Self-assessment of Internal Quality Assurance Mechanisms: An Empirical Investigation

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Abstract:

This study examines the internal quality assurance mechanisms (IQAMs) at Mbarara University of Science and Technology (MUST) in Uganda through a self-assessment. A descriptive design and quantitative method are employed to investigate various quality aspects from all faculties and all units of MUST. The units of inquiry were (i) the internal stakeholders of MUST i.e. current staff and students, and (ii) the MUST Alumni. Participants were sampled using stratified simple random sampling where faculties and specific programs formed the various strata. The student samples were drawn from the admission lists while the alumni email contacts were drawn from the archived information in the Academic registrar's office. Staff lists were drawn from the Human Resources office. The study utilized a structured questionnaire based on the Inter-University Council of East Africa (IUCEA) model. Based on the target population and samples, 384, 76, and 371 responses were received from students, staff and alumni respectively. The study revealed that IQAMs were implemented in various areas including teaching and learning, research and innovations, and community outreach, but gaps existed in policies for skills development and community engagement. While the university had established quality assurance policies, there were concerns regarding their awareness and implementation. Diverse opinions among students and staff emphasized the importance of considering multiple perspectives. Alumni feedback highlighted positive outcomes in employability and program satisfaction, but suggested improvements in integrating practical components and enhancing university-industry collaborations. Based on the findings, recommendations were made to MUST, including the development of specific policies, strengthening implementation strategies, enhancing student engagement, addressing staff viewpoints, fostering alumni involvement, and strengthening university-industry connections. These recommendations aim to enhance internal quality assurance mechanisms and overall education quality. The study provides valuable insights into quality assurance practices at MUST and emphasizes the need for continuous monitoring and improvement to sustain educational quality. Future work should conduct a qualitative study to gain a deeper understanding of the self-assessment study and also the underlying reasons, motivations, and experiences that could have influenced the aforementioned quantitative findings.

Keywords: *Internal Quality Assurance Mechanisms, self-assessment, continuous quality improvement, stakeholder perspectives, policy implementation strategies*

التقييم الذاتي لآليات ضمان الجودة الداخلية: تحقيق تجريبي

الملخص:

تهدف هذه الدراسة إلى فحص آليات ضمان الجودة الداخلية (IQAMs) في جامعة مبارارا للعلوم والتكنولوجيا (MUST) في أوغندا من خلال التقييم الذاتي. يتم استخدام تصميم وصفي وأسلوب كمي لاستقصاء جوانب الجودة المختلفة من جميع كليات ووحدات الجامعة. كانت وحدات الاستقصاء (i) الأطراف الداخلية لجامعة MUST أي الطلاب والموظفين الحاليين، و(ii) خريجو MUST . تم اختيار المشاركين باستخدام عينة عشوائية بسيطة متدرجة حيث شكلت الكليات والبرامج ال specific الفئات المختلفة. تم اختيار عينات الطلاب من قوائم القبول بينما تم اختيار جهات الاتصال للخريجين من المعلومات المؤرشفة في مكتب المسجل الأكاديمي، كما تم اختيار قوائم الموظفين من مكتب الموارد البشرية.

استخدمت الدراسة استبيانًا منهجيًا مبنيًا على نموذج المجلس الجامعي الشرقي الأفريقي (IUCEA). استنادًا إلى السكان المستهدفين والعينات، تم الحصول على 384 و 76 و 371 استجابة من الطلاب والموظفين والخريجين على التوالي. كشفت الدراسة أن آليات ضمان الجودة الداخلية تم تنفيذها في مجالات مختلفة بما في ذلك التعليم والتعلم والبحث والابتكار والتواصل مع المجتمع، ولكن كانت هناك ثغرات في السياسات المتعلقة بتطوير المهارات والمشاركة المجتمعية. بينما كانت للجامعة سياسات لضمان الجودة، كانت هناك مخاوف بشأن وعيهم وتنفيذها. أكدت الآراء المتنوعة بين الطلاب والموظفين أهمية النظر في وجهات النظر المتعددة. أبرزت ردود الخريجين النتائج الإيجابية فيما يتعلق بالقابلية للتوظيف ورضا البرنامج، ولكنها اقترحت تحسينات في دمج المكونات العملية وتعزيز التعاون بين الجامعة والصناعة. استنادًا إلى النتائج، تمت الاقتراحات لـ MUST، بما في ذلك تطوير سياسات محددة وتعزيز استراتيجيات التنفيذ وتعزيز مشاركة الطلاب ومعالجة وجهات نظر الموظفين وتعزيز مشاركة الخريجين وتعزيز اتصالات الجامعة مع الصناعة. تهدف هذه الاقتراحات إلى تعزيز آليات ضمان الجودة الداخلية والجودة العامة للتعليم. توفر الدراسة رؤى قيمة حول ممارسات ضمان الجودة في MUST وتؤكد على الحاجة إلى المراقبة والتحسين المستمر للحفاظ على جودة التعليم. ينبغي للعمل المستقبلي إجراء دراسة كيفية للحصول على فهم أعمق للدراسة الذاتية وأيضًا الأسباب والدوافع والتجارب التي يمكن أن تؤثر في النتائج الكمية المذكورة أعلاه.

الكلمات المفتاحية: ***آليات ضمان الجودة الداخلية، التقييم الذاتي، تحسين الجودة المستمر، وجهات نظر أصحاب المصلحة، استراتيجيات تنفيذ السياسات***

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1. Introduction

Quality Assurance (QA) encompasses the quality control policies and procedures that ensure the quality of a university. Hence, QA is a "planned and systematic review process of an institution or program to determine that acceptable standards of education, scholarship, teaching, administration, and infrastructure are being maintained and enhanced." (AfriQ'Units, 2011, p.11). In addition, according to the National Council for Higher Education [NCHE] (2014), QA is the mechanism universities put in place to guarantee that the education they offer is "fit for purpose.". The Government of Uganda through its regulatory body, the NCHE requires universities to have "appropriate and effective internal structures and mechanisms for maintaining its institution quality control procedures to ensure quality" (NCHE, 2014, p.1). For universities such as MUST to achieve quality, they must establish Internal Quality Assurance Mechanisms (IQAMs) which can support monitoring and evaluation of their quality.

The Inter-University Council of East Africa (IUCEA) advances several reasons why universities need IQAMs. *(i)* the labor market's demand for graduates with adequate knowledge, skills, and attitude for the job. *(ii)* competition among universities is occasioned by internationalization. *(iii)* the government's responsibility to protect the customers of university education. *(iv)* the necessity to heed quality in light of reduced government funding amidst increased enrolment. *(v)* the students exchange and international cooperation which require insight into quality. *(vi)* the harmonization of programs across regions, among others (Inter-University for East Africa, & German Academic Exchange Service, 2010). The NCHE requires every university to carry out an institutional audit or self-assessment at least once every five years. The purpose of which is to "develop reliable quality assurance performance indicators to assure stakeholders and the NCHE that the policies, strategies, and resources for the delivery of quality higher education are effective." (NCHE, 2014, p.12).

Despite the importance of IQAMs in achieving quality and the requirement by the NCHE to carry out continuous self-assessments; MUST had not carried out an institution-wide self-assessment since inception. The absence of an institution-wide self-assessment could hamper MUST's quality improvement thus affecting the quality of its education in the long run. The staff and student population at MUST has grown, more programs at both undergraduate and postgraduate have kicked off, teaching and learning has increased, more community engagement and the volume of research, publications, and innovations at MUST have slowly but surely risen and the internal quality management of the afore-mentioned activities has continued to receive attention. The Alumni population has also incredibly increased.

Systematic, sound, and standardized IQAMs for teaching and learning, research, publications and innovations, and community engagement are therefore critical to MUST's mandate to enhance her reputation as a Centre of academic and professional excellence in providing quality and relevant education at national and international levels with particular emphasis on science and technology and its application to community development. Furthermore, a study on evaluating MUST's IQAMs on its quality aligns with the Human Capital Development (HCD) program of the NDPIII goal; to improve the productivity of the labor market for increased competitiveness and better quality of life for all (National Planning Authority, 2020). Particularly the strategy of improving access and quality of social services, to address the challenge of low labor productivity by improving quality education at all levels.

