The role of quality assurance in improving the quality of education

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Abstract

Preparing the internal quality assurance system framework is expected to guide and improve educational institutions' quality. Since quality is essential to a university's performance, internal quality assurance must be implemented to maintain and raise the standard of instruction. However, the quality assurance system faces various complex obstacles in its implementation. This study aims to analyze the implementation of the internal quality assurance system in graduate schools. A case study-based qualitative approach was used in this study data collection techniques with interviews, observations, and documentation. The research finds that graduate school programs' internal quality assurance system meets the "good" category demonstrated by the commitment of the institution to increase audit personnel and develop a document system as a means of integration. This study concludes that the institution's internal quality audit so far is an effort to maintain the quality of education that has been going well. In light of the study's conclusion that comprehensive papers assist the Internal Quality Assurance System, it is advised that institutions produce authentic paperwork in the future to support internal quality audits. This research contributes practically to educational institutions to improve the quality of education.

Keywords: Internal Quality Assurance System; quality assurance; quality control; quality of education

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1. Introduction

Higher education in Indonesia is currently plagued by major quality and relevance issues, which means that the business sector is overlooking the influence of higher education graduates. Indonesia's low quality of higher education (HE) is partly attributed to institutional governance failure (Rosser, 2022). It can be connected to the quality of education services provided by higher education providers to users or customers. The competitive nature of globalized graduate users is a significant challenge. Phenomena like this should be used as the foundation for enhancing the quality of complete education services; without this foundation, higher education in Indonesia will struggle to compete with international education. Another issue is insufficient public funding, which limits the capacity to provide proper facilities, research, and teaching among other areas of education (Logli, 2016).

Following the prevailing policy that, the implementation of quality assurance includes an internal quality assurance system (IQAS) which must comply with the Higher Education Law, namely: 1) Autonomous, IQAS is developed and implemented autonomously by each university, including at the level of study program units, 2) Standardized, IQAS uses the National Higher Education Standards set by the Minister and Higher Education Standards set by universities, 3) Accuracy uses accurate data and information on HE Directorate of Higher Education., 4) Planning and Sustainable. Quality is defined as something that satisfies and exceeds the demands and needs of the consumer. Quality improvement is becoming increasingly crucial for institutions seeking improved control (Sallis, 2010).

The population of higher education in Indonesia is anticipated to be approximately 255 million presently, necessitating special attention. Data from FORLAP-DIKTI (PD-DIKTI) shows that there are 4,514 universities. There are 3121 universities, 1108 academies, 262 polytechnics, 12 community academies, and 11 PTN-BH around the country. There are a total of 200,175 lecturers. Only around 10% of these have a Ph.D. degree. There are approximately 7 million pupils in all. 240,000 of these people choose the Vocational/Polytechnic route. The findings show a gap in higher education quality: the majority of institutions and study programs are rated 'C' (BAN-PT), and only a few study programs are internationally recognized (ABET, AACSB, AUN-QA, etc.). The presence of a high number of institutions in Indonesia is not always associated with an improvement in the quality of Indonesian human resources since the majority of these universities are of poor quality. Table 1 is BAN-PT accreditation data.

Table 1
Accreditation Data for Study Programs and PT

No.	Accreditation	Accreditation Higher Education	Study Program
1	A	81	3501
2	B	751	11401
3	C	1191	5401

Universities are currently encouraged to improve institution quality through internal quality assurance (IQAS). As a guide to quality assurance in higher education, IQAS can be applied with the following requirements: dedication, fundamental changes, and the attitude of managers and management of quality assurance in higher education. Cardoso et al., (2019), stated that practitioners have a quality audit involved in IQAS a significant role in academic performance.

Meanwhile, changes in competitiveness and innovation force higher education management to improve quality and responsibility to support higher education performance by relying on a quality assurance framework. Prisacariu & Shah, (2016) stated that the institution's success is determined by implementing quality assurance and accreditation. Therefore, quality assurance and accreditation have

quality and an essential role for universities. Even quality assurance and quality accreditation are absolute to the success of most higher education institutions worldwide (Hanh, 2020).

