

Leveraging Quality Management Trilogy: Lahore Universities' QECs' Effective Practices

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Abstract

The Higher Education Commission (HEC) has created quality enhancement cells (QECs) in Higher Education Institutions (HEIs). This study aims to examine the actions taken by Quality Enhancement Cells in implementing the components of the quality management trilogy, identify the challenges encountered by QECs in implementing the quality management trilogy, and assess the endeavours of QECs in enhancing university rankings. The sample for the research included Directors from five Quality Enhancement Cells, twenty-five Heads of Departments (HODs), and twenty-five QEC representatives. The QEC directors were chosen using a procedure called universal sampling. Data was collected from representatives of the heads of departments and quality enhancement cell using a stratified random sampling approach. Data was collected from heads of departments and quality enhancement cell representatives using a close-ended questionnaire, and the directors of QECs were interviewed. Thematic analysis was employed to examine the qualitative data, while the quantitative data were analyzed by computing percentages. The study's results indicate that QECs are executing the quality management triad. However, they still need a comprehensive emphasis on all quality elements owing to resource constraints and communication gaps between QECs and the departments. This study examines the practical application of the quality management trilogy in HEIs within a developing country. It highlights the actions, challenges, and operational dynamics of QECs that need to be well-documented in existing literature. The results indicate the need for improved allocation of resources and communication to strengthen quality management. This can assist policymakers in enhancing university performance and rankings.

Keywords

Challenges,
Quality Enhancement
Cells (QECs),
Quality Management
Triology,
University Rankings.

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Introduction

Higher education institutes (HEIs) are seen as a means to enhance knowledge and stimulate the nation's economy. Pursuing quality in Higher Education Institutions is an ongoing and interconnected process influenced by social, political, and economic variables. Quality in higher education is crucial for evaluating the rising global needs and difficulties. The quality of higher education institutions should be assessed according to internationally recognised standards of education (Al-Amri, 2012). Higher education institutions in developing nations are encountering challenges in providing high-quality education.

Pakistan is one among these emerging countries. However, it is trying to enhance the quality of education (Shah, 2016). In 2002, the government of Pakistan established the Higher Education

Commission to achieve this objective. In addition, it has implemented Quality Assurance Committees (QAC) and Quality Enhancement Cells (QEC) at universities to enhance the standard of higher education (Usmani, Surya, Shammot, & Zamil, 2012).

Batool and Qureshi (2010) state that Quality Assurance Agencies (QAA) in developed nations adopt nine principles to ensure a high standard of education in Higher Education Institutions. The principles encompassed in this framework are student-centred focus, commitment from leadership, active participation from employees, emphasis on quality assurance, decision-making based on evidence, continuous improvement in quality, autonomy, transfer of skills, benefits, and knowledge to stakeholders, and a systematic quality assurance process. Pakistan's adoption of international ideas and norms in its higher education institutions indicates progressive attainment of quality benchmarks. The stakeholders possess a certain level of awareness and express a desire for education that is focused on quality (Butt et al., 2016). Nevertheless, the economic survey of Pakistan (2018-2019) indicates that despite the government's endeavours, the quality of higher education in HEIs could be better and match international benchmarks.

As per the National Education Policy (2017), private-sector universities have limited resources. Nevertheless, they are fulfilling the expectations of stakeholders by offering high-quality education. Conversely, public sector institutions possess ample resources, although the standard of education could be much better. Higher education institutions in the public sector commonly face challenges such as inadequate and outdated books in libraries, under-equipped laboratories, insufficient funds, limited communication between policymakers and curriculum designers, and a lack of teacher training for professional development (Dilsahd & Iqbal, 2012). Consequently, public universities need to contribute more to the nation's educational, economic, and social advancement (Hassan, 2016). Students who graduate from these universities have limited opportunities to pursue higher education at overseas universities (Gobind et al., 2015). Given the significance of quality in higher education, Pakistan's quality management and quality assurance agencies must enhance their endeavours.

Edward Deming and Philip Crosby are renowned scholars who have contributed to improving quality. However, Joseph Juran (1989) has proposed the most suitable approach for quality management in relation to the quality assurance (QA) process. The quality triad consists of three essential components: quality planning, quality control, and quality improvement. Per the quality trilogy, top management assumes a crucial role in quality planning, while middle management executes plans and policies. Additionally, high management conducts audits to ensure quality control. The audit team finds areas of strength and areas of deficiency and implements measures to address and rectify the deficiencies. Prior studies have highlighted the importance of following the HEC quality assurance principles and guidelines. However, this study specifically examines the practices of QECs in applying the quality triad to assess the success of QECs in enhancing quality.

