

The Implementing ISO 9001 In Manufacture Industry

Case Study PT Softex Indonesia

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Abstract— In 2015 ISO 9001 significantly reviewed and new requirements for certification were introduced. One of the new requirements is risk-based thinking. The risk-based thinking has to be addressed and managed in all aspects of quality management system processes and functions. In ISO 9001:2015 an organization required to take into those risk linked to quality and customer satisfaction. Risk management can be a guideline for the implementation of ISO 9001:2015. This research is only focused on information technology department at PT Softex Indonesia. The methodology of this implementation applies the seventh clause of ISO 9001:2015. Measurements performed by using maturity model and seventh audit stage. After the implementation, the organization needs to maintain the requirements of ISO 9001:2015 and try to continuously improve its quality performance.

Index Terms— ISO 9001:2015, Risk-Based Thinking, Quality Management System

I. INTRODUCTION

Focusing on the Information Technology department of PT Softex Indonesia, the interview was achieved to find risk and opportunity. In the interviews found several risks that exist in PT Softex Indonesia. Companies hold important data that is confidential must be maintained properly. Company data that also covers all business processes is certainly important and should be kept as well as possible. Backing up data must be done and ensured that data is stored periodically. In addition to regular storage, data that is back up also should not be corrupted. Other possible risks are the occurrence of natural disasters or disruption that causes the server to malfunction and can not be used again.

In this division, employee knowledge should not be entirely controlled by one individual. If the employee that has all knowledge resign, then another employee cannot replace the job. Therefore, it is important that the documentation of the system and also the business flow. For the information technology division, there has not been any measurement of concern for awareness. The last finding of the opportunity is the manual submission process that uses

paper can be maximized by making the system. Using the ISO 9001: 2015 standard is expected to produce the quality of program output and support generated by the Information Technology division. In this study focused only on clause seven which is support. Measurement of the level of maturity made based on clause seven so that the implementation can be concentrated. Clause seven is chosen because it is the top priority of information technology division at PT Softex Indonesia to be implemented and continuous improvement in order to reduce risk.

II. STATE OF THE ART

Quality management is a way to improve sustainable performance in every process and functional area using available resources [1]. To apply the quality management required ISO 9001 as the international standard for the quality management system. This standard describes the requirements required for the implementation of the quality management system at the company. The implementation of ISO 9001, the company can produce products according to customer needs and perform continuous improvement [2].

ISO 9001 is one of ISO's series of quality management systems. ISO 9001 is standard for quality management certification [2]. ISO 9001 emphasizes the focus on procedures and standardization that aims to provide satisfaction to consumers. The main focus of the quality management system is the result of a product of good quality and delivering more than just the needs of the customers [3]. In ISO 9001: 2015 the risk is used as the basis for decision making that can not be separated from the system [4]. Companies or organizations are expected to be more proactive in preventing and also reducing existing risks and making sustainable improvements [5].

ISO 9001: 2015 explains that there are system changes occurring in accordance with the requirements of ISO 9001: 2015 [6]. The ideas and suggestions gained from surveys synced with ISO 9001: 2015 standards have reached the conclusion that managers

gain a more concrete picture of the functioning of systems in a company and apply that knowledge to the company [7].

The motivation of a company to get 9001 certifications can result in better performance. The Company that focuses on improvement will develop better strategies, structures and performance processes [8]. Therefore with the implementation of ISO 9001 shows that affect innovation positively and significantly [9]. The company that once got the ISO 9001 certificate and then lost the certificate was still able to run well. Funds allocated for certification are then allocated to other needs that add to the company's profit [10].

III. METHODOLOGY

In order to carry out the implementation, firstly done the measurement using maturity level. In the maturity model, there are 6 maturity scales from 0 to 5 which means different levels. To calculate the maturity level will be made a questionnaire. Calculation of the questionnaire will be done based on this model maturity method. After the questionnaire has been calculated the capability and maturity of the information technology management process will be known the level of maturity is.

After the implementation of the quality management system by using the standard of ISO 9001: 2015 seventh clause which is support. Support intended to achieve quality management is:

1. Resources

An organization must establish and provide the resources needed for the establishment, implementation, maintenance and continuous improvement of the quality management system. At PT Softex Indonesia will be measured whether there is a risk to existing infrastructure. The intended infrastructure may include buildings, hardware such as servers, software, work environment and so on.

2. Competence

A company must determine the required competencies of the employed employee that impact on the performance and effectiveness of the quality management system. In this study will be measured whether the employee knowledge is evenly distributed or not. The number of programs used to support and run business programs should be known evenly by the IT division.