In line with NDP III, the NCHE mandates every university to carry out an institutional audit or self-assessment at least once every five years to ensure the quality of higher education for all stakeholders (NCHE, 2014). This is statutory compliance for universities in Uganda. In addition, for a university in the 21st Century to stay competitive, and attract, research grants and staff and student mobility, it must prove its quality by carrying out institutional quality checks (AfriQ'Units, 2011). It was therefore important to carry out a self-assessment to evaluate MUST's IQAMs on her Quality.

1.1 Purpose of the study

The purpose of this study was twofold; *(i) to describe the existing internal quality assurance mechanisms of quality management used in higher education institutions and those at MUST and (ii) to assess the status of MUST's quality concerning these internal quality assurance mechanisms*.

The following were the key questions of this study addressed:

a) What were the most common IQAMs used in higher education institutions?

b) What IQAMs had MUST put in place to ensure its quality?

c) What was the quantitative status quo of MUST's quality concerning these IQAMs?

This study used the IUCEA model to carry out the self-assessment. The IUCEA model is an "analysis model for the self-assessment of the [Internal Quality Assurance] IQA system." (Inter-University for East Africa, & German Academic Exchange Service, 2010, p.3). It was developed by the IUCEA-DAAD project to enable universities to carry out self-assessments of their IQAMs. The model comprises all the elements for the assessment of an IQA system.

1.2 Related Work

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While universities transitioned from serving a privileged few to accommodating a larger student population, the need to adapt and maintain quality has become paramount. This change has resulted in a notable emphasis on matters concerning quality and the employment prospects of graduates in higher education policies in numerous nations (Altbach, Reisberg, & Rumberg, 2009).

Considering the widely acknowledged notion that higher education establishments bear the main responsibility for the excellence of their offerings (ESG, 2015), various IQAMs have been adopted by numerous global higher education institutions (HEIs). Typically aligned with the standards established by national external quality assurance (EQA) agencies or governing bodies, these mechanisms also serve as a valuable resource for internal quality oversight and administration tailored to the specific requirements of the institutions themselves (Señal et al., 2008).

In many countries and higher education institutions (HEIs), various forms of quality assurance have been in existence for a considerable period, ranging from formalized to informal practices. These practices have been implemented at different levels of authority, often at the level of individual staff and the academic units in which they operate. However, as higher education undergoes significant expansion, differentiation, and increasing social and economic significance, many long-standing traditions of internal quality assurance (IQA) within HEIs are considered insufficient to address present and future needs and demands.

Internal quality assurance encompasses a range of comprehensive mechanisms aimed at enhancing quality within higher education institutions. It fosters a culture that prioritizes quality throughout the entire institution and facilitates self-assessment with a strong emphasis on continuous improvement. As a result, private and public universities are guided towards aligning with the requirements set by external quality assurance bodies, as highlighted by Materu (2007).

El-Khawas (2013) underscores the significance of internal quality assurance as a fundamental catalyst for the sustained enhancement of quality in both public and private universities. This underscores the imperative for internal quality assurance to play a pivotal role in facilitating and nurturing continual advancements within higher education establishments.

1.2.1 Generic IQAMs

From the above discussions, it can be noted that internal quality assurance mechanisms in higher education have a fundamental goal of safeguarding and enhancing the quality of education. Here are several of the frequently employed mechanisms to achieve this objective:

(i) Quality Assurance Agencies and Accreditation: Evaluation and accreditation carried out by quality assurance agencies hold a vital significance in assessing higher education

institutions against established standards and criteria. Accreditation serves as a validation that institutions meet the necessary quality benchmarks (Altbach & Salmi, 2011). *(ii) Internal Quality Audits and Self-Assessments*: Within higher education institutions, internal quality audits encompass self-assessment procedures that assess the effectiveness of their quality management systems, academic programs, and support services (Tunku Abdul Rahman University College, 2020). *(iii) Stakeholder Feedback Mechanisms*: The utilization of stakeholder feedback, encompassing students, faculty, alumni, and employers, yields valuable insights into the strengths and areas for improvement within an institution (European University Association, 2015).

(iv) Learning Outcomes Assessment and Evaluation: The evaluation of learning outcomes aims to appraise the magnitude to which students achieve the desired learning outcomes of their programs. This evaluative process aids institutions in verifying the effectiveness of their curriculum and instructional approaches (Kuh et al., 2015). *(v) Quality Enhancement Plans (QEPs)*: QEPs are strategic endeavors formulated to enhance specific aspects within an institution, including teaching and learning, student support services, or institutional processes. These plans are dedicated to improve quality and instigating positive transformations (Southern Association of Colleges and Schools Commission on Colleges, 2021). *(vi) Benchmarking and Best Practices*: Benchmarking encompasses the process of evaluating an institution's performance by comparing it to recognized benchmarks or best practices. The objective is to identify areas that require improvement and to draw insights from successful approaches implemented in other institutions (Carroll et al., 2008). *(vii) Institutional Research and Analytics*: The utilization of institutional research and data analytics enables institutions to collect, analyze, and interpret data about student outcomes, enrollment trends, faculty workload, and other crucial indicators. This practice informs decision-making processes and enhances institutional effectiveness (Kuh et al., 2015).

1.2.2 Specific IQAMs

Universities are often recognized as institutions that have a mandate to fulfill various functions including *(a) Teaching and Learning*; which focuses on education and facilitating the learning process for students. This encompasses the development and delivery of academic programs, the facilitation of lectures, seminars, and assessments, and the assurance of a high standard of education. *(b)Research and Innovations* where universities are held accountable for participating in research endeavors to advance knowledge and make significant contributions to the development of new ideas, technologies, and innovations. The research undertaken by universities frequently encompasses diverse disciplines and involves the active participation of faculty members, researchers, and students. Lastly is *(b) Community Outreach* where universities have a social responsibility to engage with and contribute to their

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surrounding communities. Community outreach initiatives entail universities partnering with external organizations, stakeholders, and individuals to tackle societal challenges, facilitate knowledge transfer, and foster community development.

It is therefore important to understand and have in place the internal quality assurance mechanisms that support the smooth running of universities in those three core functions. Although these may vary across institutions and educational systems, below is a summary of the most commonly implemented internal quality assurance mechanisms that focus on the quality management of the core university functions; i.e. teaching & learning, research & innovations, and community outreach, respectively.

(a) Teaching and learning

(i) Curriculum design and review: Institutions ensure that their curricula are carefully crafted to align with the expected learning outcomes and competencies of graduates. Regular reviews are undertaken to ensure that the curriculum remains relevant to emerging trends and industry demands (Gosling & Moon, 2016).
(ii)Course evaluation and feedback*:* Institutions utilize mechanisms to gather feedback from students regarding their learning experiences and the effectiveness of individual courses. This feedback is valuable in identifying areas for improvement and guiding future course development (Carless & Boud, 2018).
(iii) Teaching observation and Peer Review*:* To enhance the internal quality assurance processes, faculty members undergo periodic teaching observations conducted by their colleagues or instructional specialists. These observations offer constructive feedback and support professional growth and development (Bell, Mladenovic, & Price, 2017). ***(iv) Faculty skills development programs****:* Institutions provide faculty development programs and workshops aimed at enhancing teaching skills and fostering effective pedagogical practices. These programs encompass training in areas such as instructional design, assessment methods, and the integration of technology into teaching (McKenna et al., 2017). ***(v) Learning analytics****:* Institutions make use of learning analytics tools and data to obtain valuable insights into student engagement, progress, and achievement. This data-focused strategy facilitates the recognition of students who could potentially face challenges or be in a vulnerable position and facilitates targeted interventions to improve learning outcomes (Gasevic, Dawson, & Siemens, 2015). *(vi)****Assessment and feedback practices****;* Incorporating comprehensive assessment and feedback strategies, institutions establish robust practices that encompass a range of assessment approaches, timely delivery of feedback, and clearly defined grading standards. These practices promote transparency, fairness, and active student engagement in the learning journey, fostering an optimal learning environment (Boud & Molloy, 2013).