The Research Issue

Higher education institutions are among the most significant contributors to the growth and development of a nation. By implementing a conventional education system, they want to foster economic growth. QECs dominate higher education institutions. As part of the Higher Education Commission (HEC), they are working to ensure and improve the quality of education. This research focuses on the efforts of quality education centres (QECs) in implementing the quality trio to enhance the quality of education, in contrast to the previous studies, which emphasised the implementation of the recommendations of the Higher Education Commission to improve the quality of education.

Significance of the Research

This research is being carried out to evaluate the effectiveness of quality education centres in implementing the quality management triad. The findings of this study will serve as a baseline for the policymakers of the Higher Education Commission and the directors of QECs to modify their planning about the needs and present circumstances of universities. Additionally, the research may benefit QEC representatives, allowing them to participate in QEC's quality planning process. Given that the directors of the QEC may modify their plans in response to the requirements and expectations of the students, the students themselves may also benefit from the study.

Research Objectives

1. To investigate the efforts of Quality Enhancement Cells in applying the quality management triad in public universities in Lahore.
2. To address the challenges encountered by QECs in the execution of the quality management triad.
3. To ascertain the contribution of Quality Enhancement Cells in improving the ranking of the University.

Research Questions

1. **Research Question 1:** How effective are quality enhancement cells executing the quality triad in quality assurance and enhancement practices?
2. **Research Question 2:** What challenges do quality improvement cells encounter while implementing the quality trio in departments?
3. **Research Question 3:** What is the function of quality enhancement cells in improving the ranking of universities?

Related Studies and Literature

The Higher Education Commission (HEC) of Pakistan has recently made significant efforts to improve the quality of education at the country's institutions by establishing Quality Enhancement Cells. These institutions, which the HEC requires, are essential elements inside universities responsible for implementing and supervising quality management projects. In research conducted by Abbas et al. (2019), the crucial importance of Quality Enhancement Cells in ensuring that academic practices meet international quality standards was emphasized. The study stresses the need to effectively implement the quality management trinity, which includes quality planning, control, and improvement. Although admirable attempts have been made, there are still obstacles to fully integrating these concepts, as highlighted by Malik and Haq (2021). They emphasized the limitations of resources and communication gaps between QECs and university departments. This highlights the need to study the practical approaches QECs use to use the quality management triad successfully.

Moreover, the research highlights the increasing importance of QECs' efforts in improving university rankings, both at the national and worldwide levels. A study done by Ahmad et al. (2018) investigated the relationship between QEC activities and university performance metrics, revealing a favourable link between the two. Nevertheless, the measurement and interpretation of these indicators may be challenging, as Khan and Ali (2020) pointed out, stressed the need for a nuanced understanding of the influence of QEC procedures on rankings. In addition, research conducted by Hussain and Akram (2022) provides insight into the changing function of Quality Enhancement Cells in addressing new difficulties, such as the shift to online education during the COVID-19 epidemic. These results highlight the ever-changing roles of QECs and the need for ongoing adaptation to guarantee the efficiency of quality management techniques at Lahore's institutions.

Various academics have provided distinct definitions for the term "quality." Within Higher Education Institutions, the term "quality" refers to the provision of education by predetermined criteria (Abusa, 2011). Bergman and Klefsjo (2004) define quality in the context of Higher Education Institutions as directing resources towards a specific goal to obtain exceptional results. This research describes "quality" as a notion that colleges guarantee, uphold, and enhance their academic advancement. Public higher education institutions increasingly prioritise quality assurance and development. This is driven by factors such as the growing number of institutions, the need for responsibility to stakeholders, and the focus on enhancing human resources. The references used are Nadim, Al-Hina, and Ajmal (2016) and Sahney, Banwet, and Karunes (2004). The Economic Survey of Pakistan (2018-2019) highlights that policymakers prioritise excellent education in response to evolving needs and increased responsibility to stakeholders and the government.

Quality Assurance (QA)

Literature directs that institutional accountability results in two primary approaches: quality assurance and quality improvement (Hussain, 2011). Quality assurance is systematic quality management via effectively monitoring tasks to ensure they fulfil established standards (Abebe, 2014). The terms quality assurance and quality management have been used synonymously to refer to the process of overseeing and controlling the quality of a product or service (Waheed, 2013; Nikolus, 2002). Quality assurance in education encompasses all the processes and activities implemented to guarantee the advancement and enhancement of quality. Quality assurance at higher education institutions serves three primary objectives: control, accountability, and improvement.

Quality control is the systematic process of ensuring that programs work according to national and international standards. In the past, educational institutions were mostly public, and the emphasis on quality was relatively less significant. However, with the process of polarization, the significance of this aspect has dramatically increased.

Higher Education Institutions are obligated to establish procedures that ensure the creation of programs and institutions capable of delivering high-quality education and meeting the expectations of stakeholders and the government (Hussain, 2011). The Higher Education Institutions are also responsible for meeting stakeholders' expectations and ensuring their satisfaction with the quality of the programs they provide.

