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# Assistance Program for the Implementation of ISO 9001 2015: Case Study of Telkom Junior High School

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**Abstract.** *Yayasan Pendidikan Telkom* is one of the educational foundation that houses several of private education institutions ranging from elementary, secondary, to higher education. The foundation constantly improves the quality of education services as the most important component in carrying out institutional operations in order to always gain the trust of prospective students and the community. The efforts of the educational institutions to improve the quality of services, one of them by implementing a quality management system that refers to the latest edition of ISO 9001. Telkom Junior High School is one of the educational institutions that will now begin to implement ISO 9001: 2015. The teachers and school staff experience many obstacles in preparing to face the implementation of the quality management system. With the exploratory research approach, this study aims to produce an assistance model and describe the stages that will be passed by educational institutions in preparing their institutions to face ISO 9001: 2015. This research is the initial stage of studies that will be conducted and will be more focused on the preparation stage, while the discussion of the implementation phase will be carried out in future research. This assistance model is designed to help educational institutions to implement ISO 9001: 2015 according to plan, and especially so that the preparation process takes place quickly and directed.

**Keywords:** Quality Management System, ISO 9001: 2015, implementation, preparation phase, Telkom Junior High School

## 1. Introduction

For private education institutions, maintaining the quality of education services in a systematic manner is the most important component in carrying out institutional operations in order to gain the trust of prospective students and the community because private educational institutions are often chosen as secondary alternative, after government-owned or public schools. However, with the excellent quality of private education services, many have found that private education institutions are preferred over public education institutions. This is indicated by the increasing number of private education institutions. The efforts of educational institutions to improve the quality of services, one of them is by building a quality management system that refers to ISO 9001 and the latest standard is the 2015 edition. This is experienced by secondary schools organized by Telkom Education Foundation or *Yayasan Pendidikan Telkom* (YPT) which began to implement ISO 9001: 2015 for quality management systems. All educational institutions owned by YPT have the status of private schools, striving to have superior education services, one of which will be achieved through the implementation of ISO 9001: 2015.

In an effort to improve the quality of service of its educational institutions, YPT as the organizer of educational institutions, constantly enhances its services and management systems that are applied to all



institutions it owns, one of which is for middle schools, which are branded as Telkom Junior High School.

The application of the ISO 9001 quality management system standard in the service industry is relatively new compared to the manufacturing industry, especially in educational institutions. The Quality Management System based on ISO 9001 has been well received and applied in many countries [1] [2], even studies that have examined the positive impact of its application have been widely carried out. One of them is about increasing customer satisfaction [3], standardizing work procedures [4]. In addition, some of them also discussed the obstacles faced in implementing ISO 9001 [5].

This study will examine about the important phases in the ISO 9001 implementation process, which is the preparation phase that is rarely discussed in the research. According to the experience of many institutions, preparation for ISO 9001 implementation often lasts long and protracted, so that there are institutions that then take shortcuts by submitting the preparation process entirely to other parties, such as consultants, to design the system. This results in the low involvement of people who are executors of the management system, and the sustainability of implementation is threatened.

This study aims to develop assistance model for ISO 9001 implementation that will improve the effectiveness of the preparation process, so that it can assist educational institutions in expediting and accelerating the preparation process. Before, there wasn't any research like this that contained an implementation model that discussed the phases of ISO 9001 Implementation in Educational Institutions.

Improving the quality of the process in order to create superior services is a necessity, it should be the aim of every organization that acts as a service provider. In services, service delivery is very much determined by the process that accompanies it, and the process that is organized with standard and is carried out consistently will provide opportunities to produce superior services.

The implementation of the Quality Management System in educational institutions is very much needed to guide the management of key and important processes to improve superior and consistent education services for users and other related parties.

[6] There are two types of motivation that underlie the organization in carrying out ISO 9001 certification: 1). Internal motivation, to improve the quality of the organization, and 2). External motivation, which is used as an amplifier in the effectiveness of promotion and marketing [7]. As a private education institution, according to Telkom Junior High School, ISO 9001 certification can be used as a tool to increase the effectiveness of the promotion that will be conducted. In addition, the implementation of ISO 9001 is a form of quality assurance that will increase trust for customers. In services, brand trust is a factor that will affect customer satisfaction and customer loyalty.

Initially, ISO 9001 was widely applied in the manufacturing industry, then, followed by the service industry. However, research on the application of ISO 9001 in educational institutions cannot be widely found. Several studies discussing the application of ISO 9001 in educational institutions were carried out in Portuguese [8], the United States and the United Kingdom [9].