1.1 Theoretical and conceptual framework

Assurance of the quality of education in higher education units is a process of consistently and sustainably determining, implementing, evaluating, controlling, and improving quality standards of higher education management so that stakeholders are satisfied (Aldhobaib, 2024). The quality assurance process can be thought of as a responsibility mechanism utilized by both the institution and the quality assurance team to ensure that education delivery and Capacity Building in Higher Education (CBHE) match at least a few quality requirements (Carvalho et al., 2022; Zhang et al., 2022).

Quality assurance in the service delivery process is typically an essential aspect of the overall management process of the organization (Campanella et al., 2013; Martínez Larrechea & Chiancone 2022). Performance-based quality assurance will motivate faculty to use novel teaching, and learning approaches, which can be viewed as faculty autonomy to improve educational quality and are validated and rewarded through internal quality reviews (Riad Shams & Belyaeva, 2019).

An effective quality assurance system in educational institutions will benefit students both directly and indirectly (Khatri et al., 2024). The quality assurance system, which is often executed through a rigorous auditing procedure, has both direct and indirect consequences. Transparency, effective learning, status enhancement, and social integration of institutions are examples of direct benefits, whereas indirect impacts, such as motivation and excellent connections among organizations, are examples of indirect consequences. Furthermore, according to Haapakorpi (2011), organizational structure and management, culture, and individual discipline all have an impact on quality assurance results . All high-quality educational institutions strive for effective quality assurance. Internal quality assurance functions to support educational objectives, such as the applicability of academic degree classification and the accuracy of academic quality information. External quality assurance, on the other hand, is intended to guarantee that the institution has established an effective internal quality assurance procedure, external quality assurance also helps to guide public and scholarly perceptions of an educational institution's quality (Dill, 2010).

In education, policymakers are responsible as funders for investing and guaranteeing that their investments are made correctly. Therefore, a quality assurance institution needs to be created by the government. It is also a type of government obligation to the community to improve the quality of a nation's human resource development. The Higher Education Quality Assurance System is a comprehensive effort to improve higher education quality in a planned and sustained manner.

The internal quality assurance system is a quality assurance process that educational institutions carry out independently. Internal quality assurance assists educational institutions in preparing for the external quality assurance procedure. Therefore, internal quality assurance must be able to develop programs that are in line with obtaining high quality. The results of a recent study show a strong trend due to the implementation of a quality assurance system in higher education in Europe towards strengthening the quality of education. "Quality audit" or "institutional audit" is the most widely used system and policy as a quality assurance instrument. This study also discovers that reflection on quality improvement within the institution (internal) is more critical than encouraging external institutions

Furthermore, European higher education institutions develop standards and guidelines for internal quality assurance initiatives. If an educational institution has met or exceeded certain requirements and principles, it is deemed to be of high quality. These norms and rules are essential components that must be met by any European higher education institution. Student assistance and learning resources as a part of an institution's commitment to the development and upgrading of graduate competencies and the

availability of learning resources must be ensured. Each program must be developed for the availability of learning resources initially.

Corengia et al., (2014)found an internal quality assurance mechanism, namely: 1) establishing a quality assurance committee, such as the Quality Assurance Institute; 2) inviting quality assurance consultants; 3) assessing feedback; 4) developing software for archiving quality assurance documents; 5) establishing a filing system for quality assurance documentation; 6) prepare templates for program specifications, course specifications, and final exams.

The Ministry of Research, Technology, and Higher Education's Directorate of Quality Assurance has produced recommendations for internal quality assurance in higher education institutions. The following are some of the concepts that must be observed in internal quality assurance efforts: First and foremost, autonomous. Each university develops and implements a quality assurance system (IQAS) autonomously or independently, both at the Study Program Management Unit level and at the tertiary level. The second one is standardization. quality assurance system (IQAS) employs the Higher Education Standards, which include the Minister's SN Dikti and the Higher Education Standards established by each university. quality assurance system (IQAS) is implemented using 5 (five) quality assurance steps, namely PPEPP Standards of Higher Education which form a cycle. The last one or the fifth is documented. Every step of PPEPP in the S quality assurance system (IQAS) must be written in a document and systematically documented.