Higher education institutions manage the resources they get from students, the government, and society (Raouf & Akhtar, 2008). The optimal phase of quality assurance is quality enhancement, when many measures have been used to advance goals, objectives, strategies, and policies. Regular audits are performed. The identified areas of deficiency are addressed, and measures are implemented to address these shortcomings (Raouf & Akhtar, 2008).

Quality Enhancement (QE)

Research Question 1: How effective are quality enhancement cells executing the quality triad in quality assurance and enhancement practices?

The second primary quality management methodology is quality enhancement, which focuses on continual improvement via effective methods (Abebe, 2014). Quality enhancement focuses on improving the internal environment to meet the needs of both internal and external stakeholders (Rana, 2009). Quality improvement techniques allow students to assess the effectiveness of running programs (Biggs, 2003).

Quality assurance practices inform quality improvement strategies by identifying the strengths and weaknesses of operational programs. This information is used to improve the quality of teaching and

learning in higher education institutions (Abebe, 2014). Similarly, quality enhancement initiatives prioritize improving communication between departments and certification authorities.

Quality improvement techniques prioritize the involvement of departmental personnel in evaluating the success of teaching and learning programs based on the needs of internal stakeholders rather than imposing external practices. A variety of methods are used to assess performance, including instructors' evaluation forms, students' assessment forms, course evaluations, peer reviews, and self-evaluations (Hussain, 2011).

Quality Assurance Initiatives in Pakistan's Educational Landscape

The proliferation of public and private institutions in Pakistan, together with the expansion of many academic specialities, has resulted in significant challenges regarding the maintenance of high standards of quality. Pakistan's higher education institutions need help to fulfil the criteria for both national and international standards of quality education. HEC, as a key player, has taken significant steps to implement measures for quality education. Multiple measures have been implemented to guarantee and maintain the quality of Higher Education Institutions via the establishment of Quality Assurance Agencies (QAA) and Quality Enhancement Cells (QECs) (Irshad, 2012).

HEC has implemented rules and methods for Quality Enhancement Cells to assess and evaluate teaching and learning programmes. Quality Assurance Executives (QECs) are responsible for ensuring and enhancing the internal quality condition by conducting audits and implementing measures for quality control. QECs evaluate the academic partnership with other institutions to ensure efficient administration and enhance the educational process. QECs prioritise the creation of a qualification framework and aim to enhance public trust in the quality of degree programmes. In order to ensure that the material remains current, the organisation assesses the quality of the curriculum and enhances the staff's abilities. This is done to foster the development of students' competencies, enabling them to satisfy educational standards (Irshad, 2012).

The Quality Enhancement Cells require departments to create a Self-Assessment Report (SAR) that specifically addresses the programmes' standards, mission, objectives, and outcomes. This report should also cover the design and organisation of the curriculum, as well as the infrastructure, such as laboratories, libraries, and computing facilities. Additionally, it should include information about the guidance and mentoring provided to students, the process for quality control, and the evaluation of faculty members. Departments create a Search and Rescue (SAR) plan based on these established criteria and submit it to the Quality Control and Evaluation Committee (QEC) for authorisation. Quality Assurance Evaluators (QECs) perform audits in several departments to check the progress of implementing the Systematic Action Review (SAR). The accrediting team evaluates the programmes' standards by comparing them to the departmental performance and identifies both the areas of strength and weakness. The flaws have been highlighted, and recommendations have been offered to address the areas for improvement (Hussain, 2011). Gift and Bell-Hutchinson (2007) found that departments effectively execute the recommendations made by QECs, resulting in significant improvements in the quality of teaching and learning.

QECs prioritise improving students' learning quality (Harvey & Newton, 2005). Although QECs have made significant contributions to achieving quality education, several studies consider them irrelevant, useless, and a waste of time. These studies argue that QECs place an additional burden on departments without bringing about any fundamental improvements in the quality of education (Harvey & Williams, 2010; Hodgson & Whalley, 2007; D'Andrea & Gosling, 2005).

Quality within Higher Education Institutions (HEIs) in Pakistan

Quality Enhancement Cells (QECs) are operational at Higher Education Institutions (HEIs). However, progress in improving the quality of universities still needs to be made in line with national and international norms. Quacquarelli Symonds (QS) World Ranking (2019) indicates that no Pakistani institutions were included in the top 100 universities worldwide. Students enrolled in Pakistani institutions have many obstacles when meeting international standards. They do not need help to gain admission to international institutions (Batool & Qureshi, 2010). Public colleges are not renowned for their ability to generate a wealth of information while having fewer resources compared to private institutions (Shah, 2016). The primary impediments to achieving quality education include:

- A lack of communication among officials,
- A shortage of professional and trained staff,
- An underdeveloped research culture,
- Political interference in the education system,
- Governance issues,
- A lack of quality assurance processes and
- Insufficient resources.

