

Total Quality Management (TQM) in Education: School Quality Management for Quality Educational Services at Senior High Schools

Uswatun Khasanah¹, Yatim Riyanto¹, Sri Setyowati¹

¹ Universitas Negeri Surabaya, Surabaya, Indonesia

Abstract – TQM can be applied in education for enhancing the quality of educational services. This study aims to analyse school quality management regarding how the Juran Trilogy is applied at schools in East Java, Indonesia. It addresses planning, control, and improvement in quality management. This study uses a qualitative design with triangulation approach. Results show that schools plan education services in accordance with student needs, government policy, and stakeholder's expectation. In monitoring and evaluating the programs, measurements are used using appropriate methods and periods, then the actual are analysed. In quality improvement, schools take innovations and changes for better improvements. The results of this study indicate that schools can provide good quality education services by using the Juran Trilogy as a quality management tool. However, it is required further studies due to limitations of this research.

Keywords – TQM in Education, the Juran Trilogy, Quality Planning, Quality Control, Quality Improvement.

1. Introduction

High quality standard for education in Indonesia has to be the main priority.

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Corresponding author: Uswatun Khasanah,
Universitas Negeri Surabaya, Surabaya, Indonesia
Email: uswatun.19005@mhs.unesa.ac.id

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It is required a serious concern of the government for education development as Indonesian population growth is predicted around 64 % in productive age in 2020-2035 which is called bonus demography. Education helps to supply the qualified educated workers who tend to be productive. This idea in line with [1], [5], [16], and [27] who agree that quality education will affect the productivity of work and economic growth.

In improving the quality of education services, Total Quality Management (TQM) as an effective management philosophy that was introduced by Edwards Deming in the late 1950's can be applied in education. With TQM, educational institution can implement a change movement towards a quality culture to fulfill quality in fact and quality in perception [29]. The Gurus of TQM defined about quality as fitness for use [19], and Zero Defect [9]. Quality approach is essential to use for gaining customer satisfaction and customer loyalty [2], [8], [21], and [30]. A previous study by Militaru, et al. [25] aims to highlight TQM that gives benefits to educational institutions and its prospects in education. Moreover, a study of Dahil & Karabulut [10] analyses the impact of TQM on the education system and the results show that TQM affected better communication between students and teacher.

The success of TQM implementation in the industry has inspired various sectors including education to improve the quality. TQM was adopted in universities around the 1980s, and began to develop in the 90s in the UK and the USA. In adopting TQM in education, Herman & Herman [17] tried to bring us to understand TQM applied for education through its philosophy, its goal and its process. Total Quality Management (TQM) can be applied to education by improving education quality. Several studies mostly bought up the issues of TQM in education for improving quality in education which concerns customer satisfaction through excellent quality and continuous improvement [3], [6], [15], and [32].

Dr. Joseph Juran [20] developed three important managerial tools known as the Juran Trilogy consisting of quality planning, quality control, and quality improvement. Quality planning is a stage to build awareness of the need for planning by setting goals and planning ways to achieve the goals. The aim of this study is to analyze Juran Trilogy based on quality management at schools. It addresses planning, control, and improvement in quality management. In quality control, the planned quality is maintained in the process to fulfill the planned product/service. Quality improvement can lead to improve the standard of quality service/product. Due to limitations of this research, which was conducted during the COVID-19 pandemic, further research is needed.

2. Methods

Qualitative research is aimed to gain a deep understanding by examining people's words or actions experienced by the participants. The purpose of this qualitative study is to analyze quality management at schools which are assumed to have similar characteristics [7], namely Islamic-based private schools in East Java, Indonesia.

Data were obtained through in-depth interview, observation, and study of document. Triangulation data were used in this research. The data gained were from informants; such as Principal, Deputy Principal Academics, Deputy Principal Student Affairs, Deputy Principal Facilities, Deputy Principal Public Relations, and Head of Quality Assurance.

The steps used in data analysis were condensed data, display data, and conclusions [23]. The selection of relevant data was carried out for presenting accurate and reliable research results. In data condensation, there are processes of selecting, focusing, simplifying, abstracting, and transforming data [24]. Data analysis was carried out by using within-site analysis and cross-site analysis. To appraise the trustworthiness of this study, four criteria containing credibility, transferability, dependability, and conformability were used.

3. Result and Discussion

This section highlights quality planning, quality control and quality improvement which are applied at schools based on the analysis of the primary and supporting data gained. Obstacles and supporting factors in applying school quality management are conveyed according to the findings. Besides, Juran Trilogy based school quality management model is also presented here. The detail discussion are described in the following parts.