Tavares et al., (2017) The implementation of IQAS in the education sector requires methods, stakeholder participation, articulation with information systems, transparency, and sustainability to support internal quality assurance systems. In the case of universities facing obstacles such as; The level of awareness of actors in the educational process related to the importance of quality assurance as a stakeholder need is still not optimal. Paran and commitment from the university's internal stakeholders are significant to improve guarantee and improve quality. Efforts to empower human resources such as lecturers are urgently needed to support quality assurance, especially in using technology to cover deficiencies that are not yet optimal. Meanwhile, Tavares et al., (2017) (Tavares et al., 2017) consistently assert that the use of information systems driven by internal quality assurance has a beneficial effect on improving teaching and learning in the perception of academics. In this context, the role of information technology will facilitate the process of achieving institutional goals to improve the quality of higher education quality assurance (Lin et al., 2024).

The implementation of internal quality assurance system (IQAS) in higher education often encounters problems, including (1) low awareness of education process actors on the importance of quality assurance as a stakeholder need; (2) unequal understanding of the concept of education quality assurance system by internal stakeholders to improve the quality of education; (3) the lack of commitment of the actors of the higher education process in tertiary institutions, both those who lead and those who are led, to always guarantee and improve the quality of education; (4) the unfulfilled availability of human resources, especially auditors to support IQAS; and (5) IQAS implementation often becomes a routine which causes difficulties in measuring the achievement of continuous improvement.

1.2 Related research

The study of quality assurance is an issue that many researchers do. As Carvalho et al., (2023) found, research on quality assurance in higher education is expected to stimulate a better quality of education than is currently running. Tamrat (2022), with the existence of quality management, is expected to strengthen the system and reduce costs. In other words, maximize results and reduce costs.

Research by Fahmi et al., (2022) examines the quality assurance system of the learning process in universities with a focus on managing the components of the quality of learning, focusing on the study of how universities should form harmony in implementing a quality learning process. They found that the

quality assurance system in the learning process was optimal in following quality standards. They recommended from this research the need for benchmarking and assistance to the quality assurance system in universities. This study recommends that the quality assurance system in higher education requires benchmarking and mentoring.

Alzafari & Ursin, (2019)state that universities that formulate quality assurance systems derive from national standards, which are then adopted as needed. The quality assurance system is more focused on curriculum development and teaching activities. The quality assurance system in several countries is different. This affects the application of quality assurance standards by presenting the strengths and weaknesses of implementing quality assurance in the country.

Hou et al., (2018) studied the 'self-accreditation' quality assurance policy following the decision of the Ministry of Education of Taiwan. This policy is intended to increase institutional autonomy and establish an internal quality review mechanism. There are three focus findings, namely 1). Consequences will arise with self-accreditation, with some contributing positively to the institution's quality assurance capacity, 2) Auditors must be selected appropriately to face the challenges, and 3) external quality assurance roles and responsibilities must be carried out redefined.

Darojat, (2018) found that institutions such as universities require a solid commitment to developing and implementing quality assurance programs. Undeniably, the quality assurance program results will provide significant benefits to the university through regular self-assessment and stakeholder feedback. By analyzing the scope and limitations of quality improvement (Rahnuma, 2020), this article examines internal quality assurance in graduate schools which is very much needed to facilitate the program accreditation process.

1.3 Purpose of the research

We are considering the internal quality assurance system (IQAS) in higher education so the study aims to analyze the implementation of the internal quality assurance system in the Postgraduate Program of Semarang State University.

2. Method and materials
2.1 Research Model

The case study method was applied in this study, which took a qualitative approach. The case study is a more appropriate research technique when the major research issue is related to how or why. By paying attention to the researcher's internal coherence or alignment between method and epistemology (Takahashi & Araujo, 2020).

2.2 Participants

This study was conducted between March and October of 2021. This research was conducted in the Postgraduate Program of Semarang State University. The data acquired was qualitative data derived from the results of data collecting utilizing pre-planned data collection methodologies. We used three techniques in data collection, including interviews with informants consisting of 1) Postgraduate managers, 2) Study Program Coordinators, 3) Lecturers, 4) Education Personnel, and 5) Administrative Coordinators. We also conducted a document study analyzing the 2021 Internal Quality Audit Report. The third data collection technique is observation. Observations are made by making observations related to the planning, implementation, and evaluation of internal quality audits in each study program at the Graduate School. In addition, the administrative governance of the Internal Quality Audit Unit of the Postgraduate Program at the State University of Semarang was also observed.

