Khan and Jian, 2023).

4.15 Conclusion

This case study examined the implementation of technology-based assessments at Northrise University in Zambia. The aim was to assess the effectiveness and quality of technology-based assessment practices within the context of resource limitations faced by many African universities. Technology-based assessments' effectiveness and quality were assessed through review of published literature and a questionnaire survey among academic and administrative staff.

On the positive side, technology-based assessment offers a flexible and interactive assessment experience, facilitates online delivery of course materials and assessments, and allows for valuable insights through advanced student performance analytics. Lessons learnt at NU include strategies for reliable internet access through generators, faculty and student training, a blended approach incorporating both online and traditional assessments, and utilisation of free online tools.

However, challenges remain. Other institutions may learn from the need to ensure equitable access to technology for students and maintaining reliable data security, both being critical concerns. Internet connectivity, electricity supply, and software/computer issues pose significant challenges for both students and staff. Furthermore, managing academic integrity during online assessments requires ongoing attention.
The qualitative nature of the survey offers valuable insights, but further investigation is needed to solidify the conclusions. Quantifying the impact of technology-based assessments on student learning outcomes at NU and measuring the effectiveness of the implemented mitigation strategies would significantly strengthen the analysis.

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CHAPTER FIVE

COLLABORATION AND PARTNERSHIP: THE TRIPLE HELIX MODEL

by

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5.1 Introduction

Collaboration and partnership play crucial roles in enhancing the quality of higher education. This paper is based on systematic literature review. As institutions strive to meet global standards, the need for cooperation between universities, accrediting bodies, industry stakeholders, and government agencies has become more evident. By working together, these entities can share best practices, resources, and expertise, ensuring that students receive a well-rounded and competitive education. Moreover, collaboration fosters innovation in teaching methodologies, research, and curriculum development, which are essential for maintaining the relevance of higher education in a rapidly changing world.

In the higher education sub-sector, quality assurance is a key aspect that ensures academic programmes meet certain standards of excellence. Partnership between higher education institutions (HEIs) and quality assurance bodies helps in maintaining rigorous evaluation processes, which guarantee that HEIs offer programmes that are both academically sound and practically relevant. This partnership also encourages transparency and accountability, as external quality assurance bodies provide objective assessments that drive continuous improvement within institutions.

Additionally, collaboration between HEIs and industry is essential for aligning academic programmes with market demands. By forming strategic partnerships, HEIs can better understand industry trends, which allows them to tailor curricula that prepare students for the workforce. This ensures that graduates possess the skills and knowledge necessary to thrive in their chosen fields, thereby enhancing both employability and the overall reputation of the respective HEI. As a result, partnership in quality assurance not only benefits individual institutions but also contributes to the advancement of higher education.

In recent years, collaboration and partnership have emerged as crucial strategies for enhancing quality assurance in the higher education sub-sector. As educational institutions face increasingly complex challenges, such as globalisation and technological advancements, the need for collaborative efforts has become more pronounced. According to a recent study by Smith and Johnson (2023), effective collaboration among HEIs, industry stakeholders, and governmental bodies can significantly bolster the quality assurance frameworks implemented within higher education. This approach not only facilitates knowledge sharing and resource optimisation but also promotes innovation and responsiveness to evolving educational needs.

5.2 Literature Review

In the realm of higher education, collaboration and partnership are increasingly recognised as essential strategies for enhancing educational quality and relevance. According to Johnson and Smith (2022), effective partnership between HEIs and industry stakeholders facilitates the integration of real-world insights into academic curricula, thereby preparing students more effectively for the demands of the contemporary workforce. Such collaboration not only enriches educational experiences but also drives innovation and

research advancements across various disciplines. Furthermore, governmental support and involvement are crucial in fostering successful partnership within the higher education sub-sector. As noted by Brown and White (2021), strategic collaboration between HEIs and governmental bodies can lead to improved policy frameworks and funding opportunities, which are essential for sustaining quality education initiatives.

Moreover, international collaboration plays a significant role in promoting diversity and global perspectives within higher education. According to Lee *et al*. (2020), partnership between HEIs from different countries facilitates cultural exchange, collaborative research endeavours, and the sharing of best practices, ultimately enriching the academic environment and preparing students for global citizenship. In addition to industry and governmental partnership, collaboration within academia itself is crucial for fostering interdisciplinary research and educational innovation. Furthermore, the role of partnership in ensuring educational quality extends beyond traditional academic boundaries.

As highlighted by Brown (2022), collaboration between HEIs and industry leaders allows for the integration of practical insights into academic curricula, ensuring graduates are well-prepared for the demands of the modern workforce. Such partnership also fosters research collaboration that drives advancements in various fields, thereby enriching the educational experience and contributing to societal development. By leveraging each other's strengths and resources, institutions can create robust quality assurance mechanisms that uphold rigorous standards and meet the expectations of diverse stakeholders in the higher education landscape.

As highlighted by Clark (2019), intra-institutional partnership enables the pooling of resources and expertise across departments, leading to synergistic efforts in addressing complex societal challenges and advancing knowledge domains. In the Zambian context, Kawimbe, S. and Muya, C. (2023) indicated that key interventions through academia have been tabulated but not achieved. Among these is the quality of education and its relevance (Ministry of Education, Zambia, 2019). They also asserted that access to academia in Zambia remains a challenge to most eligible participants; for example, out of 126,434 school leavers in 2016, only 12 per cent were absorbed into universities. In the 1990s, Etzkowitz and Leydesdorff developed the Tripple Helix Model (THM) that outlines the interaction and cooperation among three key participants in the innovation process: academia, industry and government as shown in Figure 1.

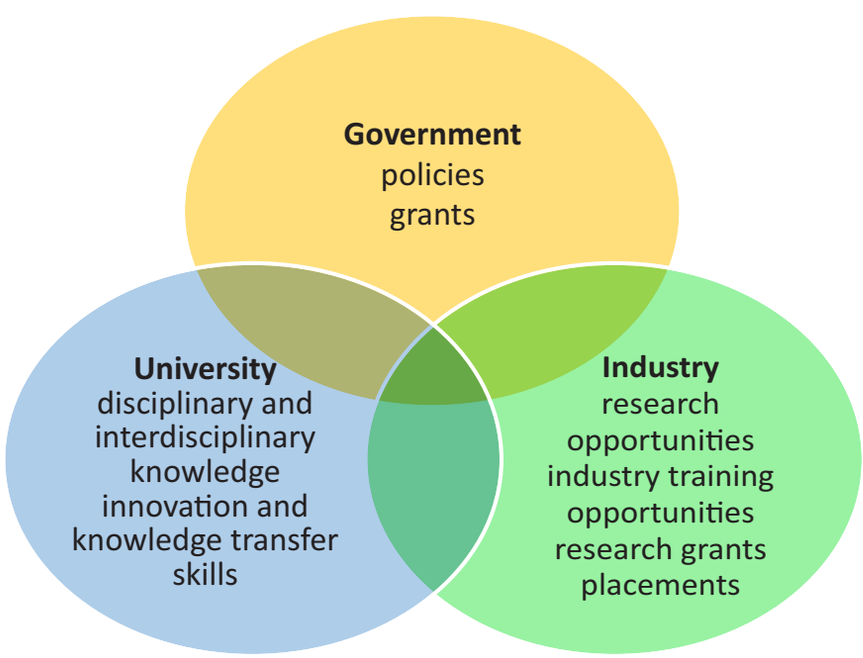

Figure 1: Tripple Helix Model
Source: Etzkowitz and Leydesdorff, 2000

Higher Education Sub-sector*:* This sphere encompasses HEIs involved in knowledge creation and dissemination. Academia plays a vital role in generating new knowledge through research, experiments, and intellectual development. It includes both basic and applied research, often carried out in collaboration with industry and government partners.