3.1. Quality Planning at School Quality Management

Both schools have diverse learners that come from diverse culture. Schools provide quality education services started with quality planning. The steps taken are as shown in Figure 1.

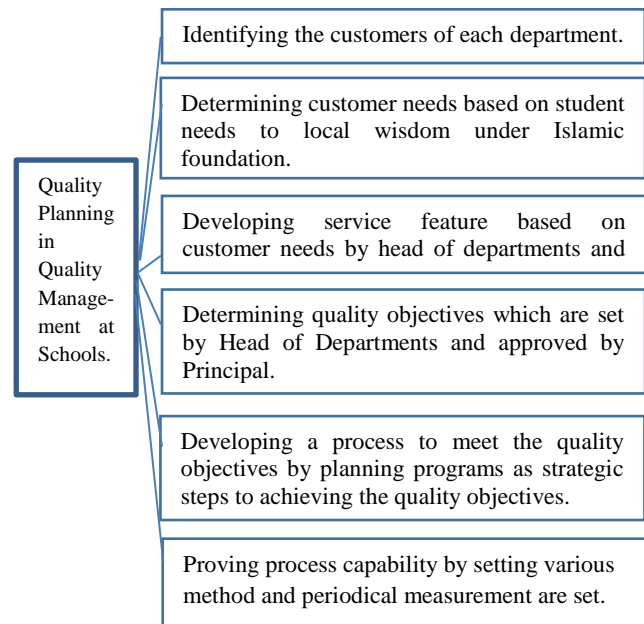


Figure 1. Trilogy Juran based Quality Planning in Quality Management at Schools

Figure 1 states that schools implement six-step strategy in quality planning. Schools can build awareness of the need for planning by setting goals and plans to achieve the goals. Based on the findings, schools have done quality planning through these strategic steps. Schools have known their customers well, namely internal customers and external customers [28]. Deputy Principal and staff in each area; academics, student affairs, facilities, and public relations, can identify each primary customer. Voice of a customer [14] is important to be determined. By determining the customer needs, schools are able to concentrate their energy on always meeting the needs of their customers. It is in line with the importance of determining the customer needs and the impact on customer satisfaction and customer loyalty from [18], [22], and [31].

Analysis of student needs is carried out at the beginning of the year, during the process of students' enrolment. Customer needs of both schools are determined based on student needs to local wisdom under Islamic foundation. The analysis carried out related to the non-academic and academic potential of students. Besides, the analysis of parents' expectations is also beneficial before determining what kind of school programs are for students' development.

Both schools provided quality planning in facing massive changing in COVID-19 pandemic. Following the policy of the Ministry of Education and Culture, schools in Surabaya provided remote learning due to Surabaya was still classified as a Covid-19 spread red zone. However, limited face-to-face learning was held in schools in Jombang as it was confirmed in the yellow zone of COVID-19. By focusing on students' need as their primary customers, schools planned some quality objectives that were relevant to that change.

Each area developed its service features based on customer needs by head of departments and staff. Each area set programs for providing features of quality education at the beginning of the academic year. Each department of those schools developed quality objectives including action plans. All quality objectives referred to the school's vision, mission, and goals. Well-structured plans were created to realize its strategic goals including method and period of measurement.

3.2. Quality Control at School Quality Management

For schools to provide the best services to their students, quality control is essential. Both schools were able to control the planning well. It can be seen in Figure 2.

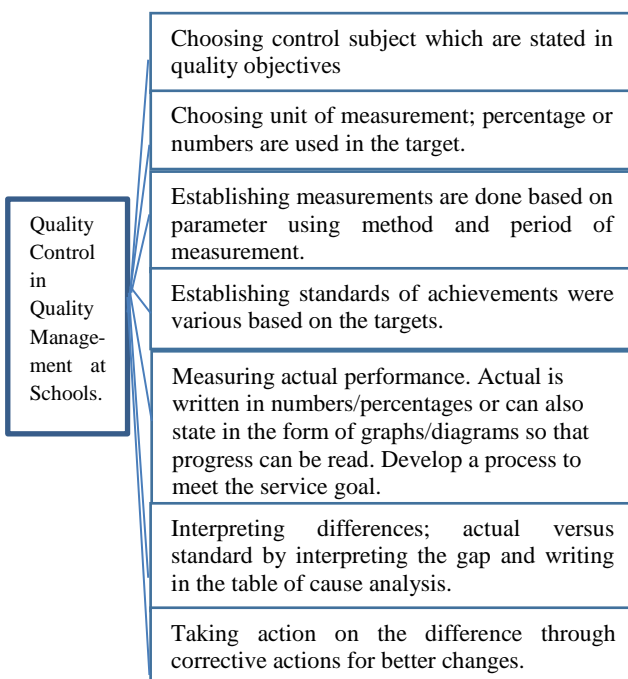


Figure 2. Trilogy Juran based Quality Control in Quality Management at Schools

Figure 2 shows the seven steps in quality control to maintain education service consistency. Based on the findings, schools are able to control the planning well. The control subjects are set into the quality goals of each area.