2.3 Data Analysis

The data acquired was qualitative data derived from the results of data collecting utilizing pre-planned data collection methodologies. In qualitative research, the researcher was the data-gathering device. The criteria for improving and determining the validity of data, especially the degree of credibility, transferability, dependability, and confirmability. The validity of the data was tested by using technical triangulation and source triangulation. Data analysis used a qualitative model that includes data collection, data reduction, data presentation, and conclusion.

3. Results

3.1 The Current Implementation of IQAS at Semarang State University Postgraduate Program

The Internal Quality Assurance System (IQAS) of Semarang State University was built on the Quality Management System ISO 9001: 2008 and IWA 2: 2007. IQAS ensures that the Semarang State University business processes, which include INPUT, PROCESS, OUTPUT, and OUTCOME, adhere to the quality standards that have been established. The postgraduate Program of Semarang State University is part of a unit within Semarang State University, its Quality Assurance System refers to Semarang State University's IQAS. IQAS strives to guarantee that universities realize their vision and mission in compliance with Good University Governance standards.

Postgraduate Program of Semarang State University developed a Quality Assurance group to support the implementation of the Quality Assurance System in Postgraduates as a follow-up to the University's IQAS. According to the needs of the Postgraduate Quality Assurance group, which was originally only 7 persons, plus 2 persons in 2020, the group will be increased to 9 people. The recruitment of these employees is intended to improve the effectiveness of quality assurance at the Universitas Negeri Semarang's Postgraduate Program.

The quality assurance group's responsibility is to oversee and ensure that the process of providing education from input, process, output, and outcome adheres to the quality standards that have been established. The Internal Quality Assurance Center (IQAC) at Semarang State University is in charge of ensuring that the academic implementation process in the internal environment of Semarang State University functions according to established standards. The implementation of IQAS is based on PDCA, namely Plan, Do, Check, and Action. Plan means planning/quality standards. Do means the implementation of what has been planned or the implementation of quality standards. Check means monitoring, checking, measuring, and evaluating the implementation and results of the implementation, including the Internal Quality Audit. Action is a follow-up and improvement of the results of the evaluation of quality standards.

Based on the results of observations on June 12, 2021, it is known that the quality assurance group is tasked with supervising and ensuring the process of providing education from the planning, implementation, and evaluation stages. This is following what was stated by the managerial side of the Postgraduate in the interview excerpt as follows:

"*The establishment of a quality assurance group at the Postgraduate level to ensure the implementation of education follows the standards that have been set. The task of the quality assurance group is to oversee the implementation of education so that it follows what has been planned. In addition, it also follows the quality standards that have been set*."

In addition to the academic field, internal quality assurance is also carried out in the fields of general administration, student affairs, and cooperation (Woelert, 2023). Monitoring and evaluation are carried out in the form of an Internal Quality Audit (IQA) and performed regularly at the end of the fiscal year to

verify that there is a match between the realization reached and the target set at the start of the year. This is under the results of interviews with postgraduate administration coordinators as follows:

"Each period of our internal quality audit in the administration section, we also ensure that the administrative procedures we carry out are following the standards set by the quality assurance group."

The coordinator also made a similar statement about the Doctoral Education Management Study Program.

"*Every year, each study program will be audited concerning the implementation of education, including academic aspects, infrastructure, and cooperation at the university level. The task of the quality assurance group is to supervise and guarantee the implementation of education following the standards that have been set".*

Internal Quality Audit is one of the Quality Assurance Agency's operations for monitoring and evaluating the internal quality assurance system and its implementation. Monitoring and evaluation include audits, assessments, and evaluations that are performed regularly to check the adequacy of implementation and planning and to identify the causes of non-conformance between implementation and planning.

3.2 Constraints experienced in the implementation of IQAS

Based on observations and interviews, it was found that the main obstacle encountered by each Postgraduate University. The University Quality Assurance Board is a unit that requires various documents to support the implementation of internal quality assurance in study programs in the internal quality audit (IQA) periodically at the end of the year. The following are the results of an interview with the coordinator of the Master's Degree Physics Education study program regarding the obstacles in the internal audit by the quality assurance group at the Postgraduate.