Industry: This sphere consists of businesses, corporations, and other entities in the private sector. Its primary focus is on the commercialisation and practical application of knowledge generated by academia. Industries are driven by market demands and aim to transform scientific discoveries and technological advancements into innovative products, services, and processes.

Government: This sphere comprises governmental and public organisations responsible for setting policies, providing funding, and establishing regulatory frameworks. Governments play a crucial role in shaping the innovation ecosystem by formulating science and technology policies, funding research projects, and creating supportive environments for collaboration. Their objective is to promote economic growth, social development, and the overall well-being of society through effective utilisation of scientific and technological advancements. The THM emphasises the interdependence and collaboration among these three spheres. It recognises that innovation is not solely the domain of one actor but rather emerges from the dynamic interactions and knowledge flows between academia, industry, and government.

5.3 Discussion

Collaboration and partnership are increasingly recognised as fundamental strategies for ensuring and enhancing quality assurance within the higher education sub-sector. The concept extends beyond traditional academic boundaries, encompassing interactions between HEIs, industry, and governmental bodies—a framework often referred to as the THM. This model, proposed by Etzkowitz and Leydesdorff (2000), emphasises the interdependent relationship between academia, industry, and government in fostering innovation and driving economic development through knowledge creation and dissemination.

One significant benefit of the THM is its capacity to integrate diverse perspectives and resources. HEIs contribute theoretical knowledge and research expertise, while industry brings practical insights and financial support, and governmental bodies provide regulatory frameworks and policy guidance (Carayannis and Campbell, 2009). Moreover, partnership within the THM facilitates the transfer of technology and innovations from academia to industry, fostering economic growth and competitiveness. As noted by Gibbons *et al*. (1994), this collaboration leads to the co-production of knowledge, where academic research is translated into practical applications and commercialised products, benefiting both the academic institutions and the industry partners (Gibbons *et al*., 1994). This collaboration not only enhances the quality assurance mechanisms within higher education but also contributes to broader societal development goals by leveraging the strengths and resources of each sector.

5.4 Implications and Lessons for Zambia

The model outlined above advocates for close collaboration between various sectors to drive innovation, economic development, and societal progress. In the traditional linear approach, HEIs primarily focused on education and research, governments on policy-making, and industries on production and commercialisation. However, the THM breaks these barriers, encouraging overlapping roles where each sector interacts, shares responsibilities, and co-develops solutions to emerging challenges. This creates a more integrated ecosystem

that promotes innovation, entrepreneurship, and problem-solving on a national and global scale.
For Zambia, the implications of the THM are significant. The country's economic development depends heavily on its ability to innovate and adapt to global changes. Through this model, Zambia can encourage HEIs to move beyond their role as academic institutions and become innovation hubs, partnering with industry and government to address local challenges such as unemployment, economic diversification, and sustainable development. Industries, in turn, would benefit from academic research and development (R&D), while government policies could be informed by data-driven research, ensuring that Zambia's development is sustainable and inclusive. Such partnership would accelerate the country's progress towards becoming a knowledge-based economy, encouraging entrepreneurship and job creation, particularly in emerging sectors such as information and communication technology (ICT) and renewable energy.

The successful implementation of the THM in several countries, including those in Europe and East Asia, provides valuable lessons for Zambia as it seeks to enhance its higher education sub-sector and promote innovation. One key lesson is the importance of building strong institutional frameworks that support collaboration between academia, government, and industry. Zambia's HEIs must establish innovation centres or incubators where students, researchers, and entrepreneurs can work together to transform research findings into commercially viable products. Additionally, HEIs should prioritise programmes that develop entrepreneurial skills alongside traditional academic training, preparing graduates to not only seek jobs but also create them.

Zambia also needs to ensure that government policies and funding mechanisms align with THM principles. These include offering incentives for industries that invest in HEI research or collaborate with academic institutions on projects of national importance. Furthermore, government agencies should facilitate regular dialogue between HEIs and industry, ensuring that academic programmes remain relevant to the demands of the labour market and that research efforts are directed toward solving real-world problems. Finally, Zambia can learn from countries that have fostered a culture of innovation through strong government support for R&D and effective industry-academic partnership. By adopting such strategies, Zambia can lay the groundwork for sustainable economic growth, job creation, and enhanced quality of life for its citizens.

5.5 Exemplification of Collaboration in Zambia

In 2021, the Zambia Development Agency and the Copperbelt University signed a Memorandum of Understanding (MoU) for the development and implementation of software solutions and online payment platforms for the Agency. The areas of cooperation of the MoU included the development and implementation of an online application and payments portal, an electronic memo system and the development and implementation of a loan management system. Further, in 2023, ZCAS University signed an MoU with Dziwa Science and Technology Trust to link the Zambia Chamber of Small and Medium Business Associations with the Ministry of Science and Technology and the Ministry of Small and Medium Enterprise and Development.

5.6 Conclusion

In conclusion, collaboration and partnership represent indispensable strategies for advancing quality assurance in the higher education sub-sector. The evidence gathered underscores their pivotal role in enhancing educational standards, fostering innovation, and aligning academic programmes with industry needs and societal demands. By engaging in partnership with industry and governmental bodies, HEIs can leverage external expertise and resources to enrich learning experiences and prepare students more effectively for future careers. This collaborative approach not only enhances the relevance of higher education but also strengthens institutions' ability to adapt to dynamic global challenges.

Looking forward, sustaining and expanding these collaborative efforts will be crucial for HEIs to remain

competitive and responsive in the 21st century. By fostering a collaborative ethos and cultivating strategic partnership, HEIs can continue to enhance their educational offerings, uphold rigorous quality assurance standards, and contribute meaningfully to societal well-being. Embracing a collaborative mindset not only enriches the educational experience but also positions HEIs as key drivers of innovation and social change in an increasingly interconnected world.

While the THM offers a powerful framework for fostering innovation and collaboration between academia, government, and industry, its effectiveness is not guaranteed in all contexts. The success of the model depends heavily on the specific socio-economic, cultural, and institutional conditions of a country or region. In highly industrialised and knowledge-based economies, where there is already a strong foundation for collaboration and innovation, the THM has proven to be highly effective. However, in countries with limited infrastructure, weak institutional frameworks, or minimal investment in research and development, implementing the THM can be more challenging. For the THM to work in every context, including developing nations like Zambia, certain prerequisites must be met. These include a strong commitment from the government to support innovation, active participation from industry in R&D, and the capacity of HEIs to engage in applied research. Additionally, countries must tailor the THM to their local realities, adapting the roles of academia, government, and industry to address specific challenges, such as poverty reduction, skills development, and economic diversification. Therefore, while the THM has the potential to drive economic and social transformation globally, its success hinges on creating the right environment for collaboration and ensuring that all stakeholders are prepared to engage meaningfully in the innovation ecosystem.

5.7 Recommendations

Based on the importance of collaboration and partnership for quality assurance in the higher education sub-sector, there are five recommendations:

Establish clear objectives and mutual goals: Ensure that partnership is founded on clear, mutually beneficial objectives that align with institutional and partner goals. This includes defining specific outcomes such as enhancing student employability, advancing research impact, or improving educational quality.