These specifications are in line with the SMART criteria [12], [26] that the control subject has to be specific in accordance with the SMART criteria in quality objectives. The target highlights subjects controlled. Percentage or number is used in the target. It is measurable. The target is the minimum standard of achievement. It is also to ensure that the targets have been carried out quality standards given. Then, unit of measurement is represented by numbers or percentages that can be measured. By determining the unit of measurement, measurement can be easier to do. It also becomes a standard of achievement.

To establish measurement, different parameters are used. Measurement is carried out based on the period of the measurement and the method of measurement. In the COVID-19 pandemic, it could be held twice in a year, named audit internal, online or offline. The result of the measurement is called actual. If there was a gap between the actual and the target, deputy principal and staff will analyse it. Actual is written in numbers/percentages. The report is shown visually through graphs and diagrams as well as analysis tables that contain causes and corrective actions. It is very beneficial as quantitative data can be written and visualized, then the analysis can be written descriptively. Then, it will be reviewed by Principal and Top Management.

3.3. Quality Improvement at School Quality Management

Schools have applied quality improvement to elevate their quality services. It consists of some strategic steps. It can be seen in Figure 3.

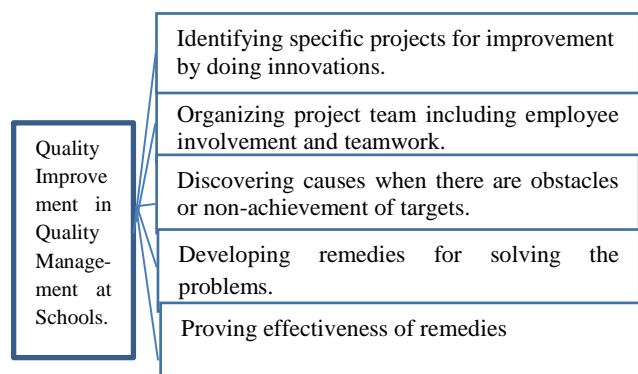


Figure 3. Trilogy Juran based Quality Improvement in Quality Management at Schools

A school in Surabaya set up specific projects related to online learning for students, and facilities for teachers during the COVID-19 pandemic. It required some conditions like school verification, health protocols, parental permission, limited capacity at class, and regulation for facilities supporting face-to-face learning. Those were small-scale projects [13] that were time-restricted.

The educational innovations were generated during the COVID-19 pandemic. Schools made changes through specific projects that include some innovations for each area.

Each area had coordinating meetings regularly either formal or informal, in the pandemic COVID-19. They also used Google Meet, Zoom, or WhatsApp group for discussion to discover causes and find out the solution. The data indicate that Deputy Principals as team leaders for each area at schools build effective teamwork and synergized between departments. High productivity is built on a culture of teamwork, commitment, and employee involvement. It is in line with Daily, et al. [11] in their study who finds out the role of teamwork in successful employee involvement. The research findings of Arthur [4] show that practices that develop employee commitment produced higher productivity than practices that were more control-oriented.

