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# MULTIPLE CRITERIA DECISION MAKING (MCDM) FOR QUALITY EDUCATION MANAGEMENT IN HIGHER EDUCATION: *SYSTEMATIC REVIEW*

**Bambang Afriadi**
Universitas Islam Syekh Yusuf Tangerang
bambang.afriadi@unis.ac.id

**ABSTRACT**
Systematically this article discusses and reviews the results of previous research on the development of *quality education management* character. The *Multiple Criteria Decision Making* (MCDM) determination methodology is widely applied in various domains to search for ratings that support the standard character of things to the contrary and determine the most effective alternative. Multi-criterion decision making (MCDM) is a modeling tool and methodology for dealing with complex engineering problems. About this article is how the matching method is carried out by matching and comparing land characteristics with criteria so that one conclusion is obtained and systematic reviews collect secondary data, conduct research studies challenge ideal educational management. In this context, the quality of higher education must be improved and optimized.

**Keywords**; *Multiple Criteria Decision Making* (MCDM), Quality of Education, Higher Education

## INTRODUCTION

Higher education has provided ample evidence of its continuity over the centuries and its ability to transform and market change and progress in society. Due to the scope and speed of change, society has become increasingly knowledge-based, so educational activities and analysis today are essential to individuals, societies, and nations' cultural, socioeconomic property, and environmental development. Quality management in higher education institutions is usually embedded in commitments that begin with strategic plans or quality policies.

Internally driven quality management objectives include performance appraisal, institutional learning, and management improvement. Thus, they are intended to improve internal processes and strengthen institutional self-regulation. Teaching and learning standards have become a vital space of concern in the policy of educational activities. Teaching and learning standards have not been the main focus of national and institutional political affairs or analysis for several years. In recent years there has been a significant change in the university system so that in the global context, organizations and funds are directed at efforts to transform traditional universities into "universities of entrepreneurship" (Jaramillo, Pico, & De La Plata, 2017).

The quality of education is increasingly needed for those who are interested both directly and indirectly and for those who use its services. Access to quality education and education should be considered interdependent and inseparable desires and rights. This is often achieved mainly by developing creativity, civic values, and democracy, in addition to the knowledge, talents, and skills needed for daily life(Suzana Vlasic, Smiljana Vale, &

Danijela Krizman Puhar, 2009). Management has been targeted through the lens of process, leadership, staffing, organizing, obedience, and control to achieve effectiveness and potential throughout the institution. Good management is regarding the boundary range and gluing of individuals of the same and completely different tendencies around the institution's vision, mission, and operation (Matorera, 2018).

The education quality system, referred to as "impact," is the change experienced and must be continuous over time, taking into account the changes and effects achieved as evidence of improvement (Díez, Villa, López, & Iraurgi, 2020). Impact education assesses whether a program has produced the desired effect on the people and institutions involved (Cook & Lineberry, 2016). Quality education is a big concern in many societies. In a highly competitive education sector, the success of academic institutions largely depends on the quality of education. Educators, policymakers, scholars, and researchers show their sincere interest in total quality management as it is recognized as a practical management philosophy for continuous improvement, customer satisfaction, and organizational excellence(Sohel-Uz-Zaman, Anjalin, Sohel-Uz-Zaman, & Anjalin, 2016).

## RESEARCH METHODS

The method for preparing this article uses an evaluation approach, namely the matching method. The matching method is carried out by matching and comparing the characteristics of the land with criteria so that a particular conclusion is obtained. The method used in analyzing is that this study is a systematic review; that is, it refers to any combination of methods in which one crucial component is the review of libraries (usually systematic). Systematic reviews use systematic methods to collect secondary data and conduct research studies. The context of the review refers to the combination of a review approach combining quantitative research with qualitative or results with process studies(Grant & Booth, 2009).