Develop robust governance structures: Implement governance frameworks that facilitate effective communication, decision-making, and conflict resolution among stakeholders. Clearly defined roles and responsibilities will mitigate potential challenges and ensure accountability across all parties involved.

Promote interdisciplinary collaboration: Encourage interdisciplinary collaboration within and across institutions to foster innovative approaches to teaching, learning, and research. This can enhance the breadth and depth of educational offerings while addressing complex societal challenges from multiple perspectives.

Invest in capacity building and resource sharing: Allocate resources to build institutional capacity for collaborative initiatives, including staff training, infrastructure development, and access to shared resources. This investment supports sustained partnership and maximises the impact of joint efforts.

Evaluate and adapt partnership strategies: Regularly assess the effectiveness of partnership activities against predefined metrics and benchmarks. Use feedback from stakeholders to adapt strategies, improve processes, and capitalise on successful outcomes. Continuous evaluation ensures that partnership remains relevant, impactful, and responsive to evolving educational and societal needs.

These recommendations aim to strengthen collaborative efforts in the higher education sub-sector, enhancing quality assurance practices and fostering a culture of innovation and excellence across institutions and their

external partners.

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CHAPTER SIX

COLLABORATION AND PARTNERSHIP: A QUALITY ASSURANCE ISSUE

by

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6.1 Introduction

This paper recognises the crucial role higher education institutions (HEIs) have in ensuring quality education. It aims to explore the role of collaboration and partnership in enhancing quality assurance in HEI institutions. It also seeks to understand how this collaboration can address academic quality issues and ensure excellence and regeneration in HEIs.

Collaboration and partnership are hallmarks of Zambian cultural traditions and remain deeply embedded in the Zambian culture. For instance, there are proverbs that emphasise the need for collaboration and highlight that achieving significant goals requires the combined efforts of multiple individuals or groups.

HEIs face significant challenges in maintaining and enhancing academic quality amid diverse learner backgrounds, rapid technological advancements, and increasing commercialisation of education. There is a critical need to explore how collaboration and partnership among HEIs, industry, government, and other stakeholders can address these academic quality issues.

Collaboration and partnership are two different concepts. Collaboration can have varying definitions because different stakeholders may have diverse understandings and thus exhibit different implementation approaches (Huxham and Vangen, 2005; Bedwell et al., 2012; Alozie et al., 2023). Effective collaboration is crucial for producing positive and demonstrable outcomes (Griffiths, et al., 2021), involving creation of socio-cognitive space where goals, ideas, beliefs, and plans are collectively generated and shared among members of a group. Figure 1 depicts this shared definition.

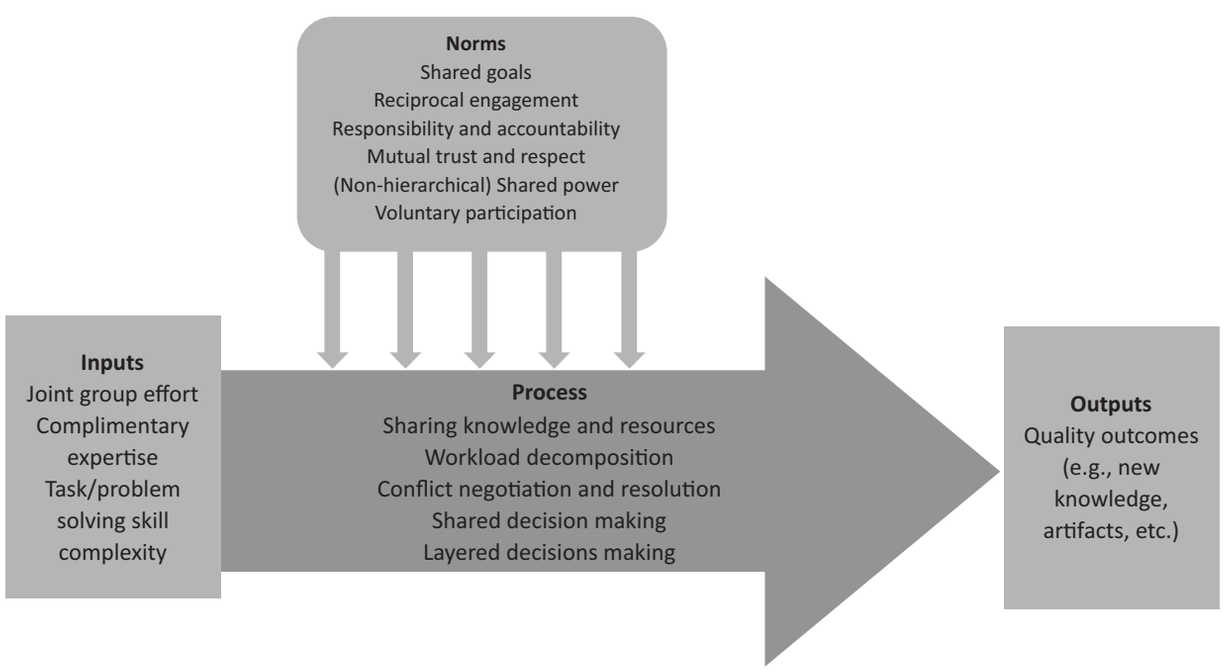

Figure 1: Integrated Concept of Collaboration

Source: Alozie et al., 2023

Collaboration is defined as the process through which more than two individuals, groups, or organisations partner and cooperate to achieve a common goal, sharing knowledge, resources, and responsibilities to create value that would be difficult to achieve individually.

Brinkerhoff (2002) defines a partnership as a formal arrangement between two or more parties who have agreed to collaborate in achieving shared goals. Epstein (2011), states that a partnership in education involves collaboration between schools, businesses, and community organisations to enhance educational outcomes. In this paper, therefore, partnership refers to an agreement and collaboration between two or more parties aimed at achieving shared goals. In the context of higher education, collaboration and partnership often involve agreements between institutions, organisations, or sectors to work together towards shared objectives, typically involving the pooling of resources and expertise.

The following research questions were developed to guide this paper:

- How do collaboration and partnership among HEIs, industry, and other stakeholders influence the development and implementation of quality assurance frameworks in HEIs?
- What are the best practices and successful models of collaboration and partnership in higher education that have effectively addressed academic quality issues?
- What challenges do HEIs face in forming and maintaining effective collaboration and partnership, and how can these challenges be overcome to enhance quality assurance?

6.2 Conceptual Models

The Triple Helix model, which involves interactions between HEIs, industry, and government, has been widely recognised for fostering innovation and improving educational quality (Etzkowitz and Leydesdorff, 2000; Perkmann, et al., 2013). Another successful model is the Community of Practice, where HEIs and industry engage in continuous learning and improvement cycles (Wenger, 1998). For instance, in Zambia, the Copperbelt University has initiated partnerships with mining companies to align its engineering programmes with industry needs. These partnerships have led to curriculum adjustments and the introduction of practical training components that are directly relevant to the mining sector, albeit not uniformly applied across all disciplines and institutions.

6.3 Literature Review

This literature review explores the impact of this collaboration on quality assurance, identifies best practices and successful models, and examines the challenges HEIs face in maintaining effective partnerships.

