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## Quality Management System (QMS) practices in Malaysia Polytechnic institution: Observational study on the role of people.

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**Abstract:** Malaysian Polytechnic has to play crucial role in producing skillful and employable graduates but faced some struggles in ensuring the Quality Management System (QMS) continuously practiced among academic staff. The QMS as a tool to complement the function of Polytechnic Malaysia have their own challenge related to dynamic standards and practices. Common challenges are an absence of sustainable approaches, manpower training problems, and a low level of understanding quality principles. This paper will review the QMS practices at several Malaysia Polytechnic and discussing the role of people in driving QMS practices. The research adopts an ethnographic or observational method. Further studies need to be conducted to investigate empirically how the enablers of EFQM model relate with education in the context of Polytechnic Malaysia.

**Keywords:** Quality Management System, Polytechnic Malaysia, EFQM

### INTRODUCTION

Quality management systems (QMS) are essential frameworks that education institution develop to ensure that their services meet customer and regulatory requirements consistently. In the context of education, particularly within technical and vocational institutions like Polytechnic Malaysia, a robust QMS is vital for enhancing to persistently improving operational efficiency, and fostering a culture of continuous improvement. As Malaysia continues to advance towards becoming a high-income nation, educational institutions play a critical role in producing skilled graduates capable of meeting industry demands. This article examines the overview of a QMS within in Malaysia Polytechnic ambience.

Malaysian polytechnic education become a pivotal role in producing skilled graduates and industry-ready that significantly contribute to the human resource development. Nonetheless the evolving landscape of higher education topped with the increasing global competition with stringent quality expectations require flexible approach from the operational perspective. The demand for quality assurance implementation in polytechnic institution and the alignment with global standards have put significant pressure on Polytechnic institutions in Malaysia to enhance their quality management practices. Despite efforts to implement quality assurance, more and more challenges faced in maintaining consistent quality across academic and quality management functions. Among of the issues in implementing quality assurance in polytechnic institution is lack of sustainable quality management strategy to suit with the evolving educational standards and stakeholder expectations.

Next issue is, there are insufficient training and awareness among staff on the principles and practices of quality management systems which will jeopardize Polytechnic's ability to achieve its mission in fostering a quality assurance culture. There is also a notable gap in the literature concerning the benefits, challenges, and readiness factors associated with QMS in the context of polytechnic Malaysia scenario. Therefore, this study aims to analyse the benefits, challenges, and threat factors of QMS in polytechnic hence this study is aim to review the practices of quality management system (QMS) in Malaysia Polytechnic Education system and to observe the role of people and strategy in QMS implementation of in Malaysia Polytechnic.

## LITERATURE REVIEW

In global education context, QMS is know as an institution formal system that drive the process, procedures in achieving quality policy and objectives. QMS is a system that facilitate and lead institution vision and mission in achieving stakeholders needs and improve its effectiveness and efficiency on continuous basis (MoEYS,2021). According to David L. Goetsch and Stanley Davis(2012)in the book with title "Quality Management for Organizational Excellence", QMS is an organizational framework that combines policies, procedures, processes, and resources to achieve customer-focused goals and conformity to relevant requirements. Donna C.S. Summers (2018) in the book "Quality Management", define QMS as a systematic approach used by organizations to plan, measure, monitor and improve the quality of the products or services they offer. It involves the entire organization in the pursuit of excellence in quality.

In other literature, Jaafar & Mohammad Dasuki (2019) interpret quality as meeting specifications, meeting customer needs or expectation, transparency of service delivery, process control, achieving desired results, continuous improvement, competitive advantage, added value for society, cost effectiveness, performance measurement, satisfaction of stakeholders, doing the right things, doing things right, and lastly, doing the right things right.