In this situation, policymakers must create a system that emphasises democratic leadership, allocates resources, and supports the development of institutions in order to enhance their capabilities (Hassan, 2016). Both rich and developing nations have established robust quality management systems and prioritise the value of human resources above material possessions. Hence, it is essential to implement effective quality management strategies that include meticulous planning, stringent control, and continuous improvement to get exceptional results (Hassan, 2016; Naixia, 2011). The progenitor of the quality management triad presented three all-encompassing procedures: quality planning, quality control, and quality improvement (Neyestani, 2017). As per the quality management trio, establishing explicit objectives, targets, and standards is the first step. Subsequently, managerial procedures establish a connection between these standards and the desired outputs. The management procedures include quality planning, quality control, and quality improvement, collectively called Juran's quality trinity (Neyestani, 2017).

During quality planning, leaders formulate quality plans and policies, assess the requirements of students, establish protocols and processes, and then implement the plans. Within the realm of quality control, the personnel and intermediate-level managers execute the proposed strategies within their respective departments. At the same time, accreditation organisations do audits to assess quality advancement. Accreditation organisations in quality improvement detect discrepancies between established criteria and the performance of the relevant department and provide remedies (Juran & Godfrey, 1999). The quality triad is closely associated with the quality assurance procedure of QECs. Hence, this study aims to assess QEC's efficacy in implementing the quality management triad at public institutions located in Lahore.

Research Methodology

The research used a descriptive methodology and utilized a mixed-method approach. The concurrent triangulation mixed methods design was used to validate the data acquired from QEC directors mutually. There were two phases involved:

- The first phase used the qualitative paradigm: semi-structured interviews with QEC directors.
- In the second phase, the quantitative paradigm was utilized in the subsequent phase, including distributing close-ended questionnaires to HODs and QEC representatives.

The study's population included Directors, Heads of Departments (HODs), and members from the Quality Enhancement Cells (QECs) of five public universities in Lahore. Five directors, twenty-five heads of departments, and twenty-five quality enhancement cell members were chosen. The sample size of five directors was justified using universal sampling, as there were exactly five directors of Quality Enhancement Cells at the five public institutions. This approach ensured that the entire population of QEC directors was included, providing comprehensive insights from all relevant leaders. To ensure representation from different departments and QECs, the stratified random selection method was rigorously applied to choose the heads of departments and members of the Quality Enhancement Cell. This approach enhanced the reliability and generalizability of the findings. Semi-structured interviews were conducted with the QEC directors for the qualitative part, allowing in-depth exploration of directors' perspectives and experiences, providing rich, detailed data for thematic analysis. For the quantitative part, close-ended questionnaires were distributed to Heads of Departments and QEC representatives. These questionnaires, based on the literature and the quality management trilogy, were pilot tested to ensure validity. The quantitative data were analyzed by calculating percentages, providing a clear and concise representation of the trends and patterns within the data.

Data Interpretation

Data Interpretation is categorized into two distinct components:

- Qualitative Interpretation
- Quantitative Interpretation

The qualitative data were derived from the study of the replies gathered from directors of QECs. Themes were established to analyze the material collected from interviews. The quantitative data was from closed-ended questionnaires administered to Heads of Departments and Quality Enhancement Cell members.

Qualitative Interpretation

1. Quality Planning (QP)

Based on the participants' comments, it is determined that quality enhancement cells use specific methods for quality planning. These methods include establishing quality objectives, creating a quality calendar, preparing a self-assessment report (SAR), consulting with faculty members, and addressing the requirements of students. Quality Enhancement Cells establish quality goals by using the criteria outlined by the Higher Education Commission and determine quality targets based on the specific needs and requirements of students and stakeholders. The Quality Enhancement Cells require departments to create a Self-Assessment Report that considers many criteria, including programme goals, objectives, products, curriculum review, library resources, computer facilities, laboratory counselling and advising services, quality control processes, and faculty and institutional support. The departments created a Systematic Analysis Report that includes comprehensive information on all events and activities related to the quality assurance and improvement process. QECs create a comprehensive calendar that outlines the specific dates and deadlines for quality assurance processes and activities. QECs provide a quality calendar to departments to offer feedback. As per the participants, faculty members have restricted participation in the quality planning process. They formulate strategies inside the department. The team of Quality Assurance plans the methods of quality assurance. During the quality assurance process, Quality Enhancement Cells use an assessment Performa to identify the requirements of students. These needs are then meticulously included in the subsequent planning process, ensuring a thorough and comprehensive approach to quality planning.