The role of collaboration and partnership among HEIs, industry, and other stakeholders is increasingly recognised as crucial in developing and implementing quality assurance frameworks (Harvey and Williams, 2010). In HEIs, quality assurance encompasses various activities, including development of programmes, their accreditation, student and staff recruitment processes, programme delivery processes, assessment methods, and the development of quality standards (Eaton, 2012).

Collaboration and partnership in higher education involve various stakeholders, including universities, industry, government agencies, and non-profit organisations working together (Bringle and Hatcher, 2002;

Marginson and Considine, 2000). Institutions can pool resources, share expertise, and develop comprehensive quality assurance frameworks that address the diverse needs of learners (Barnett, 2000; Leisyte, et al., 2010; Bringle and Hatcher, 2002; Hughes and Kitson, 2012). Partnership with industry can align educational outcomes with market needs, ensuring that graduates possess relevant skills (Freeman, 1984; Bringle and Hatcher, 2002; Beerkens, 2015). For example, Benneworth et al. (2009) highlight how European universities have developed quality assurance systems through partnership with local businesses and government agencies.

In Zambia, the Higher Education (Amendment) Act No. 23 of 2021 underscores the importance of collaboration. According to Section 4(j), the Act aims to 'promote cooperation among HEIs at national, regional and international levels and facilitate their linkage with industry'. However, there is still a significant gap in effectively implementing these collaborative frameworks. Many HEIs struggle to form and sustain partnerships that can meaningfully impact quality assurance. Limited resources, lack of strategic alignment and insufficient engagement with industry are prevalent challenges (Mumba and Phiri, 2015). Regular interaction, feedback among partners, effective leadership and management are crucial to steering collaborative efforts towards achieving desired outcomes (Austin, 2000; Huxham and Vangen, 2005).

6.4 Challenges in Forming and Maintaining Effective Collaboration

HEIs face several challenges in forming and maintaining effective collaboration and partnership. These include compatibility, willingness and preparedness to engage in shared decision-making, shared leadership, and the sharing of knowledge and resources, which are crucial for achieving a successful and sustainable collaboration (Herrmann, 2017).

Public-private HEI collaboration may pose several challenges due to differing ownership requirements and organisational cultures (Uslay, 2023). The process of establishing such collaboration can be prolonged due to bureaucratic procedures in public institutions, which often require extensive approvals and compliance with regulations (Brewer and Tierney, 2012).

Additionally, aligning goals and expectations of both public and private entities can be complex, as they may have different priorities, funding structures, and operational frameworks. Another challenge lies in the prevailing lack of trust and perception of inferiority associated with private HEIs. Public HEIs often view private institutions as inferior, believing they do not meet the expected standards of higher education. This superiority complex can create trust issues, making it difficult to establish effective and equitable collaboration (Odhiambo, 2011; Herrmann, 2017).

To overcome these challenges, HEIs can adopt several strategies. Establishing clear communication channels and formal agreements can help manage cultural differences and set expectations. Securing funding and resources through grants and sponsorships can alleviate resource constraints. Fostering a culture of trust through transparency and regular interaction can strengthen partnership (Ankrah and AL-Tabbaa, 2015; Herrmann, 2017). For instance, the Higher Education Authority (HEA) could, firstly, play a more active role in facilitating partnership by providing a platform for HEIs to engage with industry and government stakeholders; and secondly, develop a national framework for quality assurance with guidelines for collaboration.

6.5 Stakeholder Theory

One theory that would be highly effective in grounding this research is Stakeholder Theory. Developed by Edward Freeman in the 1980s (Freeman, 1984), Stakeholder Theory posits that organisations should create value for all stakeholders, not just shareholders. It is premised on effectively guiding the formulation and maintenance of collaboration and partnership in HEIs such as internal stakeholders (students, faculty, administrative staff) and external stakeholders (industry partners, accreditation bodies, government agencies) involved in or affected by quality assurance processes.

6.6 Methodology

A qualitative approach was adopted for this paper, which gives an in-depth analysis through narrative data necessary to answer the research questions. Materials were obtained through a desk review of literature from relevant academic journals, books, and reports on quality assurance and collaboration in higher education. This approach highlighted the level of collaboration and partnership at present in higher education and their implications on quality assurance. Also, there were case studies of successful collaboration or partnership in HEIs to identify best practices and lessons learnt (Yin, 2014; Stake, 1995). Overall, 30 stakeholders were interviewed in depth, comprising 12 students from six private and six public universities, 12 faculty members from both private and public universities, and 6 industry partners, to obtain firsthand insight into the effectiveness of this collaboration. Data collection was done in English, and participants consented to recording interviews. Thematic analysis was employed to code findings.

6.7 Findings and Discussion

Table 6.1 shows different responses that emerged from the interviews. These are categorised under the codes 'PrivUni 1 & 2,' representing responses from Private University 1 and 2, and 'PubUni 1 and 2,' representing responses from Public University 1 and 2. The final category includes responses from industry participants. While there were several similarities in the responses, these are not repeated in the presentations for the two types of universities.

Table 6.1: Responses from Interviews

Theme	PrivUni 1 &2	PubUni 1 &2	Industry
Development and implementation of academic quality frameworks	Working together, developing student activities together, research projects together, running conferences together, student and staff exchange programmes, building trust activities	Enhanced accountability and transparency; policy influence and advocacy; research and innovation; accreditation and external validation; access to resources	Student experiential engagement; learning expertise and knowledge sharing; alignment with industry standards; world of work experiences ; industry engagement
Best practices and successful models of collaboration	Resource sharing, capacity building, and mutual learning, contributing to the overall quality of higher education; establishing formal partnership agreements; regular joint activity planning; shared funding and resource allocation models; collaborative technology platforms and tools; regular cross-institutional training and development programmes; Interdisciplinary and cross-departmental initiatives; creating dedicated collaboration offices	Joint research initiatives, international collaboration and exchange programmes ; quality assurance and accreditation ; cross-disciplinary collaboration; technology integration and innovation ; fostering public/private partnership; shared leadership and governance structure ; continuous evaluation and improvement; transparent and open communication channels ; co-created and co-taught courses and programmes	**Industry academia partnership; Joint community engagement projects;** continuous monitoring and evaluation mechanisms; shared access to research facilities and laboratories; joint intellectual property agreements; regular stakeholder feedback
Overcoming challenges	External factors and differing policies; different goals and objectives; resource challenges ; bureaucratic and institutional barriers, culture; organisation communication; maintenance of relationship	Leadership and governance; differences, trust issues, different visons	Transparency issues; communication issues; too theoretical; institutional barriers; inconsistency

6.8 Development and Implementation of Academic Quality Frameworks

Collaboration and partnership in HEIs play critical roles in enhancing the quality of academic activities as they promote collaboration in many ways, including student activities, research projects, and conference organisations. For example, jointly developed student activities can help establish community and raise the ratio of student participation, while joint research projects enhance innovation and contribute to the academic knowledge base (Perkmann et al., 2013). Joint running of conferences allows findings from the research and best practices to be shared and embeds a culture of continuous learning and improvement. As Bringle and Hatcher (2002), programmes for student and staff exchange encourage valuable world-of-work experiences and expose participants to diverse learning and work environments and practices, thus widening perspectives and skill bases.

Above all, increased accountability and transparency are crucial results to arise from proper collaboration. Collaboration is a driver of research and innovation, while joint initiatives often lead to breakthrough discoveries and advancements that could not be possible within institution-based research and innovation. Drawing from stakeholder theory, such collaboration will ensure that the needs of all stakeholders—students, faculty members, industrial partners, and the community—are considered and integrated into decision-making processes, fostering a responsive educational environment.