(b) Research and innovations

(i) Research ethics committees: Institutions establish research ethics committees to safeguard and enforce ethical principles and standards in research conducted within their organization. These committees carefully examine research proposals, assess potential risks, and ensure the protection of participants' rights and welfare. Their role is crucial in maintaining the integrity and ethical conduct of research activities (World Medical Association, 2013). ***(ii) Research performance assessment:*** Institutions employ methods to assess the research performance of faculty members and research teams, aiming to evaluate the caliber and influence of their research contributions. This evaluation encompasses the examination of various research outputs, including publications, patents, and grants, to gauge the quality and impact of their work (Blackburn, 2016). ***(iii) Research collaboration and partnerships:*** Institutions facilitate the advancement of research excellence and the dissemination of knowledge through the promotion of collaborative endeavors and partnerships with other academic institutions, industry stakeholders, and community organizations. These collaborative initiatives foster interdisciplinary research, facilitate the exchange of resources, and encourage innovation in various fields (European University Association, 2019). ***(iv) Research funding and grant management:*** Institutions implement strategies for obtaining research funding and effectively managing research grants. This encompasses providing assistance in grant proposal development, overseeing budget management, and ensuring adherence to the requirements set by funding agencies (Zhang et al., 2019).

(v) Intellectual property and technology transfer: Institutions have established measures to safeguard intellectual property arising from research endeavors and facilitate the transfer and commercialization of technology. These measures encompass activities such as patent filing, negotiating licensing agreements, and assisting spin-off companies (Wachowiak et al., 2018).

(vi) Research training and development; where institutions provide research training and development programs to support researchers in enhancing their skills, methodologies, and ethical practices. These initiatives aim to foster research integrity and facilitate continuous improvement among researchers (Kumar, 2017).

(c) Community outreach

(i) Community engagement policies and strategies: Institutions formulate community outreach policies and strategies that underscore the significance of actively involving the community. These policies delineate the objectives, extent, and guiding principles of the institution's outreach endeavors. They serve as a framework for the institution's commitment to community engagement and ensure its coherence with its values and mission (Holland, 2017). ***(ii) Partnership development and management:*** Institutions forge and oversee partnerships with community organizations, government agencies, and non-profit entities. These partnerships foster

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collaboration, the exchange of resources, and the joint development of initiatives that address community needs and drive social impact (Saltmarsh et al., 2017) ***(iii) Needs assessment and program evaluation****:* Here, Institutions conduct comprehensive assessments to understand the specific needs and obstacles encountered by the communities they serve. This valuable data informs the creation and execution of community outreach initiatives, ensuring they are tailored to address the identified priorities and challenges. Furthermore, regular program evaluations assess the effectiveness and impact of these initiatives, identifying opportunities for enhancement (Stoecker, 2016). ***(iv) Volunteer and Service-learning programs****:* Institutions offer volunteer and service-learning initiatives that enable students and staff to enthusiastically take part in community service and service-learning activities. These programs effectively integrate theoretical knowledge with hands-on community involvement, promoting civic duty and enhancing students' educational journeys. By addressing the needs of the community, these initiatives facilitate personal growth and cultivate a strong sense of social accountability (Eyler et al., 2016). ***(v) Knowledge exchange and dissemination****:* Institutions encourage the exchange and dissemination of knowledge by facilitating interactions between academic staff and community members. They organize various knowledge-sharing platforms such as workshops, public lectures, and collaborative events to foster dialogue and promote mutual learning. These initiatives serve as opportunities for researchers and community stakeholders to share expertise, ideas, and insights, contributing to the enrichment of knowledge and the development of innovative solutions (Cunningham et al., 2016). And ***(vi) is impact measurement and reporting****:* where institutions implement mechanisms to assess and communicate the social and economic impact of their community outreach initiatives. They utilize impact measurement frameworks to evaluate the outcomes and benefits of their engagement efforts on individuals, communities, and society at large. By measuring and reporting the impact, institutions can demonstrate the effectiveness and value of their community outreach activities, inform decision-making, and continuously improve their engagement strategies (Community-Campus Partnerships for Health, n.d.).

1.2.3 Self-assessment empirical studies

In recent years, the field of higher education has witnessed an increased emphasis on quality assurance to ensure educational institutions' effectiveness, relevance, and continuous improvement. A pivotal aspect of quality assurance is self-assessment, a process through which institutions evaluate their internal mechanisms to uphold and enhance educational standards. Self-assessment is recognized as a cornerstone of quality assurance in various industries, including higher education. It allows institutions to critically evaluate their processes, identify strengths, and address areas of improvement. In the context of universities and colleges, self-assessment plays a vital

role in maintaining educational standards and ensuring alignment with institutional goals.

1.2.3.1 The role, challenges and benefits of self-assessment empirical studies.

The role of self-assessment has frequently been linked to quality enhancement, fostering a culture of continuous improvement. Globally, the significance of self-assessment is acknowledged. (Maringe & Carter, 2007) conducted a comparative analysis of self-assessment practices across countries and highlighted the diverse strategies employed to uphold quality and relevance in higher education. (Gibbs & Simpson, 2004) found that institutions utilizing self-assessment as a proactive tool are better equipped to respond to challenges and adapt to changes in the educational landscape. Empirical studies on self-assessment practices reveal the significance of self-assessment. A study by (Harvey & Green, 1993) examined self-assessment practices in higher education institutions and highlighted the positive correlation between self-assessment and improved learning outcomes. Similarly, (Kells, 1993) emphasized that self-assessment empowers institutions to engage in evidence-based decision-making, while (Abeya, 2014) asserted that self-assessment enables the Higher Education Institution (HEI) to assess the extent to which it has realized its strategic mission and objectives, providing a foundation for crafting an action plan to propel further development.

It should be noted that numerous factors impact the effectiveness of self-assessment processes. Among others, organizational culture, leadership commitment, and faculty engagement emerge as critical determinants. (Middlehurst, 2001) stressed that an institution-wide commitment to self-assessment is essential for achieving meaningful results. On the other hand, are the challenges surrounding self-assessment including resistance to change, lack of clear methodologies, and resource constraints. However, the benefits outweigh these challenges. Self-assessment is a pivotal component of quality assurance strategies within higher education institutions, fostering a culture of continuous improvement and accountability (Banta & Palomba, 2015). Through self-assessment, institutions systematically evaluate their operations, academic programs, and outcomes against established standards and benchmarks. This reflective process involves internal stakeholders, including faculty, students, and administrators, who possess an intimate understanding of the institution's culture, processes, and challenges (Ewell, 2002). Self-assessment not only identifies areas of excellence but also highlights those in need of enhancement, thus providing a platform for targeted efforts to improve teaching and learning, administrative processes, and support services.

In addition to promoting accountability to external stakeholders, such as government agencies and the public, self-assessment also encourages internal stakeholder

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engagement and inclusivity (Banta & Palomba, 2015). Involving a broad range of participants in the self-assessment process fosters transparency and a shared commitment to quality. Faculty, students, and administrators contribute their diverse perspectives and insights, resulting in a comprehensive and holistic approach to quality assurance. This collaborative aspect not only enhances the quality of the institution but also strengthens its sense of community and common purpose.

1.2.3.2 Conducting self-assessments

In the digital era, technology offers innovative avenues for self-assessment. Technology enabled self-assessments such as online platforms, data analytics, and e-portfolios facilitate the collection and analysis of assessment data. (Carless, 2007) explored the integration of technology in self-assessment processes and highlighted its potential to streamline and enhance data-driven decision-making. However, successful self-assessment still requires a culture of openness, transparency, and collaboration. Therefore, cultivating a culture of self-assessment is paramount. (McNiff & Whitehead, 2006) advocated for a participatory action research approach, enabling stakeholders to collectively engage in self-assessment, fostering a culture of shared responsibility for quality assurance.