2. Quality Control (QC)

QECs created a quality calendar as a tool for quality control, which serves as a foundation for quality assurance practices. QECs distribute information about quality plans via websites and physical copies. Departments formulate a Self-Assessment Report within the specified timeframe to respond to QEC plans. The report is then submitted to the QECs for input. Quality Enhancement Committees (QECs) assess the Student Annual Report, grant approval, and perform audits on a semester or annual basis in the various departments, adhering to a quality calendar. The purpose of these audits is to evaluate the implementation status of the SAR. QECs utilize an evaluation form to assess students' opinions on the quality of academic and non-academic programs. They also evaluate faculty members' performance based on the standards outlined in the SAR. The Quality Enhancement Committees visit the departments, during which faculty members deliver presentations on the quality of their work and the established standards. QECs conduct interviews with students to assess the performance of faculty members.

Quality Evaluation Committees produce a comprehensive report highlighting performance strengths and flaws. This report is then sent to the respective department with suggestions and a deadline for addressing the noted deficiencies. The QECs arrange meetings with relevant faculty members and offer valuable recommendations to address shortcomings. QECs also provide tools and training to faculty members to enhance areas where they could be improved. Some QECs utilize an academic audit manual aligned with the criteria set by HEC and other accreditation bodies to carry out simulated audits. By adhering to the academic audit guidelines, we promptly identify and address any areas found to be inadequate.

3. Quality Improvement (QI)

Quality Control Experts (QECs) perform audits within departments to identify and bring attention to areas lacking in quality assurance. Quality Evaluation Committees (QECs) submit reports to the department with valuable recommendations for addressing inadequacies. They also request that the departments furnish reports detailing the activities to implement these improvements. Departments are required to create a report in response to the demands of the QECs. This report should include three columns, which outline the inadequacies, explanations for these deficiencies, the actions taken to improve, and the resources allocated for improvement. The departments submit the report to QEC and request resources. The Quality Enhancement Committees request senior management to allocate resources to the department to address the identified inadequacies. Most Quality Engineering Coordinators (QECs) collaborate as a team for a limited duration that concludes with the project's completion, depending on the specific nature of the challenge. The team has ample resources and expertise to address specific recognised department problems.

Challenges in Enforcing the Quality Management Trilogy

Research Question 2: What challenges do quality improvement cells encounter while implementing the quality trio in departments?

QECs provide a high-quality calendar to departments for cross-verification. Quality calendar creation by QECs requires soliciting input from departments and collaborating with them to accommodate any necessary changes to the timing and scheduling of audits. Quality Engineering Coordinators encounter challenges in quality planning while scheduling meetings with defective members to discuss the quality calendar. More resources are needed to ensure quality control in QECs. QECs only do audits in some semesters due to insufficient resources and a shortage of people. A significant challenge encountered by QECs is the need for more collaboration from departments since they fail to complete it promptly and see it as an additional weight or workload. One of the respondents said that departments spend a significant

amount of time reminding people to fill out the Performa. QECs have difficulties in quality control because stakeholders must prioritize quality and quality assurance methods more than QECs, resulting in a lack of quality awareness. Quality Enhancement Cells have challenges enhancing quality due to their lack of financial autonomy to execute quality assurance measures. Obtaining approval from upper management is a time-consuming process that often delays implementing initiatives.

Contribution of Quality Enhancement Cells to Elevating University Rankings

Research Question 3: What is the function of quality enhancement cells in improving the ranking of universities?

Quality Enhancement Cells (QECs) play a crucial role in improving university rankings. They assist departments in academic and non-academic activities while ensuring adequate oversight and accountability. Quality Assurance Executives (QECs) audit various departments to ensure quality. They identify areas lacking and provide valuable recommendations and resources to help improve them. QECs provide reports to HEC about the advancement of departments and programmes. Quantitative Evaluation Centres (QECs) gather and consolidate the necessary data and submit applications for both domestic and global rankings.

According to the Heads of Departments and Representatives of the Quality Enhancement Cells, the QECs play a crucial role in determining department performance and improving university rankings. However, according to their analysis, QECs do not have a role in improving the ranking of institutions. They are just squandering the departments' time. QECs prioritize collecting and compiling data only for record-keeping and presentation to authorized entities. They do not operate only to improve the quality or increase the ranking of institutions.

Quantitative Interpretation

Table 1: Contribution of Quality Enhancement Cells (QECs) in Quality Planning (QP)

S.No.	Observations	Percentage (%)	
		Responses from HODs	Responses from QECs
1	Quality targets are established post data analysis	61% Agreed	52% Agreed
2	Student needs are identified during planning	65% Agreed	52% Agreed
3	Faculty members actively participate in planning	70% Disagreed	64% Disagreed
4	QEC provides schedules for departmental feedback.	63% Disagreed	71% Disagreed
5	QEC's plans are departmentally accepted and executable	50% Agreed	52% Agreed
6	QEC's strategies enhance teaching quality	52% Agreed	44% Agreed

Table 1 displays the survey's findings asking Heads of Departments (HODs) and Quality Education Centres (QECs) about their roles in quality planning. The survey found that after gathering data and considering student requirements, QECs develop quality plans. According to participants, QECs neglect department involvement in quality planning and the provision of a quality timetable for feedback. Nonetheless, the quality plans are commendable and will help the departments enhance the quality of their programmes.