6.9 Best Practices and Successful Models of Collaboration

Findings clearly demonstrated knowledge of various best practices and successful models of collaboration and partnership that effectively address academic quality. These include resource sharing, capacity building, and mutual learning, contributing to the overall quality of higher education. Joint research initiatives, as highlighted in the literature, exemplify how institutions can pool their intellectual and infrastructural resources to tackle complex research questions, thereby advancing knowledge and enhancing academic rigour (Perkmann et al., 2013).

Community engagement and joint service projects indicate successful collaboration by aligning educational goals with societal needs, promoting civic responsibility, and enhancing the practical relevance of academic programmes (Bringle and Hatcher, 2002). International collaboration and exchange programmes, cited by all respondents, provide students and staff with global perspectives, enriching the academic environment and fostering cultural competence. These collaborative efforts are guided by stakeholder theory, which emphasises the importance of considering diverse stakeholder interests to create inclusive and responsive educational practices.

Findings revealed that public/private partnership represents best practices by leveraging key sectors to improve resource availability, infrastructure, and industry alignment. Cross-disciplinary collaboration enhances quality assurance and accreditation, ensuring higher educational outcomes and external validation of academic quality (Hughes and Kitson, 2012). Effective leadership and governance structures provide strategic direction and accountability, while continuous evaluation and improvement mechanisms, informed by stakeholder feedback, ensure institutions remain agile to educational demands. Industry-academia partnership aligns curricula with market needs, boost employability, and foster innovation. Stakeholder theory captures the interests of students, faculty, industry, and the community, ensuring sustainable educational outcomes (Marginson and Considine, 2000).

6.10 Overcoming Challenges

The respondents identified several challenges in forming and maintaining effective collaboration and partnership in their institutions that hinder efforts to enhance quality assurance. One common significant challenge that emerged is the different goals and visions among partnering institutions, which tend to lead to misalignment and conflicts. In the end, the collaboration falls apart.

Leadership issues further exacerbate these difficulties, as inconsistent or ineffective leadership can impede decision-making and strategic direction (Bolden et al., 2008). Additionally, a failure to understand the art of collaboration and an overreliance on competition rather than cooperative efforts can undermine the potential for successful partnership (Huxham and Vangen, 2005).

External factors and differing policies also present substantial obstacles, as regulatory discrepancies and varying institutional priorities can complicate collaboration efforts (Williams, 2012).

Resource challenges, including financial constraints and limited infrastructure, are common barriers that HEIs must address to sustain effective partnership (Arum and Roksa, 2011). Bureaucratic and institutional barriers often slow down the collaboration process, creating inefficiencies and frustrations. Cultural and organisational differences can lead to misunderstandings and mistrust, further complicating joint efforts. Maintaining relationships over the long term requires ongoing effort and commitment, as partnership can falter due to neglect or lack of sustained engagement (Kezar, 2005).

Challenges can be overcome through strategies based on stakeholder theory, ensuring the needs of all stakeholders are considered. Establishing shared goals aligns visions, and strong leadership helps navigate collaboration complexities (Bolden et al., 2008). A collaborative culture focused on learning and mutual benefit fosters cooperation (Huxham and Vangen, 2005). Proactive engagement with policymakers harmonises regulations, facilitating smoother partnership (Williams, 2012). Shared funding models and joint infrastructure investments optimise resource use (Arum and Roksa, 2011). Reducing bureaucratic barriers and fostering flexible policies streamline collaboration, while building trust and effective communication maintain partnership through collaborative technologies and regular meetings.

6.11 Conclusion

This research highlights the multifaceted nature of collaboration and partnership in HEIs, identifying both the significant benefits and the complex challenges involved. Effective partnership can enhance academic quality through resource sharing, capacity building, mutual learning, and alignment with industry standards, while challenges such as differing goals, leadership issues, resource constraints, and bureaucratic barriers must be strategically managed. By leveraging stakeholder theory, HEIs can navigate these challenges and create sustainable, impactful collaboration that advance educational quality and institutional resilience. The findings of this paper highlight the importance of collaboration and partnership in addressing academic quality issues and ensuring excellence and regeneration in HEIs.

6.12 Recommendations

This paper offers the following recommendations:

1. HEIs should invest time in developing shared visions and goals with their partners at the very onset of any collaboration.

2. HEIs should implement regular and transparent communication channels and invest in building trust through joint activities, such as workshops, conferences, open lectures, research projects, joint staff and student exchange programmes, and team-building exercises.

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CHAPTER SEVEN

EXTERNAL AND INTERNAL QUALITY ASSURANCE: A CASE STUDY OF ZCAS UNIVERSITY

by

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7.1 Introduction

In recent decades, there has been increasing concern about the quality of higher education programmes and their graduates, highlighting the need for quality assurance. Quality assurance is particularly relevant for a developing country like Zambia, where questions persist about whether the education system adequately meets the needs of stakeholders and the nation. To ensure quality education, implementing quality assurance is essential (Bwalya, 2023). Both national quality assurance agencies and higher education institutions (HEIs) play a crucial role in quality assurance processes.

The Higher Education Authority (HEA) is Zambia's key regulatory body responsible for implementing external quality assurance (EQA) systems in the HEIs. In 2022, there were nine public and 52 private universities in Zambia (HEA Report, 2022) and HEA has established a robust framework for enhancing educational standards and compliance. Notably, the Zambia Standards and Guidelines for Quality Assurance (ZSG-QA) were issued in 2021 to provide a comprehensive framework for ensuring quality across HEIs while a 4-tier-classification system was introduced and HEIs classified accordingly. This classification system serves as a quality assurance tool designed to foster public confidence in institutions' ability to deliver accredited programmes (HEA Annual Report, 2020).

Globally, quality assurance in higher education involves both internal and external mechanisms designed to maintain educational excellence and accountability (Harvey and Green, 1993). External quality assurance practices, such as accreditation, periodic reviews, and compliance assessments, are carried out by national or international agencies to evaluate and monitor institutional performance against predefined standards (Stensaker and Harvey, 2011; Beine, Dallemagne, and Lemaire, 2007). In Zambia, the effectiveness of internal quality assurance (IQA) systems at institutions like ZCAS University is increasingly influenced by EQA practices. The University's IQA systems are structured to meet EQA standards and include elements such as accreditations, regular audits, course evaluations, and stakeholder feedback to ensure continuous improvement and compliance.

Recent research has explored the impact of EQA on internal practices in various contexts; however, there remains a notable gap in comprehensive studies focusing specifically on Zambian institutions (Chilufya and Shawa, 2022). This study aimed to address this gap by examining the impact of EQA practices on the IQA systems at ZCAS University. Three objectives of the study were to examine how EQA practices affect various components of IQA systems at ZCAS University; assess the integration of EQA practices into the university's IQA mechanisms; and identify challenges and areas for improvement in IQA.

By examining how EQA practices impact IQA at ZCAS University, this research reveals the broader implications for quality assurance in Zambia's HEIs. ZCAS University serves as a compelling case study due to its unique position and active engagement with EQA. The University's experience sheds light on the challenges and opportunities faced by many HEIs in Zambia as they navigate the complexities of implementing effective

IQA systems. Understanding this dynamic is crucial for developing strategies to enhance educational quality and institutional performance across the country. Thus, the study contributes to the broader discourse on QA practices and their implications for HEIs in Zambia.