The systematic review attempts to compile all empirical evidence corresponding to predetermined eligibility criteria to answer a particular research question. The main characteristics of a systematic review are: (a) straightforward questions with inclusion and exclusion criteria; (b) rigorous and systematic searches for literature; (c) two phases of screening; (d) data extraction and management; (e) analysis and interpretation of results; (f) the risk of bias assessment from the included studies; (g) and reports for publication. Furthermore, a systematic review is used in a narrative review by identifying what the researcher has written on a subject or topic that is carried out selectively. The goal is to summarize the existing scientific literature and produce a comprehensive report on the current position of science related to the new orientation in pedagogy.

## RESULTS AND REFRACTION

Multiple Criteria Decision Making (MCDM) is a subdiscipline of operations research that explicitly considers many criteria in a complex decision-making environment involving quantitative and qualitative factors. Be it in our daily lives or in the setting of professional techniques, and there are usually some conflicting criteria that need to be evaluated in

making decisions(Chang, Tan, & Lu, 2014). Decision-making is a complicated process for organizations to obtain the desired result successfully. MCDM is one of the most widely used decision methodologies in areas such as; energy and environment, business, economy, production, etc. MCDM techniques and approaches improve the quality of decisions by creating more efficient, rational, and explicit development(Mardani et al., 2015).

The MCDM method is considered the most recommended tool for decision-making problems in various fields. Decision-makers can choose different techniques for the same problem and approach different outcomes. Therefore, decision-makers should always review the literature to capture updates and be able to improve their decisions in real applications(Eltarabishi, Omar, Alsyouf, & Bettayeb, 2020). The MCDM tool efficiently provides a promising framework based on the evaluation of several criteria. Decisions on qualitative and quantitative scenarios leave no room for doubt about the decisions of experts based on a comprehensive analysis carried out on the collected data (Khan, Khan, & Ali, 2020).

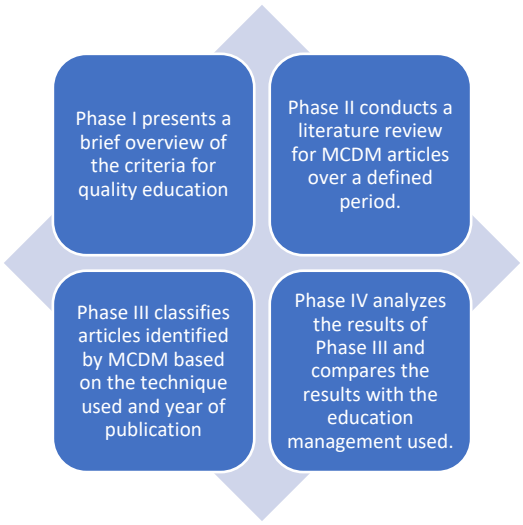



**Diagram**. 1.1. Multiple Criteria Decision Making (MCDM) pada *quality education management*

The decision-making process, in this case, to improve the quality of education through literature review is sometimes tricky, referring to the substance of the material and minimal time. Not only focused on studies that are policy formulations and more directive strategy formulations but also have been widely applied at the operational scale policy level such as selection or evaluation processes, supply chain management (mitigation and risk assessment), and performance measurement. Not only in the decision-making process and directive strategy preparation but also at the tactical and operational levels, for example, in the selection process for development sites, technological innovations used, and institutions (Pengkajian et al., 2020).