While empirical investigations have provided valuable insights, the dynamic nature of higher education necessitates ongoing research. (Hinchliffe & Jolly, 2010) called for further studies focusing on innovative methodologies, cross-disciplinary collaborations, and the long-term impact of self-assessment on educational quality.

In conclusion therefore, empirical investigations into self-assessment of internal quality assurance mechanisms underscore its pivotal role in ensuring higher education institutions' quality and relevance. Through self-assessment, institutions are better positioned to continuously enhance their educational practices, respond to evolving challenges, and align with global quality standards. This study was based on this context to conduct a self-assessment of MUST's internal quality assurance mechanisms.

2. METHODS

2.1 Study design and sampling

A descriptive design and quantitative method were employed to investigate various quality components from all faculties and all units of MUST. The units of inquiry were (i) the internal stakeholders of MUST i.e. current staff and students, and (ii) the MUST Alumni. The student samples were gotten from the admission lists archived in the Academic registrar's office, yet the staff lists were drawn from the MUST Human Resources office. The alumni email contacts were as well gotten from the archived

information in the Academic registrar's office. Structured item questions adopted from the IUCEA model were followed to provide a better understanding of the quality assurance aspects of MUST. The current student population was drawn from all five cohorts i.e. the current 1st, 2nd, 3rd, 4th, and 5th-year students from all faculties of MUST. Participants were sampled using stratified simple random sampling where faculties and specific programs formed the various strata.

2.2 Quantitative sample size and selection

Krejcie and Morgan's (1970) tables were used to determine the sample size from each cohort. Mbarara University was purposively selected because, since inception, the university had not conducted a quality assurance self-audit/assessment. A standard structured close-ended questionnaire was self-administered. Current students, staff, and alumni were all contacted to respond online using various students' communication platforms such as WhatsApp groups and using their email addresses. The questionnaire was anchored on a five-point Likert scale. Table 1 shows the target population and samples generated.

Table 1: Target population and sample size.

Participants	Target Population	Sample Size
Students	4,686	354
Staff	291	165
Alumni	5,231	357

Source: Sample size calculations were based on the method proposed by Krejcie and Morgan in 1970, as outlined in their work.

2.3 Inclusion and exclusion criteria

All staff members employed by MUST were eligible to participate in the study. All students in their 1st, 2nd, 3rd, 4th, and 5th years qualified to participate in the study. All alumni of MUST were as well eligible to participate in the study. Students, staff and alumni not from MUST were not eligible to participate in the study.

2.4 Data entry and editing

After the data collection stage, data were entered into the Statistical Package for Social Sciences (SPSS) version 25 for cleaning. Researchers did thorough checking for missing data and outliers (using minimum and maximum frequency counts) to ensure that data was correctly entered.

2.5 Ethical approval

This study was an award from the MUST internal research grants call (Reference No: **DRGT/SG/FY22-23/R2/T10P41**) and was approved by the MUST Research Ethics

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Committee (REC) (Clearance No: **MUST-2022-730**). Additional authorization was pursued from the Uganda National Council for Science and Technology (UNCST) (Clearance Number: **SS1629ES**). The researchers were sure to consider informed consent, respondents' privacy, confidentiality, and anonymity. Subsequently, participants were at liberty to retract their request at any given moment. The entirety of the gathered data was securely encrypted and stored in a designated location, accessible solely to authorized individuals.

3. RESULTS

This study aimed at addressing three key questions (1) What were the most common IQAMs used in higher education institutions? (2) What IQAMs had MUST put in place to ensure her quality? And (3) What was the quantitative status quo of MUST's quality concerning these IQAMs? In the next sections, we provide the results concerning the questions above.

3.1 Questions (1) and (2) results

Table 2: Summary of the existing commonly implemented IQAMs in Higher Education Institutions and those available at MUST

Core University Function	Common IQAMs Implemented in HEIs	MUST IQAMs
Teaching and learning	– *Curriculum design and reviews*	*Available*
	– *Course evaluation and feedback*	*Available*
	– *Teaching observation and Peer Review*	*Not Available*
	– *Faculty Skills development programs*	*Not Available*
	– *Learning analytics*	*Not Available*
	– *Assessment and feedback practices*	*Available*
Research and innovations	– *Research Ethics committees*	*Available*
	– *Research performance assessment*	*Not Available*
	– *Research collaboration and partnerships*	*Available*
	– *Research funding and grant management*	*Available*
	– *Intellectual property and technology transfer*	*Available*
	– *Research training and development*	*Available*
Community Outreach	– *Community engagement policies and Strategies*	*Not Available*
	– *Partnership development and management*	*Available*
	– *Needs assessment and program evaluation*	*Available*
	– *Volunteer and Service-learning programs*	*Not Available*
	– *Knowledge exchange and dissemination*	*Available*
	– *Impact measurement and reporting*	*Not Available*

3.1.1 Analysis of the findings

Like any other higher education institution, MUST had implemented several IQAMs as indicated in Table 2. Document review and analysis of quality assurance practices at MUST revealed the following**:**

Under ***Teaching and learning***, departments/faculties carried out continuous curriculum reviews which were later submitted to the university quality assurance committee to check and final approval before being forwarded to NCHE for accreditation. There was a university quality assurance policy that stipulated all procedures to be undertaken. A student-lecturer course evaluation form was available and evaluations were done on a bi-semester basis. Academic staff members assessed through continuous assessment and exams; feedback was always provided to students appropriately. The university had semester rules and regulations which stipulated the grading as guided by NCHE. It should however be noted that skills development programs were found to be individual-based rather than faculty based and no policy was available for the same.

Under ***Research and innovations***, the university had a Directorate of Research and Graduate Training (DRGT) which was mandated to oversee research activities of the university. There also existed a MUST Grants Office aka MGO which oversaw all research grants and project management activities. The university had a Center for Innovations and Technology Transfer (CITT) which oversaw all innovations and technology transfer within and outside the university. Crucial to this was the IP Policy that was operational at CITT. The DRGT annually organized a Ph.D. symposium to support young researchers undertaking their PhDs in different disciplines openly sharing progress and attaining support from community members, renowned researchers, and senior academic staff of the university. DRGT also annually organized a research dissemination conference where researchers at MUST, in the surrounding communities, nationally and internationally gathered to disseminate their research findings.

Under ***Community outreach***, every faculty annually organized industrial training, internships, school practice, medical camps, and community placements which enabled the students to deliver services to communities. Staff members were always facilitated to also participate in such activities during their supervisory visits. It was however important to note that at the time of this study, there was no policy in place or strategy for community engagement. The university had an international relations office which was mandated to manage and support partnership development. A Memorandum of Understanding (MOU) template was readily available to quicken any new collaboration/partnership agreements. Before departments submitted their curricula for approval at the MUST QAC level, they were required (through the QA policy) to have carried out needs assessments from the community to ascertain curricula design,

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review, and development needs. Knowledge continued to be shared through workshops, ARDC, meetings, PhD symposia, and all possible avenues. We noted that the volunteer activities were operational but there was no concrete policy guiding and regulating the same.

There was also a deliberate effort (directive from the university council) to conduct an academic audit on academic staff, which would relate to a research performance assessment as well as impact measurement and reporting with regards to research and innovations and community engagement conducted within and outside the university respectively. However, by the time of this study, the results of the academic audit had not been disseminated.

3.1.2 University policies

Policies are a critical entity in the quality assurance management processes of any university. More so, establishing structures and policies for quality assurance plays a crucial role in enhancing quality assurance practices within universities (Kahsay, 2012). In addition to the literature review exercise, we performed a document review and analysis of what policies MUST had in place to support the internal quality assurance mechanisms to checks and balance. At the time of this study, MUST had 26 policies approved, available, and publicly accessible (online) categorized into *(i) Academic Affairs Policies*, *(ii) General Policies*, *(iii) Human Resource Policies*, *(iv) ICT policies*, and *(v) Research Policies*. Below is a summary of the findings.