7.2 Literature Review

7.2.1 Quality assurance

In higher education, QA refers to systematic efforts by educational institutions to ensure that their programmes and services meet established standards of quality and effectiveness, with a strong emphasis on continuous improvement and accountability (Harvey and Green, 1993). This involves a range of processes and mechanisms designed to evaluate and enhance the quality of academic programmes, teaching, and institutional management to meet predefined standards (Newton, 2000). There are two distinct but complementary approaches in which quality assurance is applied in higher education: IQA and EQA.

7.2.2 IQA and EQA

IQA refers to the HEI's own systems for assuring educational quality. These systems involve internal processes such as self-evaluation, internal audits, and continuous improvement initiatives driven by the institution's own standards and policies (Newton, 2000). IQA practices enable HEIs to evaluate and improve their programmes, teaching methods, and administrative processes, ensuring alignment with quality objectives. On the other hand, EQA involves external evaluations conducted by entities like accreditation agencies, governmental bodies, or peer review panels. Such assessments provide an objective measure of an institution's adherence to established educational standards and can influence public confidence in the institution's credentials (Harvey and Green, 1993). They often include accreditation reviews, audit processes, and compliance checks against national or international quality frameworks (ENQA, 2015).

While EQA provides an external validation of quality, IQA ensures that quality enhancement is embedded in the institution's daily operations and strategic planning (Brennan and Shah, 2020). Together, EQA and IQA create a robust framework for maintaining and improving educational standards.

7.2.3 Quality Assurance Practices

Literature on QA in higher education highlights the crucial role of EQA practices in shaping IQA systems. EQA practices, which encompass accreditation processes, national quality frameworks, and peer reviews, are designed to ensure that educational institutions meet established standards and deliver high-quality education (Newton, 2000). These external interventions influence the development and implementation of internal quality assurance systems, as universities must align their practices with external expectations to achieve and maintain accreditation (Harvey and Williams, 2010).

Research has demonstrated that EQA practices can lead to significant improvements in institutional processes and outcomes by fostering a culture of accountability and continuous enhancement (Brennan and Shah, 2020). According to Harvey and Green (1993) and Stensaker and Harvey (2011), while EQA processes aim to ensure institutional accountability and stimulate quality improvements, the specific effects of these practices on

internal quality assurance mechanisms have not been thoroughly investigated.

In Zambia, the implementation of QA practices in higher education is an evolving field. Studies indicate that Zambian universities, including ZCAS University, are increasingly subject to national and regional quality assurance frameworks aimed at improving educational standards (Bwalya and Bwalya, 2016). These frameworks, administered by the HEA, play a crucial role in guiding and evaluating the effectiveness of IQA systems within institutions (Mwamba, 2018). The interplay between EQA and IQA is essential, as it affects how HEIs align their internal processes with national quality expectations and adapt to external feedback and recommendations. While recent research has explored the impact of EQA on internal practices in various contexts, there remains a notable gap in comprehensive studies focusing specifically on Zambian institutions (Chilufya and Shawa, 2022). This study contributes to the broader discourse on the effectiveness of QA practices and their implications for HEIs by focusing on the case of ZCAS University.

7.3 Methodology

7.3.1 Research design

The study employed a case study design combined with a mixed methods approach. This methodological choice was made to leverage both qualitative and quantitative data, ensuring findings were validated through triangulation. According to Denzin (1978), quantitative data might reveal trends, while qualitative data can explain the reasons behind these trends, enhancing the validity of the conclusions.

7.3.2 Sampling

A sample of 35 respondents, comprising over 40 per cent of the university staff, was selected using the saturation principle to ensure diverse and representative views. The sample included:

a) 2 executive managers

b) 11 managers and administrative officers

c) 10 Deans of School and faculty Heads of Department

d) 2 academic directors

e) 10 lecturers.

7.3.3 Sampling Method

Purposive sampling was employed to select participants with specific expertise or experiences relevant to the study, aligning with the research objectives. This method, as noted by Palinkas et al. (2015), helps in gathering rich, detailed data from a specifically relevant group.

7.3.4 Data Collection

A structured questionnaire was used to ensure consistent responses and facilitate quicker analysis. Structured questionnaires are advantageous for statistical analysis due to their standardised response formats (Bryman, 2016). The questionnaire contained closed questions aligned with the study's objectives. Additionally, document analysis was employed to gather qualitative data by reviewing various university documents, such as quality assurance reports, curriculum reviews, human resource reports, research reports, and other key documents. This approach aimed to understand the context and extract relevant insights related to the research questions.

The positive effect of EQA practices on ZCAS University's IQA are seen across all the assessed parameters summarised in collated findings.

Table 7.1: Impact of EQA on ZCAS University's IQA

Parameter	Perceived Level of Impact of EQA on IQA				
	Significant decline	Moderate decline	No effect	Moderate improvement	Significant improvement
Curriculum	0%	0%	0%	25.7%	74.3%
Teaching	0%	0%	0%	37.1%	62.9%
Technological infrastructure	0%	0%	2.9%	57.1%	40%
Staffing	0%	0%	0%	34.3%	65.7%
Research	0%	0%	2.9%	45.7%	51.4%
Governance and management	0%	0%	5.7%	34.3%	60.0%
Graduates	0%	0%	0%	62.9%	37.1%
QA systems	0%	0%	0%	31.4%	68.6%

Curriculum: Nearly three-quarters (74.3%) of respondents observed significant improvements in curriculum quality due to EQA, while 25.7 per cent noted moderate improvements. Enhancements in curriculum standards are also evidenced by an increase in programme accreditation rates to 98 per cent and a reduction in rejections.

Teaching: Regarding teaching quality, 62.9 per cent of respondents noted significant improvements, while 37.1 per cent saw moderate enhancements. These findings are corroborated by student satisfaction surveys, which show teaching quality scores surpassing the University's 80 per cent target.

Technological infrastructure: Improvements in technological infrastructure were perceived as significant by 40 per cent of respondents and moderate by 57.1 per cent. However, 2.9 per cent observed no effect from EQA, indicating that while advancements have been made, they may not be highly significant.

Staffing: About two-thirds (65.7%) of respondents perceived significant improvements in staffing quality due to EQA, with 34.3 per cent noting moderate improvements. Adherence to HEA standards was seen to positively impact the quality of staff.

Research: More than half (51.4%) of respondents observed significant improvements in research quality due to EQA, and 45.7 per cent noted moderate improvements, corresponding with Tier classification and research

reports which show improvements in research structure, activities, and outputs.

Governance and management: EQA seems to enhance University governance and management, with 60 per cent of respondents reporting significant changes and 34.3 per cent observing moderate improvements. Only 5.7 per cent saw no change. To ensure compliance with the HEA Amendments of 2021, adjustments were made to the statutes, University Council composition, and administrative roles.

Graduates: EQA is seen as contributing to significant enhancements in graduate quality, with 37.1 per cent of respondents reporting substantial improvements and 62.9 per cent noting moderate progress. This positive perception is reinforced by increased employer satisfaction observed in University surveys from 2021 and 2024.

Quality assurance systems: QA systems are perceived to have improved significantly by 68.6 per cent of respondents and moderately by 31.4 per cent. The QA Unit and relevant systems have been established. Although understaffed and facing huge workloads, the Unit is supported by the Quality Assurance Committee and other University structures.