3. Awareness

In this sub-clause will be measured awareness of Information Technology division employees about how important the quality management in order to achieve customer satisfaction. The number of programs created by the IT division should be able to improve the existing quality management.

4. Communication

Measurements will be made on how to communicate, what is communicated between divisions whether it is done well or not. Internal and external communications should be relevant to existing quality management systems.

5. Documented information

All documented information will be measured in this research is the form of information in the form of hardcopy will be maximized so that the use of paper can be minimized. With the reduction of the use of hardcopy or paper, it will minimize the risk of loss of documentation that can be caused by fire.

IV. ISO 9001:2015 IMPLEMENTATION

A. Measurement Result

Table 1. Maturity Level Result

No	Clause	Result
7.1	Resources	3.98
7.2	Competence	4.00
7.3	Awareness	4.02
7.4	Communication	3.96
7.5	Documented information	3.97
Average		3.98

After obtaining the average value per subclause, then to get the value of the total maturity level of clause seven is calculated the mean value of subclause. From the calculation of the average subclause then found the value of maturity level of clause seven is 3.98. According to respondents who are employees of the division of Information Technology PT Softex Indonesia with eight members. In this measurement, the lowest result is in the communications sub-clause. Results that show the second lowest result are documented information. While the highest value obtained in subclause 7.3 is awareness.

In the measurement through the questionnaire, awareness gets the highest value that is known from the respondent's assessment. Communication is still at level three which means that continuous improvement should be done so that communication can run better. Documented information is deemed to be an improved procedure by replacing the commonly used hardcopy into an automated system. While the concern is at level four because employees consider all the procedures have been run well. In this level of maturity, PT Softex Indonesia on this scale is at the level of define which means the procedure has been standardized, communicated and also documented but still, potency detected irregularities.

After findings of three risks and an opportunity, then the next step is to make recommendations. Recommendations on these findings will then be undertaken to minimize existing risks and also

maximize opportunities. Here are the recommendations:

Table 2. Findings and Recommendations

No.	Findings	Recommendations
1.	Server malfunction caused by sabotage and also natural disasters	Created back up transaction data every day. Back up the server Create a mirrored server
2.	Uneven employee knowledge	Create system documentation for each existing application system
3.	The Absence of measurement of quality management quality awareness	The measured level of achievement of application quality management
4.	Changed the form of leave / slicing off the hardcopy into an automated system	Created a system to apply for permission, sickness, leave. Not only that, in the system added features pay slips, employee absences, and employee data

Servers that are not working due to natural disasters may occur. In addition, server sabotage may occur either from human negligence, weak firewalls, or weak security procedures. Natural disasters such as earthquakes are disasters that occur outside of the human will. Therefore backing up transaction data or any important data is done every day. Data that has been backed up must also be considered in order to ensure data that has been stored there is no corrupt. In addition, there are two options for server recovery plan by creating a backup server or mirrored server. Recovery plan for the important server is made because if one of the servers does not work then the operational activities can still be done and the previous transaction data is stored.

A second recommendation is to make documentation of a system that has not been documented. This documentation is made to make employee knowledge more equitable. Documentation created in the form of specifications in the form of use case, activity diagrams, user manual for program applications created and also a flowchart for documentation process of making data management report visualization made by information technology division.

The third finding is that there is no measurement of quality management quality of employees. So that will be given recommendations made a measurement of awareness of quality management by making the target form that contains the request from the user, the progress of the program made and the achievement of making the application and its features whether in accordance with the application requests requested by the user. The benefits of the program for the business process that runs and also for the customer will look

and be a good report for the IT division to see the progress of their work. If the target of the expected application in accordance with the expected it can be seen that the IT division aware and care about quality management.

Recommendations that can be given further which is a recommendation to maximize opportunities is the creation of information systems for human resources. License leave and illness can be done by the system. In addition, arrival time and employee return can also be seen in this application. Not only that, employee data will be stored here as well as employee salary slips will be provided through this application. With the system, it will provide, facilitate and even provide data that can be accessed wherever and whenever. The time required to obtain information also becomes shorter than the manual system. In addition, the ranks of manager leaders will also be easier to access information from the center considering the branch offices that exist in PT Softex Indonesia more than one.

