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Analysis of ISO 9000

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Abstract:

The rise of the market demand for the equal standard of quality will be one of the main factors of the competition in the near future. Generally, the countries as the member of the free trade system, have agreed to wipe out the tariff and non-tariff policy that currently has been applied to block the circulation of goods and capital among countries for certain purposes. In such a situation, the role of a quality certification institution that is acknowledged internationally, will be very important. ISO 9000 is currently the most popular system of quality assurance that has been implemented by European Economic Community, Japanese and United States market as a requirement to enter their markets. In its development, this system actually provides so many added values for firms such as the increase in productivity, efficiency and customer satisfaction, decline in cost etc. In order to anticipate the free competition, it is properly recommended that our business entities adopt the ISO 9000 as a proof of our commitment for the quality control.

Later on, appeared ISO 14000 related to environmental management, mainly concerning performance improvement, legal compliance and reporting duties. The current version of ISO 14001 is ISO 14001:2015, published in September 2015.

1. Introduction

The era of globalization requires anticipation in many ways. The economic development of a country will depend on the success of its trade with other countries. Elimination of tariff and non-tariff system in the era of free trade will become an unavoidable reality. Thus the flow of goods and information will be free in and out a country without any obstacles.

In the ASEAN environment, market globalization has began in 2003 through the Asean Free Trade Association (AFTA). In the wider scope, for example Asia-Pacific countries, incorporated in the Asia Pacific Economic Cooperation (APEC) have implemented free trade system among its members in 2010. All these phenomena should force the businesses to improve itself, because at ultimately only those who can compete, can survive in a competitive system that will be more sharp in the future.

Under these circumstances, only qualified products will win the competition and maintain its position in the market. Although not all products will be marketed globally, the existence of local and national products in a country will not escape from the demands of competition. In addition, local and national products from each country, have the opportunity to develop into a global product and flood the local market of other countries, as long as the requirements demanded by the market especially in terms of quality can be met.

To maintain the consistency of the quality of the products produced in accordance with the demands of the market, it is necessary to do the quality control and quality assurance on the activities of the process undertaken.

Initially the concentration of quality control, begins on the inspection activity, ie checking the product, accepting the eligible and rejecting the damaged.

Throughout this type of control system, it is difficult to avoid wastage of materials, time and energy due to the product being rejected as a result of non-compliance with the specified requirements. Therefore, the thought arises to create a quality assurance system that prevents the emergence of quality problems beside the mistakes that have ever happened will not be repeated again. One of the most popular standards of quality management system today is ISO 9000.

ISO 9000 is a quality assurance system that helps companies to ensure that the company is able to produce goods or services in accordance with quality requirements determined by its customers. With the introduction of the European Single Market, one of the requirements to penetrate the market is the implementation of ISO 9000.

In the future there is a tendency for a particular country or commercial area to adopt ISO 9000 to become their national standard, then used as a benchmark for selecting and ensuring that each of their suppliers has a quality assurance system in accordance with the demands of their customers.

1.1. Formulation of the Problem

The implementation of free trade system in both AFTA and APEC have been realized. It must be admitted that our companies are still not ready to enter the era in trade in terms of organization, labor and technology. So far, they only compete in the local market and

avoid global competition because protected by tariff and non-tariff barriers run by the government. In an era of free trade, such barriers can no longer be applied even if the aim is to protect local products. Therefore, from now on every company must improve the efficiency and quality of its products in order to be able to compete in the global market.

2. Discussion

2.1. Definition of ISO 9000

ISO stands for International Standard Organization or more popular with International Organization for Standardization. The international private agency for standardization is based in Geneva, Switzerland. ISO 9000 is the only standard quality assurance system that has received around 100 countries in the world. Indonesia adopted ISO 9000 into Indonesian National Standard (SNI) 19-9000 series. Harbunangin and Ronitua Harahap (1995: 5) suggested that the ISO 9000 standard series is used to document, implement and demonstrate the quality assurance system. In 1987 ISO published the first five international standards on quality assurance known as the ISO 9000 standard, each titled:

1. ISO 9000: Quality Management Standards and Quality Assurance - Selection and Use Guidelines.
2. ISO 9001: Quality System - Model for quality assurance in design / development, production, installation and service.
3. ISO 9002: Quality System - Model for quality assurance in production and installation.
4. ISO 9003: Quality System - Model for quality assurance in final inspection and test.
5. ISO 9004: Quality Management and quality system elements.

ISO 9000 and 9004 are implementation guidelines and ISO 9001, 9002 and 9003 are three models of quality systems (Rothery, 1996: 21). Thus the name of ISO 9000 is used at once for the overall name of the standard series and also the name of one of the series.