## **2. Research Methods**

This study aims to create a model that can be used as a reference or a standard for the preparation process until the implementation of Quality Management System ISO 9001:2015 at Telkom Junior High School. The research was conducted using the Exploratory Research approach which aims to gather a deep understanding of a problem. In this study, exploratory research was used to identify actions that need to be carried out in the process of preparation & implementation of the system based on real conditions in the object of research. The data generated are qualitative data. This study focused on the preparation phase for the implementation of ISO 9001: 2015 and it will correct the steps that have been taken which has resulted in the delay of the ISO 9001 implementation process, which is due to a less effective preparation process.

The object of this research is Telkom Junior High School, which is one of 54 educational institutions owned by YPT. This object is one of the institutions that have not succeeded in carrying out ISO 9001 implementation, despite having prepared beforehand.

Since there are more than one number of educational institutions and those institutions are in different cities, the first attempt is to choose a pilot project to make corrections to the ISO 9001 implementation

process, and the selected institution is Telkom Junior High School in Bandung. It was chosen based on the fact that educational institutions with middle schools that have implemented ISO 9001 are still few and rare, so that they will provide added value and create excellence in providing educational services.

The preparation process that has been carried out in Telkom Junior High School contains training, which has been done several times. It has discussed the materials needed to implement, which are awareness, understanding ISO 9001 requirements, documentation system creation techniques for quality management systems, and risk preparation profiles. Even so, the level of readiness to start implementing ISO is still low, having proven not to have complete quality standards and structured documentation as required in ISO 9001.

The form of correction to the preparation process for ISO 9001 implementation at Telkom Junior High School was carried out in the form of Assistance, which was divided into 2 phases: mentoring for the preparation process and mentoring for the implementation process.

### 3. Discussion and Result

The Assistance Program is divided into two phases: Preparation phase and Implementation phase, each of which consists of several sub-phases. In this study there were two teams involved, which are the implementation team who came from Telkom Junior High School and the research team who acted as the Assistance Team. The Assistance Team will oversee the entire process, both in the Preparation Phase and the Implementation Phase.

The Preparation Phase consists of five sub-phases and the Implementation Phase consists of four sub-phases, which are explained into nine steps, as follows:

1. Measuring the implementation readiness, using a closed questionnaire, also to explore the obstacles faced in the preparation process that has been passed.
2. Preparing a schedule to deal with implementation which is directed at the internal quality audit implementation schedule, Management Review Meeting, and External Quality Audit. Scheduling is done with the Implementation Team that has been formed.
3. Identifying what requirements have been and have not been fulfilled which is done by filling out an open questionnaire and documentation review (desk evaluation)
4. Providing consultation to improve understanding needed especially in fulfilling the completeness in the documentation.
5. Checking the completeness of the fulfilment of requirements through documentation
6. Organizing an Internal Quality Audit which aims to examine the conformity between practices and requirements in ISO 9001. An important activity in AMI is to examine artefacts and other evidence that illustrates that a standard has been well travelled.
7. Following up on findings that must be corrected, which can be in the form of non-conformity, opportunity for improvement (OFI) or observation.
8. Organizing Review Management, in the form of meetings, to discuss several important matters.
9. Conducting an External Audit or Certification, in the form of surveillance, which will determine the eligibility for obtaining recognition has successfully implemented ISO 9001.

The nine steps are summarized in Table 1:

**Table 1.** Implementation Assistance Program ISO 9001:2015

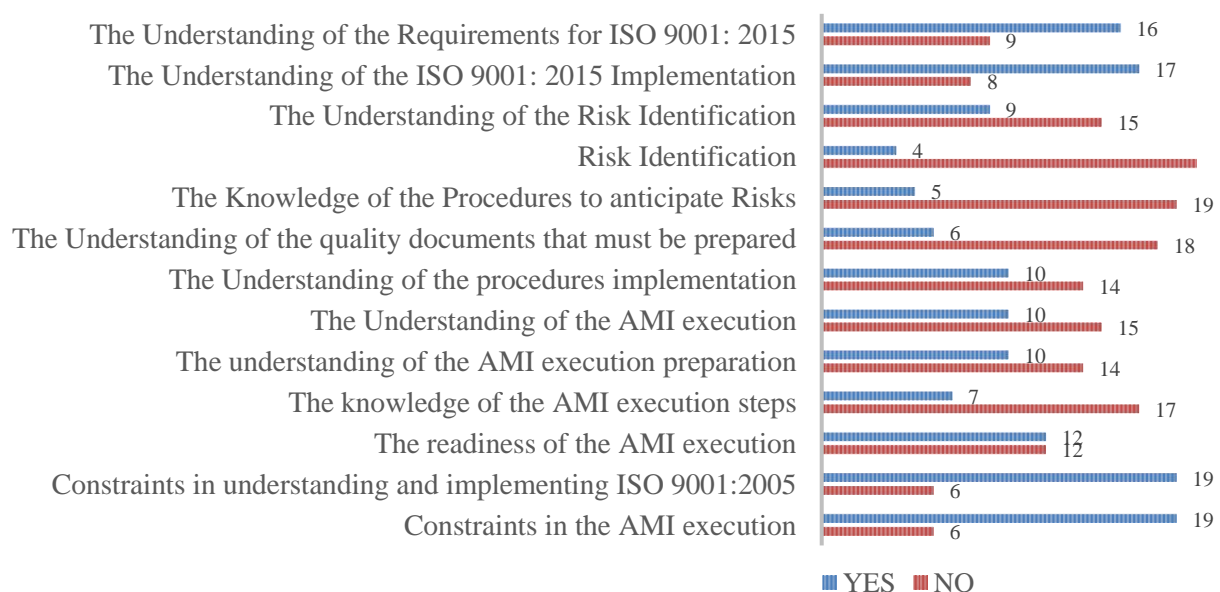
Step	Distribution	Tools				
		Q	DR	I	C	T
A	Preparation					
1	Measurement of implementation readiness	√				
2	Arrangement of implementation timeline			√		
3	Identify fulfilment of requirements	√	√			
4	Improvement the understanding of ISO 9001				√	√
5	Fulfilment of ISO 9001 requirements		√	√	√	
B	Implementation					
1	Conducting AMI	Implementation				
2	Corrective action of non-conformity	Implementation				
3	Review management meeting	Implementation				
4	External audit (certification)	Implementation				

Note: Q = Questionnaire; DR = Document Review; I = Interview; C = Consultancy; T = Training

In the preparation process, several tools are used to get information from objects to the researcher or provide information from the researcher to the object. This information is used to determine the steps that must be taken. Searching for information from objects is done by distributing questionnaires, conducting interviews, or conducting document reviews, while giving information from researchers to objects is done by providing consultation and training.

In this study, new preparation steps are included, while the implementation steps will be continued in further research.

In initiating the mentoring process, the readiness and identification of the obstacles faced are first measured, which lead to a slow and protracted preparation process. This measurement uses a questionnaire which consist of closed and open questions. It was distributed to 21 respondents (teacher and staff). The results obtained are described in Figure 1.

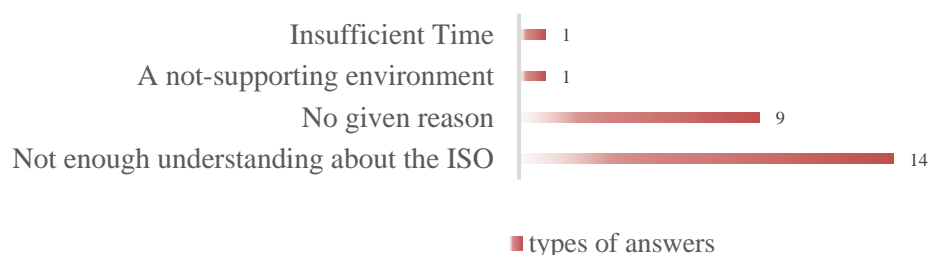


**Figure 1.** Implementation Readiness Measurement ISO 9001: 2015

The graph above shows the survey results to 21 respondents consisting of teachers and staff. In the survey there were 13 questions related to components or important things that must be understood in implementing ISO 9001: 2015, where there were only 2 answer choices (yes and no). Based on this picture it can be seen that in each question there are no answers, more than that in 8 of the 13 questions, YES answers are more than NO answers so it can be concluded that the understanding of teachers and staff at Telkom Junior High School for ISO: 9001 implementation is still very poor.

The readiness of Telkom Junior High School towards implementation ISO still has problems and this has caused the preparation time that had been carried out for a long time, exceeding the planned time. Figure 1 provides information about the low readiness of Telkom Junior High School to step in the implementation phase. The constraints that are still being faced must be formulated, and the solution is sought to be resolved immediately.

By using open questions, an exploration of the constraints faced is obtained, which results in a low level of vulnerability, as described in Figure 2.