Table 2: QEC's Implementation of Quality Control (QC) within Departments

S.No.	Observations	Percentage (%)	
		Responses from HODs	Responses from QECs
1	QEC conducts semesterly department visits to track quality plan execution	68% Disagreed	62% Disagreed
2	The department actively cooperates with QEC during plan execution	67% Agreed	60% Disagreed
3	QEC administers survey forms on a semesterly basis	70% Disagreed	59% Disagreed
4	Faculty promptly complete quality assurance survey forms	61% Agreed	67% Disagreed
5	Students promptly complete quality assurance survey forms	56% Agreed	60% Disagreed
6	QEC assesses faculty performance against quality objectives	51% Agreed	52% Agreed
7	QEC offers recommendations to address departmental shortcomings	54% Agreed	48% Agreed

Table 2 displays the feedback provided by Heads of Departments and Quality Enhancement Cell representatives about the quality control procedures of QECs. The data indicates that Quality Evaluation Coordinators (QECs) do not frequently visit the departments to assess and monitor improvements in quality. There is a discrepancy in the comments of the participants. The Heads of Departments claim that the departments are cooperative in implementing plans and that instructors and students submit quality assurance forms on time. However, the Quality Enhancement Cells representatives disagree with this statement. The Heads of Departments and Quality Enhancement Cell Representatives reached a consensus that QECs are responsible for assessing the performance of departments, comparing it to predetermined quality objectives, and providing feedback to the departments to address any areas of deficiency.

Table 3: QEC's Quality Improvement (QI) Process within Department

S.No.	Observations	Percentage (%)	
		Responses from HODs	Responses from QECs
1	Department analyzes reasons for improving weak areas.	72% Agreed	64% Agreed
2	Department requests resources from QEC for enhancements	58% Agreed	56% Agreed
3	QEC supplies resources to address deficiencies	92% Disagreed	88% Disagreed
4	QEC forms a team to address identified areas	72% Disagreed	68% Disagreed
5	QEC trains the team for addressing weak areas	69% Disagreed	65% Disagreed
6	QEC equips the team with necessary resources	78% Disagreed	74% Disagreed
7	QEC raises quality awareness among stakeholders	84% Disagreed	86% Disagreed

Table 3 displays the feedback provided by Heads of Departments and Quality Enhancement Cell representatives about the effectiveness of QECs in enhancing quality. The heads of departments and representatives from the Quality Enhancement Cells acknowledged that departments identify the causes behind their shortcomings and request resources from the QECs. However, the QECs must offer the necessary resources and teams to help departments address these deficiencies. QECs need to cultivate quality consciousness among workers to enhance quality.

Findings and Discussion

The analysis of the responses from QEC Directors, HODs, and QEC representatives reveals that more consistency in the participants' answers must be maintained. QEC directors are exerting significant effort to enhance quality, whereas HODs and QEC representatives have stated that departments are prioritising quality improvement over the efforts of QECs (Gobind, et al., 2015). Based on the feedback from QEC Directors, Quality Enhancement Cells create quality plans by analysing data and information and considering students' needs. They then establish a quality calendar to carry out audits within the department. The quality calendar is distributed to the departments to solicit feedback and cross-validate it with their respective activities (Batool & Qureshi, 2010).

QECs collaborate with departments to facilitate any requested changes in date and time. The Heads of Departments and Quality Enhancement Cell representatives have stated that the plans of the QECs are deemed acceptable and beneficial in improving the progress of the teaching and learning process. However, the QECs must provide the department with a quality calendar for feedback. They refuse to cooperate and demand that the departments complete the task by the specified deadline. They employ identical strategies for an extended duration (Hussain & Akram, 2022). The QEC directors have stated that they do not include faculty members in their planning process due to the challenge of obtaining input from all faculty members. The Heads of Departments and Quality Enhancement Cell representatives agreed that not all faculty members can participate in the planning process. However, it was decided that the QEC representatives should be involved in planning to obtain feedback specific to each department (Malik & Haq, 2021).

The QEC Directors' responses indicate that QECs employ a quality calendar, academic audit manual, and survey form on a semesterly or annual basis as instruments for the quality assurance process. QECs are making progress in implementing quality assurance practices. Quality Enhancement Committees (QECs) identify shortcomings, offer enhancement recommendations, and implement tangible measures. They organise meetings with relevant faculty members and offer them training and resources (Ahmad, et al., 2018). However, as per the heads of departments and representatives from the Quality Enhancement Cells, QECs infrequently carry out department audits. They offer recommendations but do not implement tangible measures to address shortcomings (Khan & Ali, 2020).