Quality culture: Nearly all respondents (97.5%) recognised the role of EQA in shaping the University's evolving quality culture. The integration of EQA requirements with IQA systems and their implementation through various mechanisms formed the foundation of this quality assurance culture.

7.4.2 Qualitative findings

Objective 2: Integration of EQA practices into the University's IQA mechanisms.

Findings from qualitative analysis revealed strong alignment and deeper integration between the EQA and IQA frameworks at ZCAS University. Key elements of the EQA framework, such as programme accreditation and audits, have been effectively integrated with the University's internal policies, procedures, guidelines, and strategies.

Table 7.2: Elements of EQA Framework vs. University's IQA Elements

Key elements of EQA	Examples of elements of the University's IQA	
Institutional audit	○ Strategic plan ○ Statutes ○ Resourcing and staff development policies ○ Risk management policy ○ Student admission policy and handbook	
Programme audit	○ Academic regulations ○ Postgraduate regulations ○ Academic workload	
Tier classification audit	○ Research policy ○ Intellectual property policy ○ Consultancy policy ○ Tier 1 strategy plan ○ Annual research plan	Quality Assurance Framework
Programme accreditation	○ Needs assessment guidelines ○ External stakeholder report form ○ Guidelines for new programme	
Academic programme reviews	Academic programme review guidelines	

The University's QA framework aligns with external requirements through comprehensive documents and processes. Central to this framework is the QA Unit, which works with various units to monitor the evolving higher education landscape, identify trends, and prompt necessary actions, including reviews. Consequently, external standards are integrated into formal documents.

Further, the study highlighted alignment in the application of QA mechanisms. Following EQA principles, the University has established rigorous monitoring systems to ensure the quality of its programmes and services, with reports reviewed by governance bodies, including the University Council.

Table 7.3: IQA Activities: Frequency and Implementation (Past Year)

IQA activity	Frequency	Implementation (last 1 year)			
		Q2	Q3	Q4	Q1
Institutional audit	Quarterly				
Tier classification audit	Quarterly	✓	✓	✓	✓
Accreditation audit	Quarterly	✓	✓	✓	✓
External moderation	Quarterly	✓	✓	✓	✓
Internal moderation	Semester	✓	✓	✓	✓
Course evaluation	Semester		x	x	
Student survey	Yearly	x	✓		x
Employer survey	1-3 years				✓

The data shows consistent application of QA activities. While most activities were carried out over the past year, course evaluations and student surveys faced delays due to the ongoing development of automated systems.

Objective 3: Identifying challenges and areas for improvement in IQA

EQA requirements present challenges at development and implementation levels of IQA. Developing and implementing QA systems according to EQA standards can be demanding, often requiring significant financial, time, and human resource commitments. This study identified the flowing challenges: inadequate resourcing of the QA Unit, leading to disproportionate responsibilities; rising costs of QA; and ongoing debates about the economic justification of certain EQA standards, such as lecturer-student ratios and the ratio of full-time to part-time teaching staff. Although resistance to change had diminished due to the general acceptance of QA at the University, it still emerged in specific cases. For example, a standard requiring all teaching staff to have a pedagogy certification faced resistance from lecturers with a teaching background.

7.5 Conclusion and Recommendations

This study examined the effect of EQA practices on the IQA systems at ZCAS University. The results show that EQA has substantially enhanced several facets of the University's IQA, such as curriculum quality, teaching standards, staffing, governance, research, and quality systems. EQA is deeply embedded in the University's processes through systematically established policies and mechanisms, which have strengthened the quality culture and led to significant improvements in educational outcomes and institutional procedures. Despite these improvements, challenges remain. High work burdens, and resistance to pedagogy standards hinder the full realisation of EQA benefits. Specific difficulties include inadequate technological infrastructure and insufficient resourcing for the QA Unit.

To address these challenges, the study recommends the following actions for ZCAS University:

a) **Continuously update internal policies** to ensure they align with external standards, enhancing compliance and management efficiency for both EQA and IQA systems.
b) **Prioritise ICT infrastructure investment** by developing advanced automated systems for course evaluations, student surveys, and other QA activities, which will improve efficiency and resolve current delays.
c) **Strengthen QA Unit support** by increasing resources and staffing, which will alleviate administrative burdens and enhance the implementation of QA processes.
d) **Implement change management strategies** to manage resistance to the new pedagogy certification through targeted staff training, ongoing support, and engagement with experienced faculty to facilitate smoother transitions.
e) **Conduct regular internal reviews and support external evaluations** to identify areas for improvement and adapt to evolving educational needs and expectations.

By implementing these recommendations, ZCAS University can refine its QA practices, meet EQA standards, and strengthen its position as a leading institution in Zambia's higher education sub-sector.

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CHAPTER EIGHT

THE STATE OF HIGHER EDUCATION IN ZAMBIA 2023

8.1 Introduction

This chapter is a synopsis of the state of higher education in Zambia in 2023. Based on the preceding chapters in this report, the chapter highlights the main issues from the report that require to be addressed, focussing firstly on the pattern of growth of higher education in Zambia, and secondly on quality assurance issues in higher education.

8.2 Growth of Higher Education in Zambia in 2023

This section tabulates the number and types of higher education institutions (HEIs) and their geographical distribution in Zambia in 2023. In the State of Higher Education in Zambia 2019 report, which was the first in the series of annual reports, it was indicated that there were nine public and 54 private universities, located in seven provinces. In 2023, there were 50 private universities and nine private university colleges. Established public universities were 10, including the National Institute for Public Administration. The HEA also recognised one public university college (the Zambia University College of Technology), in line with the provisions of the Higher Education (Amendment) Act No. 23 of 2021.

During the same year, the Higher Education Authority (HEA) adopted a total number of 82 private colleges and five public colleges, bringing the total number of adopted colleges to 87. The Higher Education Act No. 4 of 2013 also mandates HEA to register and recognise institutions for the specialised training of professionals in a specified field (ISTPs). In 2023, HEA also registered three ISTPs.

While the inaugural State of Higher Education in Zambia report focussed on universities, subsequent reports have broadened the scope to encompass all other HEIs. In 2023, therefore, for this report the following HEIs were on the inventory of the HEA and categorised as public or private: universities, university colleges, technical university colleges, colleges, and institutions for specialised training of professionals in specialised fields. In total, HEA had 160 HEIs on its directory in 2023, as shown in Table 8.1.

Table 8.1: Types and Numbers of HEIs in Zambia, 2023

Public Universities	10
Public University College	1
Private Universities	50

For 2023, this refers to the Defence Services Command and Staff College, Zambia Centre for Accountancy Studies, and Zambia Institute of Banking.

Private University Colleges	9
ISTPs	3
Public Colleges	5
Private Colleges	82
Total	**160**

Despite the growth in the number and diversity of HEIs, universities, in particular, continue to be disproportionately located along the urban line of rail regions. Out of the 10 public universities, all but one (Kapasa Makasa University) are located in the three line of rail regions of Lusaka, Copperbelt and Central Provinces. Four public universities (University of Zambia, Chalimbana University, Palabana University and Levy Mwanawasa Medical University) are in Lusaka, three on the Copperbelt (Mukuba University, Copperbelt University and Zambia University College of Technology) and two are in Central Province (Nkrumah University and Mulungushi University). Similarly, despite the growth in the private sector, more than 80 per cent of the private universities and university colleges are also concentrated along the line.