Table 3: Summary of the existing policies approved, available, and accessible online that supported IQAMs implementation at MUST.

Policy Category	Policy Name	Policy Status
Academic Affairs Policies	– *Examination Regulations, Policies, and Guidelines*	*Approved*
	– *Fees Policy*	*Approved*
	– *Dual and Joint Ph.D. Policy*	*Approved*
	– *Quality Assurance Policy and Guidelines*	*Approved*
	– *MUST Post Graduate Handbook*	*Approved*
	– *Proposal, Thesis, and Dissertation Guidelines*	*Approved*
	– *Guidelines for Online Research Proposal and Thesis Defense*	*Approved*
	– *Occasional International Students Fees Management Policy*	*Approved*
	– *MUST Admissions Policy*	*Approved*
General Policies	– *Approved Procedure for Election of Deans And Heads of Departments*	*Approved*
	– *Overhead Policy*	*Approved*
	– *Disability and Special Needs Policy*	*Approved*
	– *Gender Policy*	*Approved*

	– *Anti-Sexual Harassment Policy*	*Approved*
	– *HIV/AIDS Policy*	*Approved*
	– *MUST Financial Conflict of Interest Policy- NIH Grants*	*Approved*
	– *The MUST Guild Constitution*	*Approved*
	– *University Student General Rules*	*Approved*
	– *Guidelines for MUST Council Scholarship Fund for Underprivileged Students*	*Approved*
ICT Policies	– *Guidelines for Online Meetings*	*Approved*
	– *ICT Policy*	*Approved*
	– *OdeL E-Learning Policy*	*Approved*
Human Resource Policies	– *Human Resource Manual*	*Approved*
Research Policies	– *MUST Research Policy*	*Approved*
	– *MUST Internal Research Grants Policy*	*Approved*
	– *MUST Intellectual Property Policy*	*Approved*

3.1.2.1 Analysis of the findings

The university had well-developed policies and procedures put in place to support its quality. We noted that the policy development processes were consultative and involved the relevant stakeholders. We however found out that several staff and students were not aware of most of the policies the university had. In addition, it was noted that there were limited or no pieces of training (in some cases) that had been carried out concerning the implementation of these policies. This, therefore, raised a concern that few had used/applied/followed them in their operations. We highly recommend the development of a policy that would guide policy development and implementation, more awareness of the existing policies, and a deliberate effort to periodically train MUST stakeholders about effective and efficient policy implementation. This could support the continuous improvement of MUST's internal quality assurance mechanisms.

3.2 Question (3) results

3.2.1 Students' feedback

Table 4: A Quantitative Survey of MUST's Quality Aspects-Students' Responses

Please indicate your level of agreement on the quality checklist of Mbarara University of Science and Technology where (5) you strongly agree with the statement, (4) agree, (3) you are neutral, (2) you disagree and (1) you strongly disagree with the statement.					
Educational activities	**1**	**2**	**3**	**4**	**5**
My program (i.e. MBChB, BBA, …) meets my expectation	32	26	64	151	111
My program has clearly formulated learning outcomes	33	30	73	153	95

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The courses in my program are updated with current trends	37	36	77	148	86
The courses I am studying are relevant to my degree program	31	30	65	146	112
My course assessments are adequate	27	42	80	152	83
The assessment results are objective	28	44	94	153	65
The course assessments are in the form of various methods (i.e. tests, course works, exams…)	39	21	58	125	141
The course assessments (i.e. tests, course works, exams…) are consistent with what I am taught	35	26	71	141	111
MUST Staff	**1**	**2**	**3**	**4**	**5**
The academic staff is competent	34	32	77	139	102
The academic staff is qualified	33	17	57	132	145
The non-teaching staff is competent	26	30	122	126	80
The non-teaching staff is qualified	26	22	160	110	66
The examination committees function adequately	31	27	105	131	90
The university has clearly formulated admission criteria	36	23	69	132	124
If there is a selection, the procedure and criteria are clear, adequate, and transparent	37	29	95	130	93
Rate your level of agreement to the adequacy of MUST Facilities and infrastructure. (5) means excellent, (4) good, (3) fair, (2) bad, (1) very bad	**1**	**2**	**3**	**4**	**5**
Teaching facilities (i.e. projectors, Audio Aids, whiteboards…) are adequate	53	69	142	89	31
Lecture spaces (i.e. size, chairs, aeration…) are adequate	43	73	134	86	48
Libraries (i.e. Availability of reading material, quietness …) are adequate	29	28	108	131	88
ICT Facilities (i.e. functionality of computers…) are adequate	51	70	138	92	33
Laboratories (i.e. availability of reagents, size…) are adequate	41	47	145	101	50
Recreation facilities (i.e. sports field…) are adequate	60	71	112	109	32
Welfare (i.e. canteens…) are adequate	87	77	135	65	20
Hostels (i.e. security, habitability…)	52	76	140	83	33
Sanitation (i.e. toilets, water…)	126	70	106	59	23
Satisfaction of Stakeholders	**1**	**2**	**3**	**4**	**5**
There is a clear structure for sending feedback to MUST management	55	85	107	103	34
I often do course evaluations at the end of each semester	51	46	103	98	86

3.2.1.1 Analysis of the students' findings

Table 4 presents the results of a quantitative survey that assessed students' feedback on various aspects of MUST. With a target population of 4,686 students and a sample of 354 students, 384 responses were received. The table displays the frequency of responses corresponding to each level of agreement on a five-point scale, where 1 represents significant disagreement and 5 represents significant agreement. Below we

provide an analysis of the findings concerning: (a) Educational activities: *(i) Program expectations*: The majority of students (151) agreed (4) that their program met their expectations, while a significant number (111) strongly agreed (5). However, a notable number of students were neutral (64) or disagreed (26) with this statement. *(ii) Learning outcomes*: Similar to program expectations, most students (153) agreed that their program had clearly formulated learning outcomes. However, a considerable number of students were neutral (73) or disagreed (33). *(iv) Updated courses*: The findings indicated that a significant proportion of students (148) agreed to the incorporation of current trends in the courses offered within their program. Nevertheless, a significant number of students were neutral (77) or disagreed (36). *(v) Relevant courses*: Most students (146) agreed that the courses they were studying were relevant to their degree program. However, a notable number of students were neutral (65) or disagreed (30) with this statement. Lastly, *(vi) Course assessments*: The results indicated a mix of responses regarding the adequacy and objectivity of course assessments. While a considerable number of students agreed (4) or strongly agreed (5), a substantial number of students were neutral or disagreed.

(b) MUST Staff: *(i) Competence and qualification of academic staff*: The majority of students agreed (4) that the academic staff were competent and qualified. However, a significant number of students were neutral or disagreed with these statements. *(ii) Competence and qualification of non-teaching staff*: Students expressed more agreement with the competence and qualification of non-teaching staff compared to academic staff, with the highest number of students indicating agreement (4) or strong agreement (5). Lastly, *(iii) Examination committees*: The results showed a mix of responses regarding the adequacy of examination committees, with a considerable number of students being neutral or having different levels of agreement.

I Facilities and Infrastructure: *(i) Adequacy of facilities*: Students provided their ratings on the adequacy of various facilities and infrastructure at the university. While the majority of students rated teaching facilities, lecture spaces, libraries, ICT facilities, and laboratories as adequate (3) or good (4), there were varying opinions among students. *(ii) Satisfaction with welfare*: Students expressed somewhat levels of dissatisfaction with welfare facilities such as canteens, hostels, and sanitation. Although some rated good or excellent, the majority were fair while a significant number rated bad or very bad.

(d) Satisfaction of Stakeholders: *Feedback structure and course evaluations*: Most students agreed or strongly agreed that there was a clear structure for sending feedback to MUST management and that they often participated in course evaluations at the end of each semester.