**Figure** 1.1 VOSviewer *analysis of keyword quality education management*

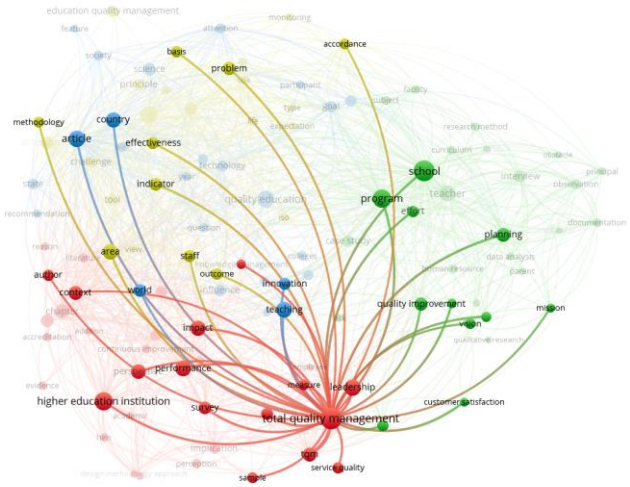
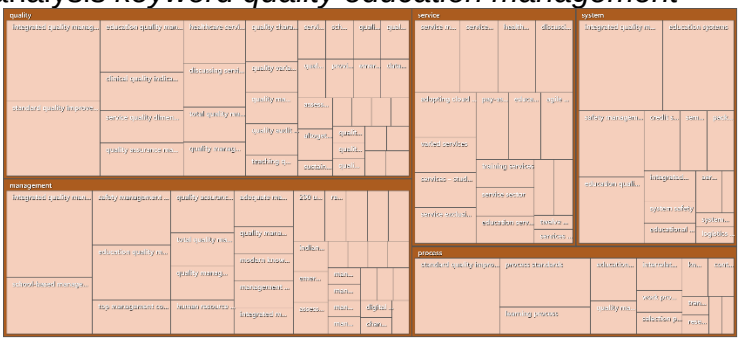
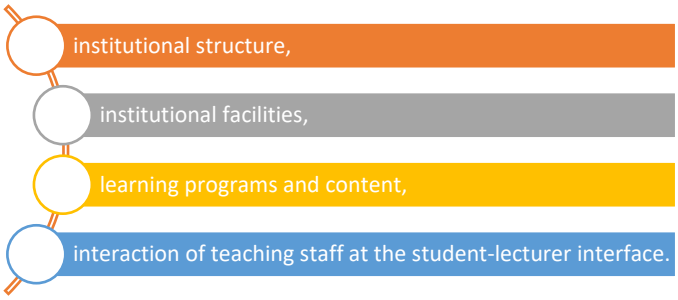



**Figure** 1.2 nvivo analysis *keyword quality education management*




Based on the results of data management using the VOSviewer application and the Nvivo application from the data using *a systematic reviews* approach which uses systematic methods to collect secondary data with *the keyword quality education management.* To identify, assess, and select the appropriate studies, up to the synthesis of its data, it is known that to improve the quality of higher education in particular. A systematic review of the literature on lean and six Sigma approaches in higher education suggests that this approach can be applied to improve teaching methods, administrative processes, and other aspects of higher education institutions. The introduction and application of this methodology can improve the quality of higher education and add value that continues to increase customer satisfaction (students)(Cudney, Venuthurumilli, Materla, & Antony, 2018).



It is known that the quality of education must be optimized, through administrative education management, using an effective and efficient administration system. How staff, educators, and education are capable of working, innovation, have work programs, have appropriate basics, and have mesh panning and outcome. The service of service to students must also be optimized. The VOSviewer data processing procedure to find out *the keyword quality education management* was previously searched using the *Publish or Perish eight application,* with criteria that are as appropriate as in this research resulted in the publication of articles from reputable journals as many as 1000 with a period of 201 8-2022, the last article was selected according to criteria getting results 6 72. The selection results are then processed using VOSviewer seeing mucus according to *keywords* which shows *quality education management.* Meanwhile, the data management procedure using Nvivo researchers made a selection by studying *quality education management* in the previous search on the keyword and studying each article to get a total of 150 articles that were considered relevant.

In this case, there is a relationship between decision-making to improve the quality of education and a quality management system to find information on the availability of critical indicators derived from the management information system. This includes examining the use of the resulting information to provide feedback to stakeholders or inform quality-related processes such as course reviews and academic staff assessments.

In the context of globalization, the quality of higher education (PT) is increasingly considered strategically crucial for the development and competitiveness of the national economy(Leeuw & Vaessen, 2009). Improving academic quality has become a crucial policy imperative for universities worldwide. The quality of human resource development and knowledge production is seen as the main driver of the competitiveness of the national economy. This pattern is especially noticeable when UNIVERSITIes become a competitive market, where quality becomes a tool for consolidating institutional market positioning.

Auditing, in the context of quality in higher education, is checking that procedures are in place to ensure quality, integrity, or standards of provision and results. Based on its Quality Assurance Policy, it has established various tools and procedures to ensure and improve quality in the core areas of the university's teaching and learning, research, and organizational structure.

