

Analysis of Quality Management Using ISO 9001:2015 Clause 7 Standards in PT XYZ

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ABSTRACT

Objective – To give company suggestions from ISO 9001:2015 clause 7 to improve their readiness before implementing ISO 9001:2015.

Methodology – This research uses Quantitative method research distributed to 3 people out of 4 people in the business analyst division and three people out of 5 people in the developer division for the questionnaire, and for the interview, the interviewees are representatives of the company who can ensure that the information provided is accurate and in accordance with reality.

Findings – This research found two suggestions for the company to improve its readiness before implementing ISO 9001:2015. The first suggestion for sub-chapter 7.2 regarding competence is to hold training on third-party applications that can be integrated with the company's IT products, and the second suggestion is for sub-chapter 7.3 regarding awareness, to increase employee awareness of the importance of quality management, training on ISO 9001:2015 needs to be held.

Novelty – By analyzing company readiness, the company can know its readiness before implementing ISO 9001:2015, and the company can improve based on this research.

Keywords: *ISO 9001; ISO 9001:2015; Quality Management*

JEL Classification: L15, D22, O31

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I. INTRODUCTION

The basic needs of every human being are divided into five categories, namely physiological, safety and security, sense of belonging, self-esteem, and self-actualization (Lester, 2013). Humans consciously or unconsciously consider the satisfaction of these needs. People want these needs to be met, and people want their satisfaction in these needs so that expectations arise for the quality or quality of a product or service that plays an essential role in satisfaction.

Quality, according to experts, has various meanings. According to Sallis (2014), quality is the equation between reality and what is delivered and in accordance with customer expectations. Good quality is a level of uniformity and reliability that can be predicted with quality standards that are in accordance with customers (Chandrupatla, 2009). Quality, according to experts, there are some differences, but all have in common, namely making quality as a benchmark for the suitability of products or services to the benefits promised or should be obtained.

A Quality Management System (QMS) is needed to ensure that the products or services provided to customers can meet the needs and expectations of other interested parties in an effective manner (Abuhav, 2017). ISO or The International Organization for Standardization is an independent international organization and not a government agency with a membership of 165 national standard bodies. Through its membership, ISO brings together experts to share knowledge and develop market-relevant, consensus-based, voluntary international standards that support innovation and provide solutions to global challenges (ISO, n.d. "About Us").

ISO (The International Organization for Standardization) is one of the companies that has succeeded in making a standardization of the quality management system. The standardization is incorporated into ISO

9001 with the latest version of ISO 9001:2015. Internationally, several standards are used to measure quality management, and one of these frameworks is ISO 9001:2015. These standards become a measuring point and guide for a company to continuously meet customer expectations and improve employee performance and welfare (Chiarini et al., 2019).

The Minister of Industry, Agus Gumiwang Kartasasmita, said that “The ISO 9001:2015 standard is the foundation of the quality infrastructure of an organization, especially industry to produce consistent and quality products to increase the competitiveness of domestic industries.” (Bangsa, 2021)

This research focuses on a company that focuses on providing IT products. The development of the current era is very rapid; ISO 9001:2015 certification is one way that companies can do to attract the attention of clients. The company is engaged in providing IT products; therefore, quality management standards are needed to ensure that the IT products provided are in accordance with standards and are consistent so that the public or clients feel satisfied and calm to make transactions. This research is expected to provide recommendations on quality management issues with the main focus of the seventh clause, namely support based on ISO 9001:2015; thus, the company can determine the level of readiness of ISO 9001:2015 certification.

II. LITERATURE REVIEW

Quality is not foreign to daily human life, and people use quality as a benchmark or standard. Everyone has their own set of criteria for determining whether a product or service is good or not. Hence, the determination using a quality management system.