In Polytechnic Malaysia context, QMS is Quality assurance is referring to systematic and purposeful planned actions shows that quality is achieved, maintained and improved, in accordance with the teaching standard and also the student's learning experience (MOHE, 2014). In the Malaysia higher education system environment, Polytechnic education QMS is headed by Jabatan Pengajian Politeknik dan Kolej Komuniti or JPPKK. JPPK had outline that all quality assurance activities in

polytechnic institution will be led by the unit of quality assurance. The quality assurance unit in Polytechnic Malaysia is responsible for planning, coordinating, and monitoring Quality Assurance activities. This effort involves the cultivation of quality, improving the quality of education and training services, management quality, the quality of a conducive institutional environment, full accreditation of study programs, supervision, ensuring the implementation of the latest curriculum, as well as the implementation of a management review to make it a Premier TVET Institution (PBU, 2024).

Once the quality assurance activities have been implemented, a continuous quality improvement (CQI) needs to be conducted to review the quality aspect and subsequently conduct improvement assurance. In the context Polytechnic education, JPPK had outlined a brief guideline in implementing quality assurance in polytechnic institution. According to Guideline on Continuous improvement 2020, CQI is needed needs to be established so that a comprehensive monitoring of the quality of study programs offered by the institution can be made to comply with the standards set by the Malaysian Qualifications Agency based on Act 679 (Malaysian Qualifications Agency Act 2007) or any stipulations that have been set by stakeholders such as bodies professionals who are also authorized to carry out the evaluation process of the accreditation certificate of the study program concerned (JPPK, 2020).

To effectively provide quality education, the educational institution must establish a quality management system aimed at fostering a quality culture. The implementation of QMS in polytechnic Malaysia has been in practice since the beginning of the polytechnic establishment. The overall QMS in polytechnic Malaysia system can be illustrated via the diagram below:

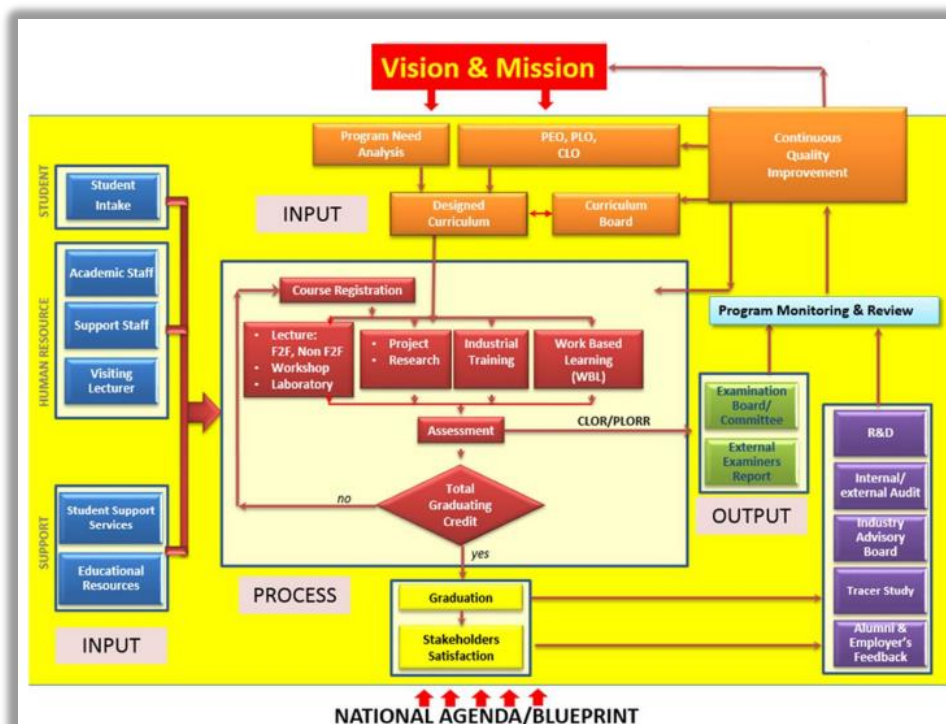


Diagram 1: QMS in polytechnic Malaysia system (JPPKK, 2022)