B. Implementation

The following is the result of implementation iso 9001: 2015 which is done on PT Softex Indonesia:

1. Back Up Data Transaction and Back Up Data Monitoring

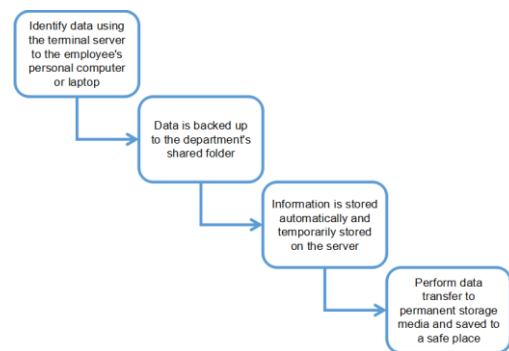


Figure 1. Back Up Data Procedure

This data backup procedure runs every day. First, the relevant departments of all departments in PT Softex Indonesia will be identified using terminal server data on all personal computers and laptops employees. After that, the data will be entered into the share folder department by ITSP. Existing data will then be backed up automatically every day on the server. Backing up temporarily stored data will then be transferred to a permanent storage medium at the end of each month and then stored to secure storage.

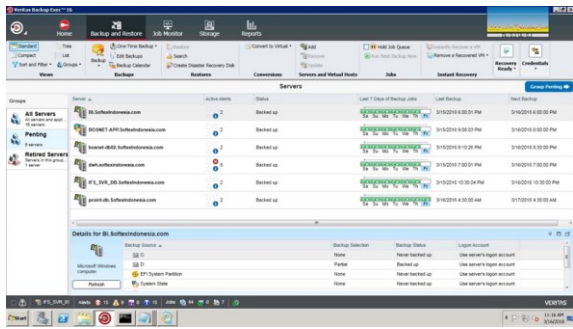


Figure 2. Backup Data Monitoring

Data transactions and employment of employees in the form of data, text, and images are important assets of the company that must be maintained. All data is of course very important because the data will be processed into a report management that will be shown to the Board of Directors for decision making. Of course, besides that, there are still many reasons why corporate data is important and should not be lost. Therefore, to minimize the risk on every day at 20:00 pm employee data backed up to servers located on the server farm. In addition, also confirmed to the IT Support Person (ITSP) that the data in the back up no one is corrupted. In addition to backing up employee data to the server, the information technology division of PT Softex Indonesia purchased a backup server and placed it in a factory located in Sidoarjo Surabaya. The information technology division team of Sidoarjo will work together to maintain the servers that are there. Data server in the head office will be backed up to the server located in Sidoarjo. In addition to backing up data in accordance with the specified time, ITSP should also report back up results not corrupted per month as documentation for reports to the internal audit team.

2. System Documentation

Documentation of the system is essential to ensure application developers can see well and correctly the purpose of using certain functions created by the previous developer team. In addition, documentation can also be made as a means of liability if any time is required. Here is the system documentation:

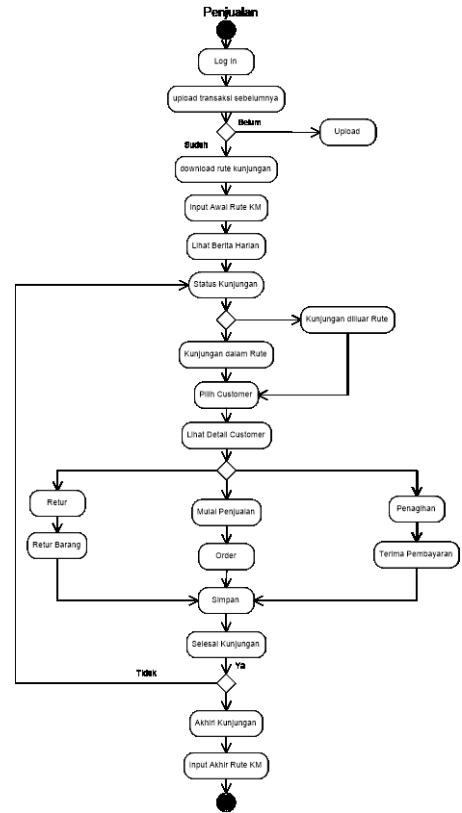


Figure 3. Documentation System

Everyday salesmen have to come to the distributor's place to get directions, and after getting directions the salesman will download the route through the internet connection provided by the distributor. When a salesman enters an SDS application, the system will read whether the salesman has uploaded the data stored in the application. If not, the salesman is required to upload while when it is uploaded then the salesman is allowed to download the trip route on the same day when downloading. After the download route is completed, the salesman will start his journey by entering the initial mile that is on the vehicle salesman speedometer. Furthermore, the salesman will go to the visit status page where the salesman can choose to visit the visits in route or out route. Visits in the route are visits to outlets that are required to be visited and excursions outside of the route are visits that are not required to be visited.