3.4. Obstacles and Supporting Factors

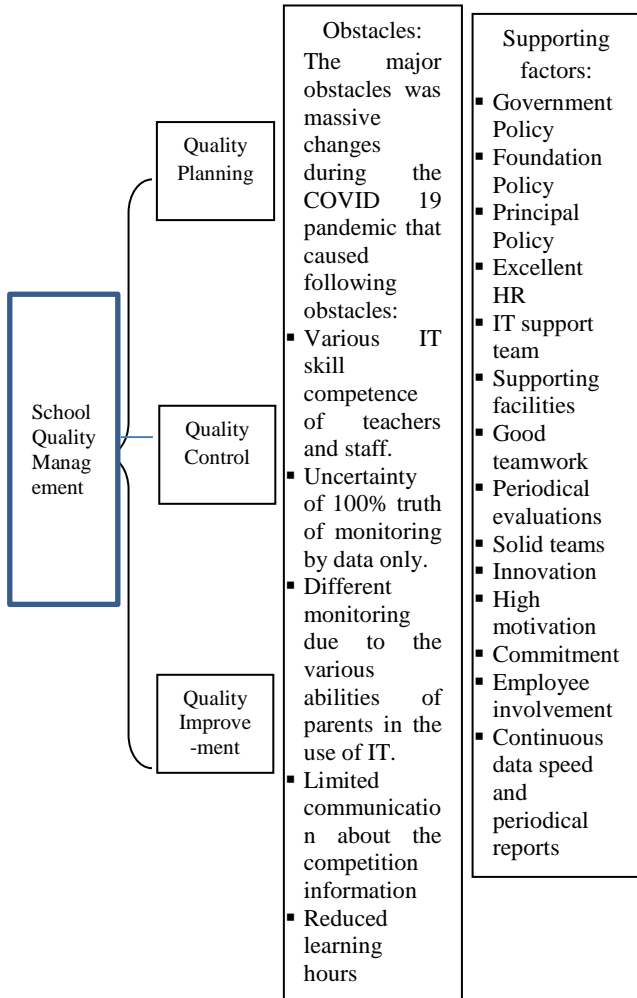


Figure 4. Supporting factors and obstacles of school quality management at schools when covid-19 pandemic occurred

Applying quality planning, quality control, and quality improvement in COVID-19 pandemic faced some obstacles dealing with massive changes and uncertain condition. It can be seen in Figure 4. The obstacles related to various IT competences, the difficulties of monitoring learning process, and reduced learning hours. However, those could be faced by optimizing the supporting factors. Following the government policy and foundation policy, both schools which had quality culture could manage school quality management well in pandemic era. Both schools which had excellent HR, IT support team, supporting facilities, and good teamwork could plan quality objectives and some relevant programs through strategic steps. Controlling can be done by using periodical evaluations, solid teams, continuous data speed and periodical reports. Moreover some innovations are done in improving the quality service. High motivation, commitment, and employee involvement are also important factors in doing continuous improvement.

3.5. School Quality Management Model

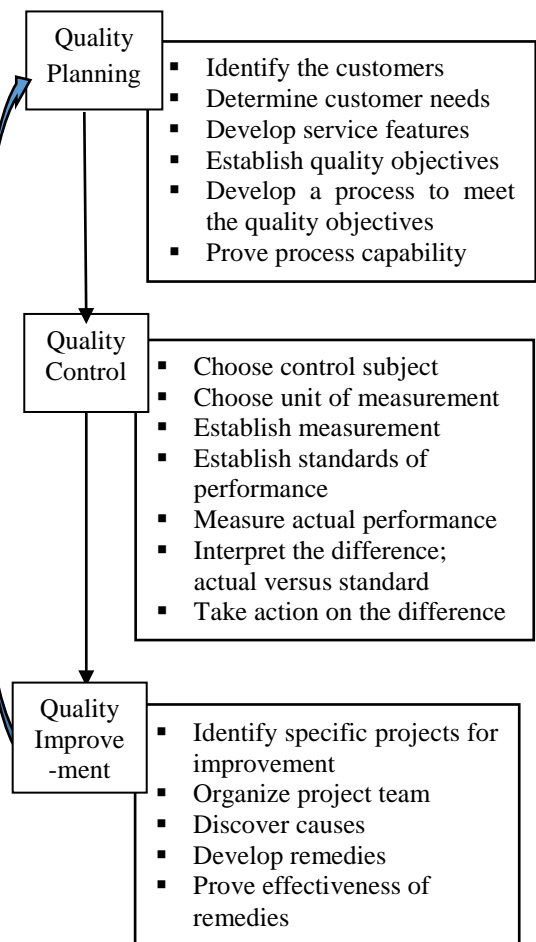


Figure 5. Juran Trilogy based School Quality Management Model

Figure 5 shows school quality management that can be applied based on Juran Trilogy [20] through chronological steps. The steps in quality planning include: 1) Identify the customers, 2) Determine customer needs, 3) Develop service features, 4) Determine quality objectives, 5) Develop a process to meet the quality objectives, and 6) Prove process capability. In Quality Control, the planned quality is maintained in the process to fulfill the planned product/service. The strategic steps in quality control include: 1) Choose control subject, 2) Choose unit of measurement, 3) Establish measurement, 4) Establish standards of performance, 5) Measure actual performance, 6) Interpret differences; actual versus standard, 7) Take action on the difference. Quality improvement breaks into strategic steps as following: 1) Identify specific projects for improvement, 2) Organize Project Team, 3) Discover Causes, 4) Develop Remedies, and 5) Prove Effectiveness of Remedies.

4. Conclusion

Based on the findings obtained from the results of the study, it can be concluded that both schools have implemented quality management based on the Juran Trilogy which consists of quality planning, quality control, and quality improvement. The findings show that both schools were able to provide quality educational service that met students' needs, especially in the COVID-19 pandemic. Thus, both schools could adapt the massive changing as fast as possible through continuous improvement.

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