The QMS flowchart in Diagram 1 is categorised into three levels: Input, Process, and Output. Input addressing the preliminary procedures for proposing study programs, encompassing the analysis of program offering requirements (PNA), curriculum creation, and the establishment of study program structure. All curriculum creation procedures for study programs shall adhere to the Malaysian education agenda, plan, educational policies, and stakeholder interest. Input category also including components of student intake, human resources (comprising lecturers, support personnel, lecturers), as well as academic support, which comprises parts for student services and educational materials. The “Process” encompasses the procedures that transpire inside the institution, particularly with the execution of teaching, learning and assessment. Additionally, “process” encompasses the dimension of student feedback. The “Output” encompasses elements of external assistance that directly or indirectly checking the teaching and learning process including students and all personnel of polytechnic institution. There is also program monitoring and review stated in the framework which this is act as checker to the overall system. The checker can be in form of internal and external audit, industry advisor and feedback from the stakeholder.

In order to support the QMS framework requirement by JPPKK, all polytechnics institution has been given a mandate to plan and execute its QMS by acquiring quality certification and accreditation. This mandate not only aims to standardize educational practices across institutions but also to foster a culture of continuous improvement that ultimately benefits the institution, the students and the teaching force of polytechnic. Each polytechnic has their own quality certification and accreditation. For accreditation, it is uniquely awarded to program that being taught in the specific polytechnic. However, the data for accreditation is not being discussed in this paper. Diagram 2 is the data of QMS Practices in Malaysian Polytechnics.

No.	Types of quality management practices	Number of Malaysian Polytechnics
1.	ISO 9001:2015 (QMS)	21
2.	ISO 21001:2018 (EOMS)	14
3.	ISO 45001:2018 (OSH)	5
4.	ISO/IEC 17025:2017	1
5.	ISO 14001:2015	1
6.	ISO 1900:2014	1

Diagram 2: Statistic of QMS practices in Polytechnic Malaysia  
(Nordin, Mispul & Kasnun, 2023)

The majority of polytechnics prioritize general quality management (ISO 9001:2015) and educational-specific systems (ISO 21001:2018). Specialized standards such as ISO 45001, ISO/IEC 17025, ISO 14001, while ISO 19011 are less commonly implemented, likely reflecting specific institutional needs or capabilities. The prioritization of ISO 9001 and ISO 21001 over more specialized standards reflects broader institutional goals of maintaining general quality management and addressing the core functions of education delivery. On the other hand, the limited adoption of

specialized standards like ISO 45001, ISO/IEC 17025, and ISO 14001 maybe because some polytechnics may not require these standards based on their program offerings or operational scope. Another issue probably due to resource constraints. Specialized standards often demand significant financial, human, and infrastructural resources, which may not be feasible for all institutions. This distribution of QMS adoption reflects a strategic balance between foundational quality assurance and the targeted application of specialized standards, enabling polytechnics to address both their general operational requirements and specific institutional needs thus making the polytechnic more effective in delivering quality of service.

To put QMS into place in polytechnic as a higher education institution, it is important to figure out the foundation attributes of QMS. Venkatraman (2017) says that the most important things for QMS frameworks in higher education institutions are leadership, continuous improvement, worker participation and development, effective management information systems, partnership development and customer-focused quality. A key part of QMS in higher education institution is the dedication of top management, the participation of stakeholders, and the ongoing improvement of culture and processes. Focussing on the customer and the process, making good decisions, improving all the time, and having committed leadership are the main parts of QMS in higher education institutions.

Other research, like Manatos (2017), Papanthymou and Darra (2017), and Psomas and Antony (2017), also looked into quality aspects for developing QMS in higher education institutions. There are two models that frequently being studied such as TQM and EFQM. TQM through six dimensions; strategic planning, leadership, information and analysis, customer focus, process management and people management (Miranda, 2003; Prajogo and Hong, 2008; Prajogo and Sohal, 2003; Terziovski and Samson, 1999). According to Curkovic et al., (2000) the most successful dimensions of TQM are customer focus, employee empowerment and top management support. In the meantime, the EFQM (European Foundation for Quality Management) Model is a management framework that helps organizations assess their performance and identify areas for improvement (Sütőová et al., 2022).