Generally, the results of the students' feedback survey indicated varying levels of agreement among students regarding different aspects of MUST, including educational

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activities, staff, facilities, and stakeholder satisfaction. The university should carefully consider the feedback provided by students and take appropriate actions to address any areas of concern and further enhance the positive aspects.

3.2.2 Staff feedback

Table 5: A Quantitative Survey of MUST's Quality Aspects-Staff Responses

Please indicate your level of agreement on the quality checklist of Mbarara University of Science and Technology where (5) you strongly agree with the statement, (4) agree, (3) you are neutral, (2) you disagree and (1) you strongly disagree with the statement.					
Requirements of stakeholders	**1**	**2**	**3**	**4**	**5**
The university has a clear idea about the relevant demands and needs of the government.	4	5	21	29	17
The university has a clear idea of the relevant demands and needs of the labor market	5	13	14	32	12
The university has a clear idea about the relevant demands and needs of the students/parents	3	21	18	29	5
The university has a clear idea of the relevant demands and needs of the academic world	5	16	16	28	11
The mission statement	**1**	**2**	**3**	**4**	**5**
The university has a clearly formulated mission statement	5	1	5	23	42
The mission statement is publicly known	2	9	22	23	20
The mission statement is in line with the academic and social context	2	5	8	34	27
The university has a clear vision of its role in society.	3	6	10	25	32
The Policy Plan	**1**	**2**	**3**	**4**	**5**
The university has a clear policy and strategic plan formulated in line with the mission statement.	4	6	21	27	18
The policy has adequately been translated into a strategic plan	6	14	22	25	9
The policy plan regulates clearly the programs on offer, the research, and the community outreach	5	7	27	25	12
Governance	**1**	**2**	**3**	**4**	**5**
The governance structure of the university is clear and adequate	4	20	8	30	14
The university has a clear management structure in which the decision-making processes, competencies, and responsibilities have been clearly defined.	3	17	15	30	11
Human Resource	**1**	**2**	**3**	**4**	**5**
The university takes care of high-quality faculty staff and support staff by clearly defining their responsibility, and by evaluating their performance on a regular basis by means of an adequate staff appraisal system	8	20	12	27	9

The university develops the body of knowledge possessed by its academics and support staff to keep pace with changes in each academic discipline.	8	22	24	17	5
The university provides a system of staff development	7	21	19	23	6
The university establishes an activity plan and evaluates activities to encourage students, academics, and other staff to be conscientious in their thoughts and, speech.	7	24	28	12	5
The university enhances the professional ethics of its students, academics, and other personnel	3	22	13	30	8
Funding	**1**	**2**	**3**	**4**	**5**
The university has adequate funding to achieve its goals and aims.	26	28	14	5	3
The university has an adequate financial management system	6	19	26	18	7
Education Activities	**1**	**2**	**3**	**4**	**5**
The programs at offer meet the expectations of the stakeholders	1	11	17	35	12
The programs have clearly formulated learning outcomes	1	9	15	34	17
The programs are coherent and up to date	3	9	22	30	12
The student assessment is adequate and efficient	3	14	18	29	12
The student assessment is objective and trustworthy	3	12	19	28	14
Student assessment is consistent in time and between the programs	4	6	20	34	12
Student assessment is done according to a variety of methods	2	9	18	32	15
The examination committees function adequately	6	14	17	25	14
The staff is competent and qualified	2	7	10	32	25
Recruitment and promotion of staff is based on a merit system, including teaching, research, and community outreach	18	13	19	15	11
The university has a well-functioning appraisal system	7	13	26	22	8
The university has clearly formulated admission criteria	0	7	9	32	28
If there is a selection, the procedure and criteria are clear, adequate, and transparent	2	8	28	24	14
Facilities and infrastructure are sufficient and adequate	34	27	8	4	3
Facilities and infrastructure are up-to-date	37	21	9	7	2
The computer facilities are adequate	32	22	13	7	2
Research	**1**	**2**	**3**	**4**	**5**
The university has a clear research policy, setting the direction of research and deciding about research profile and research activities	6	11	23	29	7
The university has a clear policy, for the protection of creative efforts and especially for the protection of economic investment in creative efforts (Intellectual Property Right Policy).	6	11	34	19	6
The university has a clear code of conduct for research, including a code of ethics.	4	11	19	32	10
The contribution to society and the community	**1**	**2**	**3**	**4**	**5**
The university has clear guidelines on consultancy and community outreach	5	13	28	22	8
Benchmarking	**1**	**2**	**3**	**4**	**5**

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The university uses the instrument of benchmarking for analyzing the quality of its core activities and its management.	5	15	28	23	5
Quality Assurance	**1**	**2**	**3**	**4**	**5**
The university has a clear policy and procedures for QA	3	11	21	30	11
The university has an adequate monitoring system	7	21	30	15	3
There is a periodic review of the core activities (education, research, and community services)	7	14	30	17	8
The university has a clear quality assurance system for the student assessment	6	14	22	30	4
The university has a clear quality assurance of the quality of the staff	7	17	27	18	7
Idem and adequate quality assurance of the facilities	15	23	24	11	3
The university carries out self-assessments on a regular basis	15	31	17	11	2
The university has a well-functioning management Information systems	7	20	25	19	5
The university has a quality assurance handbook	12	15	35	9	5
Achievements	**1**	**2**	**3**	**4**	**5**
The university has the means and opportunities to check whether the achievements are in line with the expected outcomes.	5	19	33	16	3
Satisfaction of Stakeholders	**1**	**2**	**3**	**4**	**5**
The university has a structured method for obtaining feedback from stakeholders	10	30	27	8	1

3.2.2.1 Analysis of the staff findings

Table 5 presents the results of a quantitative survey that assessed staff feedback on various quality aspects of MUST. With a target population of 291 staff and a sample of 165 staff, 76 responses were received. The low response rate could be attributed to the busy schedules of the staff members during the time of the study. The tabulated data presents the frequency of responses for each level of agreement using a five-point scale, encompassing values from 1 (expressing strong disagreement) to 5 (indicating strong agreement). Below we provide an analysis of the findings concerning:

4. **Requirements of stakeholders**: *Relevant demands and needs*: The staff responses indicated varying levels of agreement and disagreement among staff members concerning the university's understanding of the demands and needs of various stakeholders, including the government, labor market, students/parents, and the academic world. **(b) Mission statement**: *Clarity and alignment*: The university's mission statement was found to be agreeable among staff members, indicating a consensus regarding its clear and well-defined formulation. However, the level of agreement regarding the public knowledge and alignment of the mission statement with the academic and social

context varied among staff members. **(c) Policy plan**: *Formulation and Regulation*: The results showed that staff members generally agreed that the university possessed a well-defined policy and strategic framework that aligned seamlessly with its mission statement. However, the level of agreement regarding the translation of the policy into a strategic plan and its regulation of programs, research, and community outreach differed among staff members. **(d) Governance**: *Clarity of governance structure*: Staff members expressed a mix of agreement and disagreement regarding the clarity and adequacy of the university's governance structure and management structure. **I Human Resources**: *Care and development of staff*: The consensus among staff members was that the university demonstrated a commitment to nurturing highly competent faculty and support staff, along with the provision of a structured framework for staff development. However, there were varying levels of agreement regarding other aspects such as knowledge development, activity planning, and the enhancement of professional ethics. **(f) Funding**: *Adequacy of funding and financial management*: The results indicated mixed opinions about the university's funding adequacy and financial management system. **(g) Education Activities**: *Stakeholders' expectations and program quality*: Staff members had varying levels of agreement regarding the programs' alignment with stakeholder expectations, clarity of learning outcomes, coherence and relevance, adequacy of student assessment, and consistency of assessment between programs. **(h) Research**: *Research policy and code of conduct*: Staff members displayed diverse levels of agreement when it came to the transparency of the research policy, safeguarding of intellectual property rights, and adherence to a code of conduct for research. **(i) Contribution to society and community**: *Guidelines for consultancy and community outreach*: The findings revealed a diversity of perspectives concerning the university's explicit guidelines on consultancy and engagement with the community. **(j) Benchmarking and quality assurance**: *Use of benchmarking and quality assurance*: In general, staff members concurred that the university employed benchmarking as a means to assess the quality of its fundamental operations and administration. However, there were varying levels of agreement regarding other aspects such as quality assurance policy, monitoring systems, self-assessments, and the presence of a quality assurance handbook. **(k) Quality assurance**: Staff members expressed different levels of agreement regarding the university's policy and procedures for quality assurance, monitoring system, periodic review of core activities, quality assurance of student assessment and staff, quality assurance of facilities, self-assessments, management information systems, and the existence of a quality assurance handbook. **(l) Achievements and satisfaction of stakeholders**: *Evaluation of achievements and feedback from stakeholders*: Staff members provided diverse

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levels of agreement concerning the methods and avenues available to verify the alignment of the university's accomplishments with anticipated outcomes and the presence of a structured approach to gather input from stakeholders.