The quality management system is used to ensure the quality of an organization or company, both products, and services. The requirements that need to be met in the quality management system are as follows (Abuhav, 2017):

- Organization must establish, implement and maintain QMS (Quality Management System) within the organization with conformity and requirements of ISO 9001 standard.
- Organizations are required to continuously improve their QMS and processes in accordance with the requirements of international standards.
- The organization must determine the processes required for QMS.
- The organization must determine the process to be implemented in the QMS.
- Processes included in the QMS must be identified and planned, implemented, controlled, and improved.
- The organization must determine the required inputs and expected outputs from each process.
- The organization must determine the sequence and interaction of processes included in the QMS.
- The organization must determine how this process and its controls will be implemented within the organization.
- Methods, criteria, performance indicators, and measurements to ensure the effectiveness of process monitoring and control will be determined and implemented.
- Resources needed to support processes need to be allocated and available.
- Responsibilities and authorities for processes need to be defined.
- Risks and opportunities identified and determined according to requirements must be addressed.
- Changes needed to ensure the process achieves the desired results must be evaluated, planned, and implemented.
- Organization will implement specific steps for process improvement (achieve objectives and maintain effectiveness).

One of the international organizations that makes standardization to measure an organization or company is ISO (The International Organization for Standardization). ISO (The International Organization for Standardization) is an independent international organization that gathers experts to share knowledge and develop international standards relevant to the market. In 1947, ISO officially came into existence with 67 technical committees consisting of a group of experts with a specific subject focus (*ISO - About Us*, n.d.).

ISO 9001 is a quality management system standard that was first published in 1987. ISO 9001 can be used by any organization, whether large, medium, or small, regardless of the field of activity. The ISO 9001 standard is based on several quality management principles, including a strong customer focus, the motivations and implications of top management, a process approach, and continuous improvement. The ISO 9001 standard is based on several quality management principles, including a strong customer focus, the motivations and implications of top management, a process approach, and continuous improvement. The use of ISO 9001 provides assistance to ensure customers get products or services that are consistent and have good quality, organizational, or company goals to gain business benefits are achieved (*ISO - ISO 9000 Family — Quality Management*, n.d.).

ISO 9001:2015 is the result of the latest revision or improvement, where there are additional two clauses compared to ISO 9001:2008 so that currently there are ten clauses. ISO 9001:2008, which is the previous version, was first introduced in 2008 November and was revised in 2009 July. In 2015, ISO 9001 was reviewed again and provided several new provisions for ISO 9001 certification.

III. METHODOLOGY

The object of this research is a company that is engaged in providing IT products. The IT product provided by this company is Enterprise Content Management (ECM). This study will use the seventh clause of ISO 9001:2015 in the form of support, the support needed to achieve quality management needs is as follows:

1. Resources
Organizations or companies must determine and provide all the necessary resources to establish, implement, maintain, and improve the quality management system within the organization or company. The resources to be analyzed in this research object are infrastructure such as buildings, hardware such as servers, work environments, software, etc.
2. Competence
The organization or company must be able to determine what is needed from an employee that can impact on the performance and effectiveness of the quality management system. This study will analyze employee knowledge to find out whether it is evenly distributed or not.
3. Awareness
The IT division of the organization or company needs to be analyzed to determine their level of awareness about the importance of quality management to achieve customer satisfaction.
4. Communication
Communication is an important thing needed to achieve customer satisfaction, communication between divisions within a company and organization must be done correctly. Internal and external communications must be relevant to the quality management system.
5. Documented Information
The company will analyze all documented information, whether in documents or media such as photos, videos, and so on.

The analysis results will be calculated using the capability maturity model so that it can be seen the level of company readiness to carry out ISO 9001:2015 certification. Data collection will begin for analysis, starting with the distribution of questionnaires, using a purposive sampling method based on the job description division. This study provides questionnaires to 3 representatives from business analysts and three representatives from developers or programmers. The questions created for the questionnaire have followed the guidelines of the Indonesian National Standard regarding ISO 9001:2015.

An interview was also conducted with one of the representatives from the business analyst division because the business analyst knows the client's needs and coordinates directly with the programmer or developer. The framework theory used for this research can be seen in Figure 1.