"Frankly, we at the study program level have difficulty when it comes to providing supporting documents in the internal audit process by the quality assurance group. Academic staff assigned to handle administration have not been able to archive documents for each study program. In addition to the limited time to help several study programs, there are also many other tasks. Yes, the documents are not archived properly."

This follows the results of observations made on July 11, 2021, which show that in each study program, supporting documents for implementing internal quality audits have not been stored properly. Documents are still placed in the original, so they can be tucked or lost when needed.

Internal quality audits are performed on an annual basis using an evaluation form developed by the University Quality Assurance Agency and based on established quality standards. Each filled-in item contains both quantitative and qualitative data. Each of these items must be accompanied by supporting documentation.

The postgraduate managerial side also justified constraints related to the low carrying capacity of documents during internal quality audits. The following is an excerpt from an interview with a postgraduate manager

"*Yes, we are aware that it is still lacking related to the supporting capacity of documents. Because it is not stored properly. In addition, the education staff has not properly archived documents related to their prominent academics. The documents are there but are often difficult to find when needed at any time*."

The internal quality audit was performed based on units and study programs at Semarang State University. The main problem experienced by Postgraduates is the weak supporting capacity of documents in each Study Program so that when there is monitoring and evaluation, not all items in the assessment form can be completed with complete documents.

3.3 Efforts made to overcome obstacles in the implementation of IQAS

The carrying capacity of documents that will be used for evaluation and monitoring at the end of the year is the main issue in implementing the internal quality assurance system at the Postgraduate Program at the State University of Semarang. This follows what the coordinator of the Basic Education study program stated. The following is an excerpt from the interview.

"Our difficulty so far during the implementation of the internal quality audit is related to the availability of supporting documents in the report. Often these documents are tucked away, or we do not find them when we need them. We hope there is an integrated data system that can help us in storing data."

The same statement was also stated by the Master's Degree English Education study program coordinator. The following is an excerpt from the interview.

"Yes, it is true that we have had difficulties in providing supporting documents for internal quality audits. Having an integrated data system is one way that helps us in providing documents as needed."

Semarang State University graduate students have been working to create an integrated data system. In contrast, this system allows users to upload documents related to documents for internal audit reasons as well as external audits. Each department of study has access to the developed system at any time, allowing them to directly upload material again without going through an admin. Korprodi can fully and appropriately fulfill the carrying capacity of documents for internal and external audit purposes if they are disciplined and persistent in archiving archives through this system.

The internal quality assurance system implemented by the Postgraduate of the State University of Semarang is the university's internal quality assurance system. IQAS implementation uses PDCI, especially the stages from planning to implementation, evaluation, and follow-up. Based on the research findings, it was found that the implementation of the Postgraduate SKAK at the State University of Semarang has been going well. At the planning stage, a quality assurance group was formed to assist in implementing the internal quality assurance system. The Quality Assurance Group of the Semarang State University Postgraduate Program has also carried out its responsibilities and functions to oversee quality assurance.

As proof of the Postgraduate commitment to improving the effectiveness of internal quality assurance, the workforce of the Postgraduate quality assurance group, which initially consisted of 7 people, will increase to 9 people in 2020. The Postgraduate quality assurance team of Semarang State University oversees the quality assurance program internally and internationally. The results showed that the postgraduate quality assurance system of Semarang State University had functioned effectively. The monitoring and evaluation activities of the University Quality Assurance Agency still face challenges related to the carrying capacity of documents.

The Semarang State University Postgraduate has tried to overcome this challenge by creating an integrated data system to keep academic and extracurricular activities records. This system was created and developed to make it easier for each coordinator of the study program to submit documents for all activities of their unique study program. In addition, it also facilitates the retrieval of documents when needed. The following objective is to offer comprehensive and accurate document support for monitoring and evaluation, particularly internal quality audits. The University Quality Assurance Board periodically conducts internal quality audits. At Semarang State University, an internal quality audit is conducted annually to assess whether the implementation follows each unit's plans.

The findings of the internal quality audit are the basis for the improvement strategy of each unit in the coming year. At Semarang State University, internal quality audits are a component of the current quality assurance system.