After logging in to the visits page in the route, it will allow the salesman to see which outlets to visit. After selecting one of the outlets you want to visit, the salesman will see the customer details containing information such as the last date of purchase, address, and credit limit. The salesman can do goods sales, return goods and billing. If all outlets have been visited then the salesman will end the route of the visit by entering the Final kilometer on the vehicle's speedometer.

3. Making Measurement Form Employee Concern for Quality Management

FORM PENGUKURAN SASARAN METU						
DEPT: IT			APLIKASI Sales Distribution System			
DIVISI	TARGET	TIME FRAME	OBJECTIVE	ACTION PLAN	P.I.C	ACTUAL ACHIEVEMENT
IT DEPT	90%	2017	Terdapat user login setiap hari	membuat aplikasi untuk salesman dan distributor	ASS. SJOR	90%
	90%	2017	Transaksi yang dilakukan besar	membuat sistem untuk input order customer menjadi lebih mudah melalui smartphone		90%
	90%	2017	Terdapat laporan yang tercapai	membuat template laporan penjualan, laporan rata salesman dll		90%
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Document no.	QM-001					
Revision no.	00					

Figure 4. Measurement Form

In the measurement form of quality objectives, there are applications created and targets to be achieved in making the application. In addition, the achievement of the target application that is in the form of user login that comes in every day, the number of transactions on the application and also any report that can be presented in the application created must be filled percentage of the target, the steps taken to achieve the target and also the real achievement.

A quality goal measurement form should be created for each new app creation. With this form, it is expected that the quality of the application made by the information technology division of PT Softex Indonesia can be achieved well. With this form, then there is also the documentation that any application that made can be used well.

4. Making Human Resource Information System PT Softex Indonesia

To change the manual leave system or the usual manually made human resources will be made Human Resource Information System so that the filing of leave or illness can be through an automated system. Of course, this HRIS placement not only facilitates the filing of leave and sick but also transactions related to the human resource department. With this application is expected to transactions associated with the department of human resources is to be automated and easier because it can be accessed from anywhere and anytime. The following modules exist in the HRIS application:

4.1 Log In Module

To access this application, employees can first open the application and also log in by entering the username and password. Employee username in the form of employee identification number while the password is the date of birth of employee with YYYYMMDD format. For new employees, must submit account creation to human resource department

4.2 Main Page Module

On the main page, employees can access the ESS (Employee Self Service) and MSS (Management Self

Service). Also on the main page, the user can change the password and log out of the application. On this main page, there is also some information that is related to company policy, HRIS policy, news about appeal, announcement, bulletin, and information about delayed activities to be completed.

4.3 Self Management Service Module

Management Self Service is a module that is used for the boss of certain employees to perform various approvals of requests from employees associated with employment of employees such as applying for leave, overtime, social benefits and so forth. In this module the boss has submenus are:

a. Workforce Administration

is a menu that is used to make promotional or mutation submissions, and also the submission of demand for labor needs.

b. People Development

is a menu used to evaluate employee appraisals and view the results of employee assessment history.

c. Approval

is a menu that is used to perform approval of leave, permits, and absenteeism. In addition, the boss may also approve the submission of promotions, mutations, and approval of labor requirements.

d. My Team

is a menu used to view data such as personal data, attendance data, attendance etc?

4.4 Employee Self Service Module

Employee Self Service is a module used to give employees access to update personal employee data, apply for leave, watch attendance data, view overtime data, view pay slips and apply for social benefits. In this module submenus are as follows:

a. Personal Data Change

is a menu used for employees to update personal employee data or complete personal data that has not been filled at the time of receipt of new employees.

b. Leave

is a menu that is used for employees to apply for leave and absent. In addition, employees can also see the rest of the leave and see the history of employee leave

c. Salary Slip

is a menu used for employees to see their own paychecks in the last few months. To view the paycheck, employees need a pin to be distributed by the human resource department to employees.

d. Attendance & Overtime

is a menu used for employees to view the attendance schedule, overtime schedule, and the accumulation of the number of absences.

e. Claim Social Allowance

is a menu used for employees to apply for their own social benefits.

V. CONCLUSION

ISO 9001: 2015 makes a tangible contribution to the company delivering customer satisfaction. After making the measurement, the findings are then given improvement recommendation. Implementation of the recommendations was made at the information technology department of PT Softex Indonesia. After implementing the improvement of information technology department ready to be re-measured with the same method that is ISO 9001: 2015.

VI. FUTURE RESEARCH

The information technology department at PT Softex Indonesia has been re-measured using the same measurement of ISO 9001: 2015. The re-measurement is done in order to know the value of the new capability.

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