In general, the outcomes of the staff feedback survey revealed varying levels of agreement among staff members regarding different facets of the university, encompassing stakeholder expectations, mission statement, policy planning, governance, personnel management, financial support, educational initiatives, research endeavors, societal and community contributions, benchmarking, quality assurance, accomplishments, and stakeholder satisfaction. These results highlighted the importance of considering and addressing the diverse perspectives and opinions of staff members to improve the university's overall quality and effectiveness.

3.2.3 Alumni feedback

The online alumni survey was administered by email to a total of 5,231 alumni with a sample of 357 alumni, using Google Forms. From this, 371 responses were received representing a 7% response rate. Below is a summary of the responses.

Table 6: A Quantitative Survey of MUST's Quality Aspects-Alumni Responses

Please indicate your level of agreement on the quality checklist of Mbarara University of Science and Technology where (5) you strongly agree with the statement, (4) is agree, (3) you are neutral, (2) you disagree and (1) you strongly disagree with the statement.					
Training at MUST	**1**	**2**	**3**	**4**	**5**
Finding a job after graduation was easy	16	70	36	134	115
I had to relearn everything I know from my employers	51	133	71	95	21
The university provided me a strong network that led me to my current job	43	81	78	99	70
My university training was sufficient to lead me to my dream job	9	36	35	165	126
My university training equipped me with interpersonal skills (team work, problem solving, networking, self-discipline etc.) that I apply at my workplace	4	12	16	136	203
Employability	**1**	**2**	**3**	**4**	**5**
Rate the statements below on employability for the MUST Alumni [My university training made me a competent worker]	3	5	15	139	209
Rate the statements below on employability for the MUST Alumni [My university training enhanced my critical thinking abilities]	3	7	25	150	186
Rate the statements below on employability for the MUST Alumni [Overall, MUST is a good training institution]	1	5	8	100	257
Lecturers' performance in delivering the curricula (In Percentage %)	**1**	**2**	**3**	**4**	**5**
The lecturers were respectful	1	2	8	42	47
The lecturers had good knowledge of the course content	1	1	6	42	50
The lecturers always appeared prepared for lectures	1	2	10	43	44

The lecturers encouraged all students to participate	1	2	11	40	46
The lecturers were segregative	25	33	16	16	10
The lecturers were available	1	3	13	45	38
The lecturers were approachable/mentors	1	3	11	45	40
The lecturers were flexible	1	5	14	44	36
The lecturers always dressed professionally	0	2	8	41	49
Quality of MUST Internship programme (In Percentage %)	**1**	**2**	**3**	**4**	**5**
My internship equipped me for my current work	3	6	8	33	50
My university and agency supervisors guided me well	2	6	8	39	45
The time spent at the placement was enough	4	16	11	36	33
There were lots of practical/hands-on activities at the placement	3	6	7	36	48
Conduct of research projects (In Percentage %)	**1**	**2**	**3**	**4**	**5**
The research project was relevant in my field	1	2	6	38	53
I did the research project myself	1	4	4	27	64
The research supervisor guided me diligently	2	6	8	35	49
I did my research with the assistance of someone in addition to my research supervisor	13	25	13	31	18
The duration of conducting research was short	9	23	20	28	20
The research process was painful	10	19	23	29	19
Visibility of MUST (In Percentage %)	**1**	**2**	**3**	**4**	**5**
My employers are aware of MUST	1	2	4	26	67
MUST has an active social media presence	3	11	23	36	27
There are routine media publications on MUST' affairs	4	9	30	35	22
There is evidenced public interest in MUST	1	3	13	43	40
MUST programmes are publicized sufficiently to the public	6	11	26	33	24
Overall	**1**	**2**	**3**	**4**	**5**
Overall, how would you rate your satisfaction with your programme of study at MUST? [Course modules have been applicable to the work field]	5	8	17	165	176
Overall, how would you rate your satisfaction with your programme of study at MUST? [Course modules were relevant to the program]	3	8	16	162	182
Overall, how would you rate your satisfaction with your programme of study at MUST? [The overall coverage of the course was adequate]	4	29	30	171	137
Overall, how would you rate your satisfaction with your programme of study at MUST? [The course outline was completed]	30	69	93	107	72
Overall, how would you rate your satisfaction with your programme of study at MUST? [The course/program is relevant to my current employment]	7	213	20	12	119

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Rate the following statements [I was happy with the delivery of the course content]	3	133	11	20	204
Rate the following statements [The methods of teaching stimulated my critical thinking]	4	138	28	18	183

3.2.3.1 Analysis of the alumni findings

A summary of the findings in Table 6 is explained here: Concerning ***(i) Employability***: The survey found out that the majority of MUST graduates were employed, with only 1 in 10 respondents being unemployed. The faculties of Medicine and Science had the highest employment rates, likely due to the high demand for STEM skills in both the public and private sectors. ***(ii) Timing of employment***: Most respondents were able to secure employment either before or within the first year after graduation. This indicated that the training provided by MUST adequately prepared graduates for their desired jobs, signifying the relevance of the skills acquired. ***(iii) University-industry linkages***: The study found that the university itself was not a major source of employment for the respondents. To address this, it is recommended to establish stronger connections between the university and industries to facilitate the placement of highly skilled graduates in available jobs. This could also foster a stronger alumni network. ***(iv) Satisfaction with programs***: Overall, respondents expressed satisfaction with their programs of study, stating that the content was completed and relevant. Satisfaction levels were highest among respondents from the Faculty of Medicine and lowest in the Faculty of Interdisciplinary Studies. Additionally, higher levels of satisfaction were observed among employed respondents. ***(v) Training methodologies and competencies***: Most respondents agreed that practical components were incorporated into their courses, although a significant percentage from the faculties of Development Studies and Computing and Informatics claimed that practicals were not included. This raised concerns about the absence of practical experience in programs where it was expected. ***(vi) Lecturers' performance***: The respondents generally viewed the lecturers at MUST positively, perceiving them as professional, supportive, knowledgeable, and respectful. However, a notable percentage of respondents, particularly from the Faculty of Computing and Informatics, mentioned segregation issues that would require further investigation. ***(v) Quality of internship***: Respondents were generally satisfied with the length and timing of internships, which were seen as adequately preparing students for employment. However, some respondents expressed a preference for longer internship periods. ***(vi) Conduct of research***: While respondents conducted research relevant to their fields, there was a need for more time to be allocated to research projects. A significant number of respondents relied on assistance from others alongside their supervisor, indicating a need for supervisors to provide sufficient support to students and avoid outsourcing research projects. ***(vii) Visibility of the***

university: The survey indicated that MUST had a relatively visible presence, with employers being aware of the university and information about it being published in the mainstream and social media. However, a significant number of respondents were unsure about the university's visibility. To improve this, establishing infrastructure for direct communication and information sharing, such as a mailing system and a strong alumni network, is recommended.