If supported by various factors, obstacles to overcoming the weak document-carrying capacity will succeed. First, Postgraduate management has promised to prioritize organized administration in each study program. Second, the system infrastructure and supporting services are already available for data archiving. Third, the discipline of each study program is inputting documents and updating data on the system.

4. Discussion

The Postgraduate Program at the State University of Semarang has formed a Quality Assurance Council as a follow-up to the IQAS University, which is tasked with managing and implementing the Quality Assurance System in Postgraduate. The institution has demonstrated its commitment to IQA by adding two special officers to increase the effectiveness of quality assurance in the State University of Semarang Postgraduate Program. The quality assurance team at the postgraduate level is tasked with ensuring and supervising the implementation of education following established standards. Therefore, the quality assurance group oversees education's input, process, and output at the Graduate School.

Internal quality audit (IQA) is an activity that continues to be carried out from time to time based on the unit and study program at the State University of Semarang, including the postgraduate program. However, our findings show the weak document-carrying capacity of each Study Program in the postgraduate program. Documents are a vital component of providing authentic evidence in support of IQAS. Our finding is that not all documents required for IQAS assessment are provided in full. It is a future challenge for the Semarang State University Postgraduate Programs unit.

So far, the implementation of IQAS at Semarang State University Postgraduate has been following the IQAS policy that has been prepared. We found that the analysis of documents and interviews followed the IQAS so that it ran well. Thus, the State University of Semarang's postgraduate quality assurance system is used to function effectively. The Quality Assurance Agency's monitoring and evaluation activities continue to face challenges related to the carrying capacity of the document.

Based on the results of postgraduate research, the implementation of quality assurance has been going well. The quality assurance team oversees and guarantees the implementation of education from planning, implementation, and evaluation. In addition, regularly, at the end of the year, internal quality audits are carried out in each study program. The internal quality audit aims to ensure that the education administration follows the standards and targets that have been determined. Internal quality audit for education quality assurance covers three main aspects: academic, infrastructure, and administration.

The obstacle that still exists so far in internal quality audits is that the supporting capacity of documents is still weak. This is due to the weak document storage system carried out by each study program. To overcome this, the Postgraduate developed an integrated data system. Postgraduates at the State University of Semarang have worked to address this challenge by creating an integrated data system to store academic and extracurricular activity records. The system was created and developed to make it simpler for each Study Program to submit documents for all of their particular course activities. Apart from that, it also facilitates the retrieval of documents when needed. The following objective is to offer thorough and appropriate supporting documents for monitoring and evaluation, particularly internal quality audits. University _ Quality Assurance Board periodically conducts internal quality audits. At Semarang State University, an internal quality audit is carried out each year to assess if the execution aligns with each unit's plans.

This integrated data system is designed by considering users' ease of use. So that each study program coordinator can directly input documents into the system without going through the admin. This will make it easier for the study program coordinator to add data at any time. In addition, the study program coordinator can also access the system anytime and anywhere.

These internal quality audit findings are the basis for each unit's improvement strategy for the coming year. The weak document-carrying capacity is challenging, but the State University of Semarang Postgraduate has developed an integrated data system. The system is designed in a simple but by showing detailed document requirements. Apart from that, it also facilitates the retrieval of documents when needed. Thus, overall, the implementation of IQAS in the postgraduate program at the State University of Semarang has been going "well."

5. Conclusion

Based on the research results, the implementation of IQAS in the postgraduate program at the State University of Semarang has been going well. This is indicated by the commitment of the institution to increase the personnel of the internal quality audit board. In addition, we found that the provision of complete documents constrained the implementation of IQAS. Therefore, the Semarang State University Postgraduate quality assurance system continues to face challenges due to the lack of supporting documentation for internal quality audits.

By building a data system, efforts have been made to overcome the problem of document-carrying capacity. Thus, the institution has demonstrated its responsibilities in practice to improve the quality of education. We believe that the implementation of IQAS following procedures and supported by complete documents is a manifestation of efforts to improve the institution's quality.

6. Recommendations

According to the study's findings, it is recommended to increase the carrying capacity of documents during internal quality audits so that the management must emphasize the orderly administration of each study program in Postgraduate, provide facilities related to the use of systems and discipline in document input and update documents on the system.

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