According to the perspective of QEC Directors, QECs offer teams to departments to address deficiencies. However, both HODs and QEC representatives have stated that QECs do not form any teams (Hussain, 2011). Quality Enhancement Committees (QECs) offer recommendations for enhancing performance while departments address and rectify shortcomings. The directors of QEC have reported encountering difficulties in quality planning due to a lack of time allocated for meetings by the departments, resulting in delays in implementing their plans. This statement is contradictory, as the opinions of the Heads of Departments and Quality Enhancement Cell representatives suggest that QECs refrain from seeking input from departments when creating a quality schedule (Raouf & Akhtar, 2008).

QEC directors have identified that resource constraints and improved behaviour from departments hinder quality control in QECs. According to them, the faculty members consider survey forms to be burdensome. As per the Heads of Departments, the departments collaborate to complete the quality assurance form, whereas representatives from the Quality Assurance and Enhancement Cell have stated that faculty members and students must promptly submit survey forms (Gift & Bell-Hutchinson, 2007). Both Heads of Departments and Quality Enhancement Cell representatives reached a consensus that QECs need more resources and more adequately trained personnel, negatively impacting their performance (Malik & Haq, 2021). QEC directors have reported that departments prioritise quality to a different extent than QECs do. According to representatives of the heads of departments and quality enhancement cells, the QECs need to communicate effectively and raise awareness about quality

standards among stakeholders (Dilshad & Iqbal, 2010). The QEC Directors stated that QECs play a crucial role in improving the rankings of universities. They assist departments in identifying the strengths and weaknesses of their programmes and offer suggestions to address any deficiencies (Hina & Ajmal, 2016). Quality assurance entities (QECs) ensure effective oversight of departments and seek accreditation for national and international rankings. According to the opinions of Heads of Departments and Quality Enhancement Cell representatives, departments play a crucial role in improving the ranking of universities (Khan & Ali, 2020).

The study's findings suggest that universities in Islamabad encounter various challenges in achieving high-quality standards (Hussain & Akram, 2022). The QECs exert significant effort to attain excellence in planning, controlling, and enhancing quality. Additionally, they are also striving to improve the ranking of the universities (Gobind, et al., 2015). Conversely, the stakeholders need more awareness regarding the efforts and role of QECs. They need to have a serious commitment to matters of quality. The faculty members consider the efforts of QECs for quality improvement to be a waste of time (Abusa, 2011).

Furthermore, the need for more resources, qualified personnel, and effective coordination between departments and Quality Enhancement Cells pose significant obstacles to successfully implementing the quality trilogy in public universities (Raouf & Akhtar, 2008). Furthermore, the QECs must share their quality improvement plans with the departments or include QEC representatives from different departments in their meetings. The persistent endeavours of Quality Enhancement Cells and departments are necessary to overcome the obstacles to the practical implementation of the quality trilogy in universities to elevate and sustain the standard of education in Pakistan (Juran & Godfrey, 1999).

Conclusion

The results indicate that QECs are prioritising the implementation of the quality trilogy. However, they still need help in effectively implementing all the components of the trilogy owing to limited resources and a communication gap among the departments. Quality Execution Coordinators (QECs) do not provide quality plans to the various departments. QECs refrain from engaging in discussions with departments on deficiencies in quality, nor do they provide stakeholders with an understanding of quality. The departments would prefer the function of Quality Enhancement Cells. According to their statement, Quality Evaluation Committees rely on human labour and Performa instead of using the newest technologies. This approach results in longer completion times and places excessive workload on the departments.

Consequently, the departments refuse to collaborate with QECs and see their audits as futile. QECs have infrequent quality checks because they need more personnel. Conducting audits in every department every semester is unfeasible due to staffing constraints. The departments believe that faculty members are exerting significant individual effort to implement the quality triad in comparison to the efforts of the Quality Enhancement Cells. As a result, they need to prioritise the QEC's quality assurance processes and self-assessment reports. A communication gap exists between Quality Control Engineers (QECs) and departments, leading to mutual misinterpretation. Enhancing quality cannot be achieved just via the implementation of Quality Enhancement Committees. The departments must assume responsibility for quality assurance and improvement and collaborate with supporting quality improvement cells to execute their objectives successfully. Providing qualified workers and resources to QECs may enhance the quality of the service. The quality may also be improved if QECs reduce the communication gap between departments and increase awareness of quality.

Recommendations

The study's result leads to the following recommendations:

- **Review and Update of Quality Calendar**

Quality Control Centres have adhered to a rigorous schedule for an extended period. The quality calendar may be revised to accommodate current circumstances and meet stakeholders' requirements.