In the business organization context, the EFQM model act as a tool for a self-assesment of the organization success (G. P. Hillman, 2014). In higher education context, the EFQM been used as a self-assessment review of services, activities and results (e.g., administration, technical, sport services), to evaluate management and strategic practices and to analyse the relationship among the enabler agents in higher education institution. This model had proved to succeed at the encouragement of employee involvement, raise of understanding of quality, identification of improvement actions, and the development of a common approach. Diagram 3 is the EFQM model that have bee adopted by business organization:

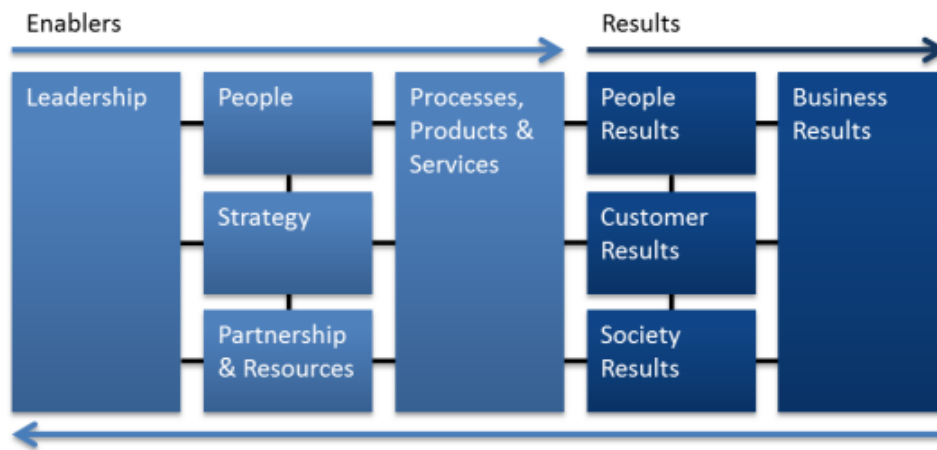


Diagram 3: EFQM Model (2013)

Based on the model, EFQM is based on nine criteria. Five of these are the enablers and four are the results. Therefore, this study will adapt "EFQM Excellence Model" into the research framework as it is one of the well-known models in quality practice. Diagram 4 is the research framework

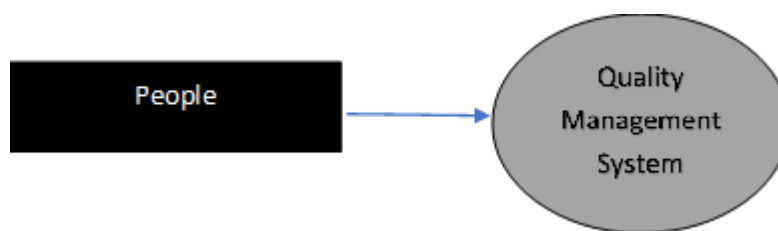


Diagram 4: Research Framework

However, for the purpose of this study, only 1 enabler have been examined which is "people". People in this study is referring to the academic staff who practicing QMS in polytechnic institution. The justification for observing only one enabler is because, it is more practicable to be observed as this study adopt observational method. Moreover, studying the sole enabler will help this study to be feasible, focused, and impactful.

People are the most valuable resource for any institution. They transform organizational policies into actions that lead to the achievement of institutional objectives. The people aspect focuses on enhancing higher education performance through the active participation of institution members and support staff. A dynamic institution is usually care for value and recognize and reward their staff in a way that motivates them to use their knowledge, skills and capabilities for the development of their institution (Abbas, Kumari & Al-Rahmi, 2021)

## METHODS

The method of this study is qualitative study where the researcher used ethnographic or observational study. Qualitative observation allows the researcher to oversee, engage, and get a comprehensive understanding of individuals in their

natural setting.

This study adopts ethnographic as the data collection method. Ethnographic research originates from anthropology field. It typically requiring an anthropologist to reside with an isolated tribal population for a prolonged duration to comprehend their culture. Today, ethnographic is a common methodology across social science disciplines, extending beyond anthropology. It is utilised to examine faraway or foreign civilisations but also to investigate specific groups within the researcher's own community (Caulfield, J. 2023)

Observation has been conducted to see descriptive practices of QMS system in several polytechnic institution such as Politeknik Sultan Salahuddin Abdul Aziz Shah, Politeknik Port Dickson and Politeknik Banting. This study was carried out between June 2023 until October 2024. During the period, five QMS audits activities and one accreditation evaluation benchmarking has been observed. The observation on the QMS audits activity are such Penaziran Akademik in Politeknik Banting, benchmarking of accreditation evaluation in Politeknik Port Dickson, surveillance audit, recertification audit and internal audit in Politeknik Sultan Salahuddin Abdul Aziz Shah.