1. Institutional accreditation, for example, looks at mission, objectives, governance, programs, staff teaching, resources, students, services, and facilities. It focuses on the system as a whole, whether it fits staff, resources, students, services, and facilities. It focuses on the system as a whole, whether it is suitable for guaranteeing its quality by mechanisms and practices, and has specific standards.
2. Program accreditation relies on a single course of study and, for example, looks at specific criteria and standards similar to those we have listed for institutional accreditation. It concentrates, for example, on teaching and learning strategies, learning outcomes, and study program objectives.

Isu employment of graduates and the linkage of higher education (PT) with the labor market has been at the top of the pt policy agenda for many years; attention paid to the topic has gained momentum in the context of increasing unemployment of graduates in many countries. Therefore, governments emphasize this aspect in their higher education policy and planning documents, and institutions respond by making quality improvement one of their most critical strategic goals.

How to find out if and how quality management takes into account the dimensions of graduate employability, the survey asks respondents to determine the tools and processes they use to measure and improve performance in this dimension. In college, an employer or alumni is a committee member involved in developing and reviewing an academic program. The development and review of curricula involving related professions consist of employers' involvement in revising the study program, seeking their opinion on the program's effectiveness about the readiness of graduates to work. Under the necessity of facilitating the relationship between the academic program and the labor market, internships have become an essential feature of academic programs, so it is important to know if they are assessed in terms of their contribution to the broader pedagogic system of a course of study. The purpose of the survey is to collect primary data on the current state of development and external drivers and internal factors related to quality management in higher education institutions globally and regionally. The survey is designed to allow regional comparisons. While there is no general trend across regions, the survey identified a set of findings specific to each region.

In the context of globalization, there has been an increase in competition between Universities to attract international students, staff, and funds. These latest developments have increased the importance of internationalization. Moreover, internationalization is also expected to improve the quality of academic and research programs, contribute to generating income, and improve international reputation. Quality management models derived from industry and business with the paradigm of competition (Becket &Brookes 2008, 44)

1. A comprehensive management approach requires contributions from all participants in the organization to work towards long-term benefits for those involved and society as a whole.
2. A performance/strategic management system uses four measurement perspectives: finance, customers; internal processes; and learning and growth.
3. Based on a framework of performance excellence that organizations can use to improve performance. Seven categories of criteria: leadership; strategic planning; customer and market focus; measurement, analysis, knowledge management; focused human resources; process and results in management.
4. International standards for quality assurance systems focus on continuous improvement through preventive measures. Its elements are customer quality and regulatory requirements, and the efforts made to improve customer satisfaction and achieve continuous improvement
5. Systems to enable the redesign of business processes, systems, and structures to achieve improved performance. It deals with changes in five components: strategy, process; technology; organization, and culture.

6. An instrument designed to measure consumer perceptions and expectations regarding the quality of service in five dimensions: reliability; instrument designed to measure consumer perceptions and expectations regarding the quality of service in five dimensions: reliability; where the gap exists.

This indicates that institutions must create models to guarantee and manage higher education quality adequately. Models derived from industry and business are adapted for higher education and their characteristics and peculiarities. There is no doubt about the importance of high-quality higher education in social and economic development. It is well accepted that the success of a country is directly influenced by the quality of its higher education system (Pavel, 2012). In this regard, it is essential to observe that higher education should answer social and economic needs. Therefore, universities must increase the excellence of teaching and learning to effectively and efficiently answer society's general needs (Dzingirai, 2020).

## CONCLUSION

Higher education systems must increase their capacity to live with uncertainty, change and bring about change, meet social needs, and promote solidarity and equality; they must preserve and use scientific rigor and originality, in a neutral spirit, as an essential prerequisite for achieving and maintaining the necessary level of quality; and should put students in the center of their attention, in a lifelong perspective, enabling their full integration.

In teaching institutions, quality management will go beyond teaching and learning to include alternative areas that value research, governance and outreach, and community service. It must also consider issues with vital political interests, such as international work and collaboration, regarding core functions.

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