- **Sharing Quality Calendar with Departments**

Quality Enhancement Cells do not provide departments with a shared quality calendar to synchronise with departmental activities and events. It is advisable to provide departments with a high-quality calendar to get input.

- **Involvement of QEC Representatives in Quality Planning**

QEC Representatives are excluded from the consultation process in QEC quality planning, but they may participate in quality planning for QECs.

- **Regular Quality Assurance Audits in Departments**

Quality Enhancement Committees do not frequently perform quality assurance audits in departments. It is recommended that Quality Enhancement Committees conduct regular assessments every semester to monitor the quality development in the departments and enhance the quality in those departments.

- **Allocation of Sufficient Staff for Departmental Visits**

QECs only visit the departments during semesters due to staffing constraints. Thus, providing additional resources and well-trained personnel to QECs may be beneficial to ensure the efficient and consistent execution of quality programmes.

- **Timely Completion of Quality Assurance Survey Forms**

Departments need more collaboration with QECs to complete quality assurance survey forms promptly. Departments are advised to respond to QECs by completing paperwork promptly, enabling QECs to carry out their jobs without any delays.

- **Utilization of Technology for Streamlined Quality Assurance**

The quality assurance processes conducted by QECs are performed manually, resulting in a time-consuming process that places excessive strain on the departments. State-of-the-art technology may be used in quality assurance procedures to optimise time efficiency for both Quality Control Engineers and departments.

- **Formation of Expert Teams to Address Deficiencies**

QECs do not collaborate as a team to enhance departmental weaknesses. Instead, they can assemble a group of specialists according to the specific issues to improve any shortcomings.

- **Alignment of Audits with External Review Standards**

Quality Enhancement Committees may audit departments according to the criteria of external evaluations to identify and address areas that need improvement prior to external audits.

- **Allocation of Dedicated Quality Assurance Professionals**

QEC Representatives are overwhelmed by the excessive workload from departments and QECs. Each faculty should employ individuals who specialise in quality assurance issues.

- **Separation of QEC Roles from Faculty Responsibilities**

Representatives from the Quality Enhancement Cells are also employed as faculty members in several areas. It is recommended that QEC workers not be assigned extra responsibilities to allow them to concentrate only on their QEC-related activities.

- **Organizing Quality Awareness Events**

QECs may organise conferences, meetings, and seminars to promote quality awareness and reduce communication gaps. More finances are needed to ensure the ability of QECs and departments to improve the quality of education.

▪ **Enhancing Resources for Quality Enhancement**

The Pakistani government should provide more resources to the education sector to fulfil both national and international standards.

Research Limitations

The study delves into the effectiveness of Quality Enhancement Cells (QECs) in implementing the quality management trilogy in public universities in Lahore. However, it is imperative to acknowledge several limitations:

- The research was confined to public universities in Lahore, potentially limiting the generalizability of the findings to other regions or types of institutions within Pakistan's higher education system.
- The reliance on self-reported data from QEC directors, Heads of Departments (HODs), and Quality Enhancement Cell representatives introduces the potential for response bias or inaccuracies.
- The study primarily focused on the perspectives of institutional stakeholders, overlooking other significant stakeholders such as faculty members, students, and external quality assurance bodies.
- While the mixed-method approach allowed for a comprehensive analysis, challenges were encountered in integrating and interpreting the data.

Despite these limitations, the study provides valuable insights into the challenges and opportunities in quality enhancement initiatives. It offers meaningful insights for policymakers, university administrators, and quality assurance practitioners seeking to enhance educational quality and institutional performance in Pakistan.

Future Research

Future studies should thoroughly investigate the unique solutions of quality enhancement cells used to tackle the obstacles associated with executing the quality management triad. It would be advantageous to explore creative methods to alleviate limitations on resources and improve communication between QECs and university departments. Furthermore, conducting a thorough examination of the lasting effects of QEC activities on university rankings and the overall enhancement of institutional quality might provide valuable insights for policymakers and stakeholders in higher education. Performing longitudinal studies to monitor the development of QEC procedures and their efficacy over time will enhance the existing information on quality assurance in higher education institutions. Furthermore, conducting comparison evaluations across various Higher Education Institutions and locations may provide a more comprehensive perspective on the most effective methods and areas that need improvement in quality management within the higher education sector.

Research Originality and Implications

The study delves into the practical implementation of the quality management trilogy within Higher Education Institutions (HEIs) in a developing country setting. It specifically explores the actions and challenges faced by Quality Enhancement Cells (QECs), providing valuable insights into their operational dynamics and limitations, which have not been extensively documented in existing literature.

The findings underscore the necessity for better resource allocation and improved communication channels between QECs and university departments to fully leverage quality management practices. Policymakers and university administrators can leverage these insights to fine-tune quality enhancement strategies, ultimately enhancing institutional performance and rankings.

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