2.2. Quality

Quality can be defined into several senses depending on the user's point of view. Here are given some definitions of quality:

1. Overview and overall characteristics of goods or services, which indicate its ability to satisfy the specified or implied needs (Harbunangin and Ronitua Harahap, 1995: 17).
2. Match against purpose. According to this definition a quality product is not just the most expensive but the product that satisfies the customer's desire to buy it (Waller, et al., 1994: 16).
3. Satisfy customers at a competitive cost (Chatab, 1996: 5). This definition is oriented both on customers and producers.
4. Quality assurance is related to the whole set of production, from product and service design, transformation process and expanded to after-sales service (Stevenson, 2015: 806).

2.3. Details of ISO 9000

2.3.1. ISO 9000 and 9004

They have similarities because both are the guidelines of the entire ISO 9000 standard series. While the ISO 9001, 9002 and 9003 series is used when the company intends to get a certificate by choosing one of them in accordance with the field of business activity. The difference between the two can be seen from the scope. ISO 9000 helps us understand the thinking about quality and select suitable models (whether ISO 9001, 900, or 9003), while ISO 9004 is just an extension of ISO 9000. The contents of ISO 9000 are somewhat less clear. Probably the mistake was that ISO 9000 and 9004 should be combined into one document (Rothery, 1996: 30). ISO 9004 provides additional explanations in aspects of marketing, design, production procurement, measurement, post-production, material control, documentation, security and the use of statistical methods. If ISO 9000 provides relatively complete information to potential users, then ISO 9004 is more important for those who have implemented one of the ISO 9001, 9002, and 9003 series.

2.3.2. ISO 9001

According to Harbunangin and Ronitua Harahap (1995: 27), ISO 9001 is the most complete model because in addition to having all the elements contained in ISO 9002 and 9003, it also has an additional element that is control design. The types of businesses that are suitable to apply include: aircraft industry, automotive, boarding bridge, boats, big tools and developers. In full, the 20 elements contained in ISO 9001 are:

- a) Management's responsibility; b) quality system; c) contract review; d) design control; e) control of documents and data; f) purchase; g) control of supply products to customers; h) identification and traceability of the product; i) process control; j) inspection and testing; k) inspection control, measurement and testing equipment; l) inspection and test status; m) unsuitable product control; n) precautions and corrections; o) handling, storage, packaging, preservation and delivery; p) quality record control; q) internal quality audit measures; r) training; s) services; t) statistical techniques.

2.3.3. ISO 9002

This series is the mostly and often applied. The right type of business that uses it: processing plants, food, steel, construction, hotels, transport services and electronics. ISO 9002 has 19 elements entirely covered by ISO 9001. One element, ie design control, is only available in ISO 9001.

2.3.4. ISO 9003

This ISO is applied to see the fact that not many ISO companies whose activities are classified as testing, as that is done by the warehousing functional (stockist). This series has only 12 elements and is entirely covered among the 20 elements of ISO 9001 except for the element of corrective action (on ISO 9001, the term: precautions and repairs).

Chatab (1996: 13) furthermore classified the 20 elements of ISO 9001 into 4 categories:

1. The role of management includes 5 categories, namely: a) management responsibilities; b) quality system; c) corrective and preventive action; d) internal quality audit measures; e) training.
2. Control of the process includes 6 elements, namely: a) control design; b) control of documents and data; c) product identification and traceability; d) process control; e) handling of storage, packaging, preservation and delivery; f) service.
3. Verification includes 6 elements, namely: a) inspection and testing; b) control inspection, measurement and testing testing; c) inspection and test status; d) inappropriate product control; e) control of quality records; f) techniques statistics.
4. Related to outsiders, including 3 elements, namely: a) contract review; b) purchase; c) control of supply products to customers.

2.4. Documentation

Without documentation it is impossible to implement ISO 9000 at all. However, it should be remembered that documentation is not everything because it still needs to be followed up with programs. Harbunangin and Ronitua Harahap (1995: 37) argued that simply documentation can be formulated as a written form of management activity / quality assurance system. This written form can be communicated to be understood by everyone before the implementation is done.

In ISO 9000 known 3 levels of documentation, that is:

1. First level: manual quality (quality manual)
2. Second level: manual procedure (procedure manual)
3. Third level: work instruction manual (work instructions manual).

Waller J., et al (1994: 35) suggests that the quality manual includes all the quality policies and plans that will come from the top management of the organization. Quality Manual among others aims:

1. Communicate company policies, procedures and requirements;
2. Implementing an effective quality system;
3. Provide better control and facilitate quality assurance activities;
4. Explain about the company's quality system for outgoing purposes.

The procedure manual covers all procedures developed and applied at the organizational medium level. This manual contains procedures outlining the workings of the company and adapted to the demands of each element of ISO 9000. Almost all quality management systems use work instruction manuals to be guided by everyone in every organizational task. This manual outlines step by step of each activity in detail.