Figure 1. Framework Theory

The framework theory was made based on the reference to the article The Implementing ISO 9001 in manufacturing industry (Wella & Chia, 2019). The framework was obtained based on the results of the analysis of the journal, then adapted to the needs of this research. The stages in the framework theory are divided as follows:

1. Feasibility Study
 Feasibility studies are the initial stage carried out to learn about the company. This learning is needed to find out the background of the company that is the object of research and know the company's current needs.
2. ISO 9001:2015 Analysis
 Analysis of ISO 9001:2015 is a step to discuss with representatives from the company PT XYZ to determine, based on the ten clauses in ISO 9001:2015, which clauses will be used in this study. The selected clause is a clause that is in line with the current needs and desires of the company based on discussions and interviews with company representatives, namely business analysts at the company. After knowing the selected clause, the questions for the questionnaire and interviews will begin.
3. Questionnaire
 Questionnaire questions that are made must be in accordance with the needs of the company and the standard ISO 9001:2015 clause seven based on the Indonesian National Standard. Questionnaires were distributed to respondents who were selected based on the purposive sampling method. The respondents in this study were three people out of a total of 4 people in the business analyst division and three people out of a total of 5 people in the developer division. They were selected based on their job description in this regard, directly with the facilities provided by the company to support the work.
4. Interview
 Interview questions are made based on the conditions of the company and based on the standard ISO 9001: 2015 clause 7, the interviewees are representatives of the company who can ensure that the information provided is accurate and in accordance with reality Interviews were carried out while waiting for the respondent to fill out the questionnaire, or when the respondent had filled out

the questionnaire. This study selects representative sources from the business analyst division who are credible and competent in their fields.

5. Analysis of readiness or maturity levels

Analysis of the level of readiness or maturity is carried out after getting back the questionnaires that have been filled out by the selected respondents and getting the results from the interviews. Based on the results of questionnaire analysis and interviews using the capability maturity model, the company's current level of readiness is obtained. Table 1 shows the level or levels contained in the capability maturity model.

Table 1. Capability Maturity Model Level

Level	Category
1	Initial
2	Repeatable
3	Defined
4	Managed
5	Optimizing

6. Suggestion Analysis Results

The analysis of suggestions is carried out after knowing the part of the company that has shortcomings and can be developed again with the suggestions given. Giving advice can help companies better prepare themselves before the actual implementation of ISO 9001:2015.

The independent variable in this study is the seventh clause of ISO 9001:2015, which is a fixed international standard and can affect the quality performance of PT XYZ as the dependent variable. Quality performance at PT XYZ is the dependent variable where the company's quality can be declared good or not good in accordance with the standardization determined by ISO 9001:2015 in the seventh clause.

IV. RESULTS AND DISCUSSION

The first step that needs to be done to conduct a quality management analysis is to study the company to be analyzed. The purpose of studying the company is to find out the background and needs of the company, such as what field the company is engaged in, the number of employees, the divisions in the company, and what the company wants at this time. In this study, the company PT XYZ is engaged in providing IT products with a total of 22 employees divided into six divisions, and the company also plans to implement ISO 9001:2015 so that this research is carried out as a pre-ISO or measurement before the actual implementation of ISO to find out first the company's readiness based on the 7th clause.

The selection of the 7th clause of the ISO 9001:2015 standard was obtained after conducting discussions and interviews with representatives from the business analyst division at the company. Based on the discussions and interviews conducted, it was found that the company is currently looking to improve the company's internals, such as employee knowledge, facilities, etc. The agreement regarding clause seven used in the research based on the ISO 9001:2015 standard was obtained from discussions and interviews with company representatives. The next stage is preparing questions that will be asked in interviews or questions for questionnaires that will be distributed to respondents, and interview questions have been adapted to company conditions and the ISO 9001:2015 standard clause 7. Questionnaire questions have also been made based on the Indonesian National Standard regarding ISO 9001:2015. Questionnaires were distributed to 3 respondents who were representatives of the business analyst division and three respondents who were representatives of the programmer or developer division. The questionnaire rating scale given to respondents has 5-point Likert scale in Table 2.

Table 2. Questionnaire Rating Scale

Category	Score
Very Bad	1
Bad	2
Enough	3
Good	4
Very Good	5

Based on the results of a questionnaire with 5-point Likert scale, the following results were obtained.