The above pattern of growth has led to many learners seeking university education outside their provinces. This also potentially disadvantages rural-based learners. Therefore, in addition to the Government's plans to establish universities in each province, there is need to provide incentives for investors in higher education to set up HEIs in rural areas.

8.3 Learning Programme Accreditation

In 2019, 442 learning programmes were accredited by the HEA. By the end of 2023, 1,277 learning programmes were accredited, from 106 public and private HEIs. The accredited learning programmes are broken down as follows: 602 from 47 private universities, 581 from eight public universities, 56 from 42 private colleges, 30 from eight private university colleges and eight from a public technical university college.

8.4 Classification of Universities

In relation to the Zambia Qualifications Framework (ZQF), which is operationalised by the Zambia Qualifications Authority (ZAQA), the HEA has classified the universities in Zambia into four tiers. Table 8.2 presents the number of universities per tier and shows that there were 14 universities in Zambia that were offering training up to doctoral level in 2023. The majority of universities only had the capacity to offer training up to master's level and below.

Table 8.2: Classification of Universities, 2023

ZQF Level	Public Universities	Private Universities	Total
ZQF 10 (Doctorate Degree)	4	10	14
ZQF 9 (Master's Degree)	3	20	23
ZQF 8 (Postgraduate Diploma)	0	10	10
ZQF 7 (Bachelor's Degree)	2	12	14

More details of classification of universities are presented in the HEA 2024 Government Gazette [www.hea.org.zm/downloads].

8.5 Quality Assurance in Higher Education

As elaborated in the preceding chapters, quality assurance is understood as the process of systematic and continuous review and improvement of established standards as well as relevance of programmes, and covers such issues as programme development and evaluation, curriculum review, learner assessment, continuous professional development, evaluation of teaching and learning, and evaluation and improvement of delivery methods.

It has also been indicated in this report that there is international, continental, regional and national recognition of higher education as a major contributor to socio-economic development. Therefore, quality assurance is important and has several benefits in addressing challenges that may arise from rapid evolution of higher education, characterised, among others, by an increase in the number of HEIs, adoption of new approaches to teaching and learning, massification of student enrolments, and internationalisation. These developments have led to a worldwide commitment to the institutionalisation of quality assurance systems, through various conventions, initiatives, partnerships, networks, and institutions.

The above should be considered in the context of increasing concerns about the quality of higher education in developing countries. In the Zambian case, two legal frameworks guide and support the provision of quality higher education, namely the Higher Education Act of 2013 (read together with the Higher Education (Amendment) Act of 2021), which provides for, among others, quality assurance and quality promotion in higher education; and the 2011 Zambia Qualifications Authority Act (which has been replaced by the 2024 Act), which provides for measures aimed at ensuring that standards and registered qualifications are internationally comparable. The HEA and the ZAQA are mandated to operationalise these legislations.

As presented in the preceding chapters of this report, among the key issues to be addressed in the quest to sustain and enhance standards and relevance in higher education in Zambia, are quality assurance models and frameworks, collaboration and partnership, research and innovation, technology and assessment practices, and external and internal quality assurance systems and practices. There are various higher education quality assurance models and frameworks at the national (Zambian), regional (Southern African Development Community), continental (African), and international levels. These are outlined above in this report, including the relevant considerations and strategies, as well as their advantages and weaknesses. Based on these models, it is important that each HEI invests in developing an internal adaptable quality assurance model, appropriate to its needs and goals, but conforming to the national HEA and ZAQA parameters, such as the Zambia Standards and Guidelines for Quality Assurance in Higher Education.

An essential quality assurance mechanism involves interdependent collaboration and partnership, at both national and international levels, between academia, government and industry, which is a 'triple helix' strategic alliance. This alliance should be prioritised, as it serves to promote funding from government and industry for research by academia; also, government and industry gain from the solutions arising from research; while government provides the policy and regulatory framework, systems and support for quality assurance undertakings. Thus, the alliance is instrumental in sustaining and enhancing the relevance and innovative responsiveness of academic programmes and graduates' employability, through alignment of curricula with the standards and needs of government, industry, and the wider society. This would propel HEIs beyond being mere academic institutions towards innovation hubs, to play a larger role in addressing unemployment, economic diversification, and sustainable development.

A practical example is the Memorandum of Understanding signed in 2023 between ZCAS University and Dziwa

Science and Technology Trust, to link the Zambia Chamber of Small and Medium Business Associations with the Ministry of Technology and Science and the Ministry of Small and Medium Enterprise Development. Another example is the partnership between the Copperbelt University and mining companies, to align its engineering programmes with industry needs.

Equally important is collaboration and partnership among HEIs, to sustain and enhance quality assurance, through promotion and exchange of best practices, development of innovative teaching methods, and enhancement of research capabilities. These should be actively facilitated by HEIs, government, and the private sector.

In addition, research and innovation in quality assurance should be promoted. Such research will serve to improve programme delivery and assist administrators better understand quality assurance implementation and its context, and to conceptualise policies, structures and systems to address the emerging issues of quality assurance in HEIs. This research should encompass interdisciplinary approaches and technological developments, such as learning analytics and artificial intelligence. The research should also consider the several emerging approaches to quality assurance, as well as the various associated challenges, both of which have been elaborated above in this report.

A key aspect of quality assurance in higher education is assessment, in which technology, such as artificial intelligence, can be deployed, despite resource limitations. As indicated in this report, in the innovative approach to assessment, several factors should be considered, such as validity, reliability, fairness, security, and usability, depending on each HEI's resources and goals. Further, it has been argued that technology-based assessment need not be prohibitively expensive; institutions can leverage existing resources and explore free online tools. Going forward, however, it would be useful for indicative quantitative costs associated with technology-based assessment to be ascertained, in the Zambian context.

8.6 Quality Assurance Activities in Higher Education

In furtherance of its mandate to promote quality assurance in higher education, in 2023 the HEA conducted several ongoing activities concerning audit, accreditation, standards setting, and registration of private HEIs.
Specifically, in 2023 the HEA took oversight over colleges that were previously under the Health Professions Council of Zambia, the Nursing and Midwifery Council of Zambia, and the Teaching Council of Zambia. Most of these institutions were colleges of nursing and colleges of education. These adoptions were prompted by the amendment of the Higher Education Act No. 4 of 2013, through the Higher Education (Amendment) Act No. 23 of 2021, which grants the HEA overarching oversight of all HEIs in Zambia.

The adoption of the above institutions filled a quality assurance gap whereby learning programmes in these institutions did not undergo the required HEA quality assurance processes. Therefore, they were not accredited by the HEA; consequently, they could not be registered by the ZAQA on the ZQF and could not be recognised both nationally and internationally.

In 2023, the HEA also commenced a project, with support from the Commonwealth of Learning (COL), to promote quality in the implementation of open and distance learning (ODL) in higher education in Zambia. The objective of the partnership is to foster effective and quality education in HEIs through quality assurance capacity building in ODL. The project is also intended to improve internal quality assurance systems in higher education, and promote access through openness and improvement of the capacity of students.

An initial activity under the project was that the HEA, in collaboration with the COL, held a two-day capacity building workshop to capacitate universities and other higher education stakeholders in the development of ODL policies and on embedding open education resources in teaching and learning.

It is expected that with the concerted support and cooperation of all key stakeholders, the above and other initiatives, which are part of the continuing efforts to enhance quality assurance in higher education in Zambia, will cumulatively bring to fruition the much-needed improvements to quality in the higher education sub-sector.

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