2.5. Implementation

According Harbunganin and Ronitua Harahap (1995: 75) some things need to be considered before the implementation of ISO 9000, that is:

1. Management commitment, such as:
 - a) Awareness of their position as the most responsible party towards the success or failure of this quality assurance system.
 - b) Willingness to prepare the necessary resources for use implementing a quality assurance system.
 - c) Consistent implementation responsibilities.
2. Regarding the company's products and determine the appropriate serial standards for type of business activities. This includes limiting implementation whether it covers the entire business unit or part of it.
3. Decide whether to use the services of a consultant or do it yourself.
4. Establish an implementation team.

The implementation team as mentioned in point 4 above has at least 9 tasks, including:

 - 1) Propaganda: forming the same perception with commitment as well acceptance of the whole range.
 - 2) System review: compare the quality system being applied with the requirements of ISO 9000.
 - 3) Preparation of work schedule: in the preparation of this important note schedule that is realistic.
 - 4) Introduction to ISO 9000: This introduction includes an ISO 9000 background, structure, interpretation of each element, implementation stage, registration process, and certification as well as document writing techniques.
 - 5) Development of quality management system: In this step formed group based on the number of elements. If the applied ISO 9002 for example, then formed 19 task groups. Each group consists of members of that team derived from elements of relevant departments within the organization. This stage takes 3-4 months.
 - 6) Implementation of the system: This stage is an implementation of all that is already written in the document. This stage will go through several trials and improvement. It is always possible that the document has been written must be repaired again. System implementation takes approximately 4 months.
 - 7) Internal audit training: The audit team needs to receive training on how to plan and implement an audit process.
 - 8) Implementation of internal quality audits and improvements: The team conducts audits internal to ensure that what has been written is

done with written evidence of notes. The audit results will be in the form of findings discrepancies. Most of the certification bodies require that the company has performed at least one audit internal quality before the assessor of the certification body makes an assessment.

9) Certification: After the company is sure that the system has been compiled and running according to the requirements of ISO 9000 then the company can start filing application for the certification process of a body chosen by the company itself. The time required

from the formation of the implementation team to the process certification between 8 to 18 months.

According to Rothery (1996: 108), the general rules in the certification process include the following steps: 1. Initial application; 2. Application fee; 3. Assessment of quality manual; 4. Special regulations; 5. Pre-registration inspection; 6. Results; 7. Registration; 8. After registration.

The application package contains cover letters, application forms, questionnaires, cost and information details in the form of leaflets or brochures. There are two types of costs that need to be separated in the registration process, that is consultation cost and certification cost. At present consultation fees in Indonesia range from Rp 80 million to Rp 500 million, certification costs approximately Rp 50 million excluding transportation and storage costs of assessors.

Until now, there are dozens of certification bodies around the world including some in Indonesia. Especially for Indonesia, the authorized body examines the certification body of the National Standardization Board under the control of LIPI. After the company obtains a certificate for a validity period of 3 years, the certification body will conduct a visit for an audit aimed at ensuring that the company remains consistent in the application of ISO 9000.

2.6. ISO 14000

The continuous international quality process is a proof of ISO 14000 development. ISO 14000 is an environmental management standard that contains five key elements: (1) environmental management, (2) auditing, (3) performance evaluation, (4) labeling, (5) assessment life cycle. This new standard has several advantages:

1. Positive public image and reduced exposure to obligations
2. A good systematic approach to pollution prevention through minimizing the ecological impact of products and activities.
3. Compliance with regulatory requirements and opportunities to gain competitive advantage.
4. Reduced multiple audit requirements.

The current version of ISO 14001 is ISO 14001:2015 which was published in September 2015.

2.7. ISO 9000 position in TQM

In Chatab (1996: 23) explained that the implementation of ISO 9000 can be considered as a first step for the implementation of Total Quality Management (TQM). It will provide the stability of the quality management system with an emphasis on documentation, standardization, and adherence to standards. ISO 9000 is a solid foundation for TQM as it provides the basis for continuous improvement with an emphasis on customer satisfaction, process and requires clear authority and responsibility of the organization's personnel.

The scope of TQM's philosophy and principles is much clearer than ISO 9000. TQM usually requires cultural change, a combination of human potential, software and hardware for the continuous improvement of an organization focused on quality. This approach is based on the participation of all personnel from all walks of life and is an effort aimed at achieving long-term corporate success through customer satisfaction.

3. Conclusion

Implementation of ISO 9000 is a must that can not be bargained in face of globalization era that already exist in plain sight. Many customers today only want to connect with companies that have a clear commitment to quality as evidenced by the acquisition of ISO 9000 certificate.

It must be admitted that the implementation of ISO 9000 becomes the foundation for being able to do business in the international market. It is hard to imagine that a company in the future can survive without a sustained effort to improve product quality. With ISO 9000 consistency on quality will remain a priority.

Future business struggles will mainly lie in quality. The company gets access to the global market if it is committed to quality. Competitive advantage can be achieved only if the quality of the product is always developed from time to time.

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