The respondent observed during the QMS audits typically consist of academic staff who involved during the QMS and during the audit process, including auditors which total around 80 persons. The observations were conducted in several environments, including conference rooms, academic department and documents and audit process observation. Observation are based on the EFQM determinants which is people and strategy.

Generally, data in observational studies are collected only by monitoring what occurs, hence the data from the observation is collected using field note. Field notes are a compilation of records derived from a researcher's observational experiences within a particular setting For the purpose of this study, field notes instrument such as written notes, audit reports, and environmental resources like as photographs, films, and brochures facilitate the researcher's immersion in the observed area.

## RESULT AND DISCUSSION

Based on the observations following are the descriptive findings:

**Qualified Personnel:** The competency of academic staff such as the Head of Quality assurance unit, quality assurance officer, head of department, head of academic program as well as the lecturers within the organization being audited plays a crucial role. Academic staff with strong technical skills, academic knowledge, and ethical standards have better positioned in providing sound responds. From the observation, academic staff with two or more experience in their academic role have better understanding on the QMS and become more confidence in explaining the QMS. Similarly, knowledgeable personnel facilitate a smoother audit process.

**Communication:** Effective communication between top management, quality units to all of the staff in polytechnic institution is essential. Communication about how QMS implemented in the institution need to be spread-well and parallel execution in all department, center and units. Based on the observation, coordination and parallel QMS practice within the institution will make the institution more manageable and streamline thus able to proof all the compliance during the audits.

**Management Support:** The extent of support from management can significantly influence QMS outcomes. Polytechnic institution that prioritize internal controls and compliance, and encourage participation from their teams, enable the institution to be ever-ready to practice QMS and ensure it align with regulatory and institutional standards. Academic staff are more likely to engage in QMS activities, such as audits, feedback sessions, and quality reviews, when they feel their contributions are valued and supported by leadership.

**Training and development:** Based on the observation, the researcher found that polytechnic that invest in ongoing training on QMS a marked improvement in quality culture. Training equips employees with the necessary skills to perform their jobs effectively and to adapt to evolving quality standards. Training such as lead auditor training, QMS refresher training, QMS briefing, workshop related to QMS are particularly beneficial, as it enables employees to understand the entire process and the role their work plays in achieving quality goals.

**Teamwork:** Quality is seldom achieved in isolation; it is the result of collective efforts that often span across various departments. Effective teamwork is essential for a thriving QMS. Collaboration across department, center and units leads to better problem solving and execution of quality processes. When all units in the polytechnic institution are collaborated in harmony, a lot of consensus can be achieved thus, more efficient the QMS can be practiced. Organizations that promote a sense of community and teamwork contributes to higher commitment to quality objectives.

## CONCLUSIONS

From the observation, the researcher can conclude that prioritizing the "people" is the pillar of QMS. Empowering the people or academic staff enable to improve the quality system with efficacy while also cultivating a culture among people in the institution. This culture promotes sustainability towards the success of QMS in the instituion regardless of time and challenges. Training, recognising and engaging the people in the quality process enables polytechnic institution to successfully implementing QMS at the same time ensuring that their QMS is not more than just a



compliance system; it is also a strategic asset for achieving excellence quality objective thus producing high quality polytechnic institution.

For future research, the researcher recommend to explore EFQM empirically by examining more EFQM enablers and correlate it with education variables such curriculum, students affair, teaching and learning, graduate employability, governance and the like in the ambience of Polytechnic Malaysia institution. A detail future research is need to deepen the understanding of how quality management enablers influence the performance and outcomes of the polytechnic system by providing actionable insights for continuous improvement.

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