**Figure 2.** Constraints to the Causes of Low Readiness

The graph above shows the results of a survey of 21 respondents consisting of teachers and staff. In the survey there were 4 statements of constraints faced by respondents when facing ISO 9001: 2015. The constraints that most respondents experienced were lack of knowledge about how to implement ISO 9001: 2015

Reinforced from the interview results revealed that the preparation time that lasted longer than planned, due to their understanding of the requirements contained in ISO 9001 has not been well mastered, especially related to the preparation of risk profiles which is a realization of risk based thinking. These constraints require handling in the mentoring program, which is overcome by providing training and consultancy. The problem that is most not understood is related to the making of operating procedure standards, in the process performance measurement section, as well as the creation of a risk profile.

Carrying out the review document was first done with the help of a tool in the form of a check list, which must be asked and verified by the ISO 9001 Team. The check list contains 30 questions, listing the requirements in ISO 9001 that must be fulfilled in the form of providing operating procedures, policies and completeness standards document that must be owned. Based on the check list, it was found that Telkom Junior High School readiness in fulfilling the requirements and completeness of the new document reached 8/30, or 29.63, thus requiring follow-up. Based on the results of the check list, training and consultations are carried out, with the aim that the team can meet all requirements in full. After being given the time to be able to meet all the shortcomings, the check list will be reused to ensure that the level of fulfilment of the requirements has reached 100%, so that it can go to the implementation phase.

When carrying out the Implementation phase to all standards and policies, it is possible to improve the standard that has been set, as a form of fine tuning. After the implementation lasts for three months, the Internal Quality Audit is conducted, to ensure that the standards that have been set have been implemented, and to explore opportunities for improving the quality of the process.

#### 4. Conclusion

The implementation of ISO 9001 is one way to structure efforts to improve the quality and consistency of services and to systematically improve quality but the preparation process doesn't often run smoothly, or even tends to be protracted. Even though it has received training in knowledge received through training that discusses various materials related to implementation, there are various obstacles which have resulted in a longer process of preparation, which has the effect of decreasing motivation to implement. An assistance program was introduced to overcome the problem which was divided into two phases: The Preparation Phase and the Implementation Phase, but in this study, the discussion was limited only to the Preparation Phase.

Assistance Program in the Preparation phase applied in the study includes five sub-phases, and in its implementation, questionnaire tools, check lists and interviews are used to extract information from the Implementation Team, as well as consultation and training that serves to provide understanding and skills by the Team Companion to the Implementation Team, which is needed in the debriefing process during the preparation phase.

In order to be able to accommodate various conditions faced in the Preparation Phase, this Program will be applied to other educational institutions, so that a more complete and generalizable Assistance Program can be obtained. The assistance model that was generated in Telkom Junior High School can be a reference for other educational institutions to prepare the implementation of ISO 9001: 2015.

#### 5. References

- [1] Magd H. and Curry A., 2003 An empirical analysis of management attitudes towards ISO 9001:2000 in Egypt *The TQM Magazine* **Vol 15** No 6 pp 381-90
- [2] Magd H.A.E., 2006 An investigation of ISO 9000 adoption in Saudi Arabia *Managerial Auditing Journal* **Vol 21** No 2 pp 132-47
- [3] Cebeci U. and Beskese A., 2002 An approach to the evaluation of quality performance of the companies in Turkey *Journal of Industrial Engineering and Management* **Vol 17** Issue: 1/2 pp 92-100.
- [4] Tari J.J., Azorin J.F.M, Heras I., 2012 Benefits of the ISO 9001 and ISO 14001 standards: A literature review *Journal of Industrial Engineering and Management* **Vol 5** No 2 pp 297-322
- [5] Zeng S.X. and Tian P., 2007 Overcoming barriers to sustainable implementation of the ISO 9001 system *Managerial Auditing Journal* **Vol 22** No 3 pp 244-254
- [6] Sampaio P., Saraiva P., Rodrigues A.G., 2009 ISO 9001 certification research: question, answer and approaches *International Journal of Quality & Reliability Management* **Vol 26**, No 1 pp 38-58
- [7] Magd H., Kadasah, N. and Curry A., 2003 ISO 9000 implementation: a study of manufacturing companies in Saudi Arabia *Managerial Auditing Journal* **Vol 18** No 4 pp 313-22
- [8] Thonhauser T. and Passmore D.L., 2006 ISO 9000 in Education: A Comparison between the United States and England *Research in Comparative & International Education* **Vol 1** No 2 pp 156-173
- [9] Gamboa A.J. and Melao M.F., 2012 The impacts and success factors of ISO 9001 in education: Experiences from Portuguese vocational schools *International Journal of Quality & Reliability Management* **Vol 29** No 4 pp 384-401