Table 3. Calculation of Sub-Clause 7.1 Resources

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Average
1	4	4	4	3	3	3	3.50
2	3	3	4	4	3	4	3.50
3	5	4	3	4	4	2	3.67
4	4	4	4	4	4	4	4.00
5	4	4	4	5	4	5	4.33
6	4	4	4	4	3	3	3.67
7	3	3	3	4	4	4	3.50
8	4	4	4	3	3	3	3.50
9	4	3	3	4	3	4	3.50
10	4	5	4	4	4	3	4.00
11	3	4	3	4	3	3	3.33
12	3	3	2	4	3	4	3.17
13	3	4	2	3	3	4	3.17
14	4	3	2	4	3	4	3.33
15	3	4	4	4	3	3	3.50
16	4	3	3	4	3	1	3.00

The first sub-clause in clause 7 is about resources; the questions given in a questionnaire are 16 questions with an average value of 3.54. Based on the maturity value of the maturity model, sub-clause 7.1 regarding resources is at the defined level.

Table 4. Calculation of Sub-Clause 7.2 Competence

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Average
1	4	5	4	5	3	2	3.83
2	4	5	4	5	3	2	3.83
3	3	4	3	4	3	3	3.33
4	4	4	3	3	3	1	3.00
5	4	4	3	4	3	2	3.33

In sub-clause 7.2 regarding competence, five questions are given. The average value obtained for sub-clause 7.2 is 3.47, which means that it is at the defined level based on the maturity model.

Table 5. Calculation of Sub-Clause 7.3 Awareness

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Average
1	4	4	4	4	3	2	3.50
2	4	4	4	4	3	3	3.67
3	4	4	3	4	3	3	3.50
4	3	4	4	4	3	3	3.50

In sub-clause 7.3 regarding awareness, four questions are given to be answered by the respondent. The result of the average value of the respondents for sub-clause 7.3 is 3.54, based on the maturity model of sub-clause 7.3 is at the defined level.

Table 6. Calculation of Sub-Clause 7.4 Communication

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Average
1	3	3	4	5	4	3	3.67
2	3	3	4	5	4	3	3.67
3	3	5	4	5	4	2	3.83
4	3	4	4	5	3	1	3.33
5	3	4	4	5	3	2	3.50

There are five questions for the questionnaire in sub-clause 7.4 regarding communication, with an average result of 3.60. Based on the maturity model, it is found that sub-clause 7.4 is at the defined level.

Table 7. Calculation of Sub-Clause 7.5 Documented Information

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Average
1	3	5	3	4	3	3	3.50
2	3	5	3	4	3	3	3.50
3	4	4	4	4	3	2	3.50
4	3	5	3	3	3	2	3.17
5	3	5	4	3	4	3	3.67
6	3	5	4	5	3	4	4.00
7	3	4	2	4	3	5	3.50
8	3	4	3	4	3	2	3.17
9	3	4	3	4	3	4	3.50
10	3	5	3	5	3	3	3.67
11	3	4	2	5	3	3	3.33

Sub-clause 7.5 regarding documented information has 11 questions with an average score of 3.50. Based on the maturity level of the model, it is found that sub-clause 7.5 is at the defined level.

Table 8 Average ISO 9001:2015 Clause 7

No	Clause	Average
7.1	Resources	3.54
7.2	Competence	3.47
7.3	Awareness	3.54
7.4	Communication	3.6
7.5	Documented Information	3.5
Average		3.53

Overall, the assessment results can be said to be quite good, with the average value obtained from all the seventh sub-clauses in ISO 9001:2015 is 3.53. Based on the capability maturity model, the average value of 3.53 is at the defined level. Although it can be said that it is sufficient, there are still several recommendations that can be given to increase the level or level of company readiness for ISO 9001:2015 certification.

The results of the completed questionnaire can be checked again with the results of the interview to ensure its correctness. Based on the results of questionnaires and interviews in this study, it was found that there were deficiencies in sub-clause 7.2 regarding competence with an average value of 3.47 and in sub-clause 7.3 regarding awareness with an average value of 3.54.

Data collection using interviews was conducted on April 23, 2021, with a representative from the business analyst division as a resource person. There were 13 questions, which were made with reference to ISO 9001:2015 clause 7. Based on these results, some more information was obtained about the company. According to the results of interviews, the company is currently providing training regularly. This training aims to improve employee performance, but there is still some expected to be carried out by the company. The current training focuses more on application products made by the company. It can be concluded that employees' knowledge of other applications that can be integrated with the company's Enterprise Content Management (ECM) system is still lacking. Therefore, it is hoped that the company can provide training on other applications that can be integrated, such as SAP and Microsoft Sharepoint.