4. Discussion

This study aims to address three key questions regarding the quality assurance practices at MUST. The results of the study are summarized below:

1. **IQAMs at MUST**: The analysis of the findings revealed that MUST had implemented several Internal Quality Assurance Mechanisms (IQAMs) across different aspects. Under teaching and learning, there were continuous curriculum reviews, student-lecturer course evaluations, and assessment processes in place. In terms of research and innovations, there was a dedicated directorate and center overseeing research activities, grants management, and technology transfer. Community outreach activities and international partnerships were also part of the university's initiatives. However, it was noted that certain aspects, such as skills development programs and community engagement, lacked specific policies.
2. **University policies**: The study found out that MUST had well-developed policies and procedures to support its quality assurance mechanisms. However, there were concerns regarding the awareness and implementation of these policies among staff and students. Limited training and awareness programs were observed, suggesting a need for more effective policy implementation strategies and periodic training for stakeholders.
3. **Students' feedback**: The survey results indicated varying levels of agreement among students regarding different aspects of MUST. While a majority of students agreed that their program met expectations and had clear learning outcomes, some students expressed neutrality or disagreement. Similar patterns were observed concerning updated and relevant courses, as well as the adequacy and objectivity of course assessments. In terms of staff, students had mixed opinions regarding the competence and qualification of academic and non-teaching staff, as well as the adequacy of examination committees. Satisfaction with facilities and infrastructure, particularly welfare facilities, also varied among students. However, most students agreed that there was a clear structure for sending feedback and participation in course evaluations.

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4. **Staff feedback**: The staff feedback survey revealed diverse perspectives and opinions among staff members. There were differing levels of agreement regarding stakeholder requirements, the clarity and alignment of the mission statement, policy formulation and regulation, human resources management, governance structure, research policies, funding, education activities, university societal and community impact, benchmarking, quality assurance, overall achievements, and the satisfaction of stakeholders. These results emphasize the importance of considering and addressing the diverse perspectives of staff members to improve the university's overall quality.
5. **Alumni feedback**: The response rate for the alumni survey was relatively low, indicating a need for a more engaged alumni community. However, the findings revealed positive outcomes in terms of employability, with the majority of graduates being employed, especially in the faculties of Medicine and Science. Most respondents secured employment within the first year after graduation, signifying the relevance of the skills acquired at MUST. The study also highlighted the importance of establishing stronger university-industry linkages to facilitate the placement of graduates in available jobs. Overall, alumni expressed satisfaction with their programs, but there were concerns regarding practical components in certain faculties, lecturer performance, internship durations, research project allocation, and the university's visibility.

5. Conclusions

This study's results offer a valuable understanding of the quality assurance practices and perceptions at MUST. The analysis of the findings related to the first two study questions revealed that MUST had implemented various Internal Quality Assurance Mechanisms (IQAMs) in teaching and learning, research and innovations, and community outreach. The university had policies in place to support quality assurance, although there was a need for greater awareness and training on policy implementation. The findings also highlighted the importance of developing comprehensive policies that guide and regulate activities such as skills development programs and community engagement. Addressing these areas of improvement could contribute to the continuous enhancement of MUST's internal quality assurance mechanisms.

Regarding study question three, the results of the students' and staff's feedback surveys demonstrated diverse perspectives and opinions on different aspects of the university. While students expressed varying levels of agreement on educational activities, staff members showed different levels of agreement on stakeholder requirements, governance, funding, education activities, research, and quality assurance, among others. These findings emphasize the significance of considering and addressing the feedback and viewpoints of students and staff to improve the

overall quality and effectiveness of the university. Furthermore, the alumni survey revealed positive outcomes in terms of employability, satisfaction with programs, and the perceived performance of lecturers. However, there were areas for improvement, such as strengthening university-industry linkages, ensuring the incorporation of practical components in all programs, and allocating sufficient time and support for research projects.

In addition to that, the study provides valuable insights and recommendations for MUST to further enhance its quality assurance practices. By addressing the identified areas for improvement, such as policy implementation, stakeholder engagement, practical components in programs, and research support, MUST could strive towards continuous improvement and guarantee a quality education experience for its students, while strengthening its impact on society and its alumni network.

5.1 Future work and recommendations

The following are the critical future works and recommendations that attracted attention from this study:

1. **Develop specific policies**: The study highlighted the need for specific policies in certain areas, such as skills development programs and community engagement. It is recommended that MUST develop comprehensive policies and guidelines to govern these areas, ensuring that they are aligned with the overall quality assurance framework of the university.
2. **Strengthen policy implementation strategies**: The study indicated that there were concerns regarding the awareness and implementation of university policies among staff and students. MUST should focus on strengthening policy implementation strategies by providing regular training and awareness programs for all stakeholders. This would ensure that policies are effectively communicated, understood, and followed throughout the university community.
3. **Enhance student engagement**: The varying levels of agreement among students regarding different aspects of MUST indicated the need for enhanced student engagement. The university should establish mechanisms to actively seek student feedback and involve them in decision-making processes. This could be achieved through regular student forums, surveys, and focus groups to understand their needs, concerns, and expectations, leading to a more student-centric educational environment.
4. **Address staff perspectives**: The diverse perspectives and opinions among staff members underscored the importance of addressing their feedback and viewpoints. MUST should create platforms for open dialogue and collaboration, allowing staff members to contribute their ideas and suggestions for

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improvement. This could be facilitated through regular staff meetings, workshops, and committees dedicated to quality assurance and institutional development.

5. **Foster alumni engagement**: The low response rate for the alumni survey highlighted the need for a more engaged alumni community. MUST should establish stronger connections with its alumni by organizing alumni events, networking opportunities, and mentorship programs. This would not only create a sense of belonging but also provide valuable insights and support for the university's quality enhancement efforts.
6. **Strengthen university-industry linkages**: The study emphasized the importance of establishing stronger university-industry linkages to facilitate the placement of graduates in available jobs. MUST should actively collaborate with industry partners, participate in internships and apprenticeship programs, and offer practical learning experiences to students. This collaboration would ensure that the skills acquired by students align with industry requirements, enhancing their employability.
7. **Incorporate practical components**: The concerns raised by alumni regarding practical components in certain faculties suggested a need to review and enhance practical training opportunities across all programs. MUST should ensure that practical components are integrated into the curriculum, providing students with hands-on experience and skills relevant to their respective fields. This could be achieved through partnerships with industry, research projects, and internship programs during curricula reviews, design and development.
8. **Allocate sufficient time and support for research projects**: The study highlighted concerns regarding research project allocation and support. MUST should allocate sufficient time and resources for research projects, providing mentorship and guidance to students and staff involved in research activities. This could foster a research culture and contribute to the university's knowledge generation and innovation.
9. **Continuous quality improvement**: The findings emphasized the importance of continuous improvement in quality assurance practices. MUST should establish a mechanism for monitoring and evaluating the effectiveness of its IQAMs, policies, and initiatives. Regular assessments and feedback loops would enable the university to identify areas for improvement, make informed decisions, and implement necessary changes to enhance the overall quality of education and services provided.
10. **Enhance stakeholder satisfaction**: The study revealed diverse opinions among staff members regarding stakeholder satisfaction. MUST should prioritize

stakeholder satisfaction by actively seeking feedback, addressing concerns, and implementing measures to improve the overall experience of students, staff, alumni, and other stakeholders. This could be achieved through regular surveys, focus groups, and effective communication channels.

11. **Undertake a Qualitative Study**: This was mainly a descriptive and quantitative study. It is important to conduct a qualitative study to gain a deeper understanding of the self-assessment study and also the underlying reasons, motivations, and experiences that could have influenced the aforementioned quantitative findings. This could be achieved through interviews, observations, and analysis of individual perspectives related to the study.

By implementing these critical future work and recommendations, Mbarara University of Science and Technology could further enhance its quality assurance practices, improve stakeholder engagement, and guarantee a quality education experience for its students. These efforts would contribute to the university's reputation.

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