Knowledge about Enterprise Content Management (ECM) application products also needs to be studied first because the application product is not open source. Therefore, it takes time for learning to achieve product and service conformity, but generally employees who have entered or worked in the company for more than three months have achieved product and service conformity.

Companies that provide IT product services certainly require adequate software and hardware. The company has provided more than enough software and hardware to support business processes within the company. The company's documentation is also easily accessible because the documents needed by employees have been stored digitally. This digital storage makes it easier to access documents and reduces the risk of documents being lost, burned, and so on. Companies focus on business processes, but companies must also think about the work environment for employees. Currently, the company has succeeded in creating a comfortable work environment, and the company provides facilities in the form of air conditioners, tables and chairs for employees, laptops for work, and other equipment that supports the work to be completed. Not only the work environment but the company's social environment can also be said to be quite comfortable. This can be caused because there is no discrimination between co-workers, and even joking is done naturally. If employees need information or document data, employees can access it directly anywhere and anytime. In 2021, the company has increased the repository of data and documentation stored online or digitally. Therefore, if needed, it can be directly accessed and has been well organized and classified to facilitate the search for information data or documents.

Enterprise security has also led to a better direction because management and storage have been done digitally. The level of data and information security has also been improved, and for the last one year, data back-up has been carried out so that data loss does not occur. The software and hardware provided by the company certainly require maintenance so that they are always in optimal condition. The company currently has a special division to carry out maintenance both in terms of software and hardware. If the software or hardware under maintenance cooperates with the vendor, feedback will be given regarding the software or hardware provided. Performance evaluation within the company has also been carried out, and work evaluation will be carried out quarterly with each personnel. However, the evaluation of work carried out by each division is carried out two times in 1 week.

Currently, not all personnel or employees have the awareness to contribute to achieving the quality policy. Company personnel or employees are now still waiting for directions, decisions, or triggers from management, so there need to be further improvements to raise awareness of each personnel. Communication between divisions is crucial because each division is connected to the other. The company has succeeded in creating an environment that can make communication between divisions within the company very well established to collaborate on a job.

During the Covid-19 pandemic, company meetings were held online because the company implemented a work from home (WFH) system. However, before implementing the work from home system, the company had a special room for meetings or discussions that company employees could use.

Based on the study results, it was found that according to the capability mature model, the company was at a defined level with an average value of 3.53. Therefore, the company's level of readiness can still be improved with the following recommendations.

1. Provide training on applications that can be integrated with the company's IT service products to improve employee competence.

2. Provide training on the ISO 9001:2015 standard to raise awareness among employees about the importance of quality management. Companies can also improve emotional relationships with employees to foster initiative in employees to contribute to quality management. Another goal of increasing emotional relationships with employees is to grow a sense of belonging in employees, a lever that strengthens employee motivation and satisfaction (Slamti, 2020).

V. CONCLUSION

Based on the results of the analysis that has been carried out in this study, two suggestions or ways that can be applied by the company to increase the company's level of readiness for the implementation of ISO 9001:2015 are obtained based on the measurement results with the ISO 9001:2015 standard clause 7. The two suggestions are as follows:

1. The first suggestion for sub-chapter 7.2 regarding competence is to hold training on third-party applications that can be integrated with its IT products.
2. The second suggestion is for sub-chapter 7.3 regarding awareness, to increase employee awareness of the importance of quality management, training on ISO 9001:2015 needs to be held.

Companies need deeper communication with employees within the company; the purpose of the communication is to find out what needs can be provided or can be considered first. Companies need to reassess before ISO 9001:2015 certification is carried out to improve if there are still deficiencies to maximize the time and costs incurred by the company.

The next researcher can continue the same steps with this research. However, researchers need to ensure that the research object is a different company or if the research object is the same company, then use a different clause. Researchers can use ISO 9001:2015 with different clauses so that companies can maximize the results of the ISO 9001:2015 standardization assessment.

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