

A Case Study towards ISO 9001:2000 on Small and Medium Industries in North Peninsular Malaysia

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Abstract

ISO 9001:2000 is an international standard that needs to be used by all small and medium industries (IKS) in Malaysia. The contain element in ISO 9001:2000 is stressed on quality management system of the company. However many IKS in Northern Peninsular Malaysia are found not to obtain the ISO 9001:2000 certificate yet. This shows that they do not use ISO 9001:2000 standard in their company's quality management system. This situation will surely possess difficulties to the IKS companies to obtain a wider market opportunity especially when they have to compete with larger companies which are more established in the marketing business and gain consumers trust. This study tries to evaluate to what extent actually the level of understanding of IKS'S worker toward ISO 9001:2000, and also to discuss the process involved towards ISO 9001:2000 certification and elements needed in the documentation process of ISO 9001:2000. Indirectly this study is to help IKS in Malaysia to overcome weaknesses in their management system.

Keywords: Case study, ISO 9001:2000, small and medium industry

Introduction

Customer satisfaction is an element that should not be neglected in business. This is because the connection between the seller and buyer will effect directly to profit and loss. Company will not be stable if there is inconsistency in their business management. As the result, the service and the product that have been produced by IKS will have no quality. This will bring doubt to the customer to use the product and the services. For long term period, IKS have to close their company because of the loss. ISO 9001:2000 is a good alternative solution to clarify uniformity in a company. The elements in ISO 9001:2000 give an absolute interest in a few important thing that involve every committees such as Quality Management System (QMS), Management Responsibility, Resources Management, Product Realization, Measuring, Analyses and Quality

Improvement [1]. The ISO 9001:2000 mark at the product package and trading buildings shows that the companies have been awarded and have maintain the ISO 9001:2000 successfully.

Literature Review

ISO is a Written Quality System that fixes the basic element that should have in 2000 Quality System [2]. ISO 9001:2000 gives an accentuation to the role of top management including authority and regulation needs, continuity improvement, having objectives as a measurement to every level and related functions, also ensuring the effectiveness of training (suitable for every organization and sector), monitoring the customers' satisfactory information as a performance of measurement system, considering to the existing sources, controlling the "out-sourced" process, analyzing data for

measurement purpose, and information of measurement quality objective achievement [3]. Committed company has to obey the ISO 9001:2000 which is as a way to get the ISO 9001:2000 achievement. A few processes need to be followed to achieve an acknowledgement of ISO 9001:2000 by the accreditation committee. The process can be divided into 6 steps started by preparation step to the last process that is audit process by the chosen committee [4].

Small and medium industry can be defined based on the number of full time employee, value of shareholder, and total value for entire company. Since there is no exactly definition for IKS, the observation to the development and industrial prospect in Malaysia by World Bank has concluded that IKS is an organization with 5 to 49 employees (small category) or 50 to 199 full time employees (medium category) [5]. The committee of statistic in Malaysia said that IKS is a total of employees in the organization which is between 5 to 19 employees for small industry and between 20 to 100 employees for medium industry [6]. Ministry of Trading and Industrial defined IKS as companies with reserved shareholder for less or with RM 500,000 for small industry category, and those for medium industry is about RM 500,000 to RM 2.5 million. In labour aspect, small industry has 5 to 20 permanent employees and medium industry has 21 to 100 permanent employees [7].

There are many obstacles for the IKS to continue to develop and become a major industry. The survey result by Mohamad Diah [8] concluded eight problems that faced by IKS. These are:

- They could not afford their business capital
- Limited credit income
- Could not keep or attract skilful workers
- Limited technology
- Difficulty in getting business premises

- Marketing information is not adequate
- Lacks of exposure to modern business procedures
- Could not accomplish the government's regulation

Methodology

There are a few approaches to collect data that have been identified in this study. Some of them that can be mentioned here are using the research procedure of ISO 9001 Model, having an inner audit quality with company quality officer, using the research form to assess how far the apprehension level of IKS employee to ISO 9001:2000 and to identify the action by the company to improve quality management system, and conducting an interview with the entrepreneur of the participate IKS.

Microsoft Office Excel is used for data processing. Data will be analyzed to get the value of mean, median, mod and standard deviation [9]. The data will be arranged before being concluded in graph and pie chart to give an easy reading to the reader about the study result. Next, the result will be discussed according to the graph and the chart found.

Result and Discussion

There are 498 IKS employees in Perlis, Kedah and Pulau Pinang those involved in this study. A few results are based on these respondents.

- Differential of apprehension among employees in small and medium industry.

This study found that the employee apprehension in medium industry is better than those in small industry when 35% the majority of employees in medium industry mark for 4th scale in the questionnaire form. This value is higher than the value in small industry which is only 29% as shown in Figure 1 and Figure 2.

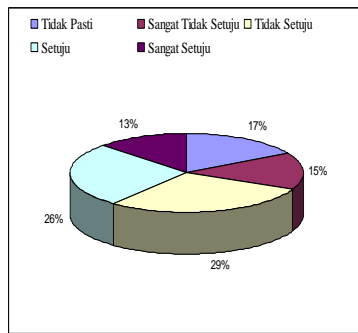


Figure 1. Level of apprehension of employees in small industries

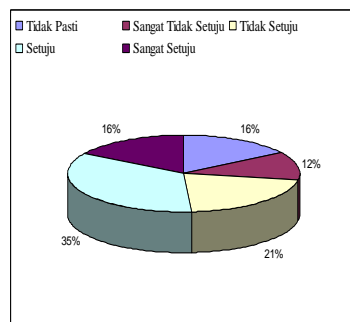


Figure 2. Level of apprehension of employees in medium industries

Although most of them said that they understand the ISO, statistical result shows the value of mod, median and mode are in the 3rd scales; proving that the employees does not really understand with QMS and ISO 9001:2000.

We can analyze that the lower of differential and level of apprehension happen because of some factors such as the company location, competition in business, company management system and employee education background; and the most important thing is how far the management of the company will encourage the awareness of the quality among their employees.

- Level of apprehension of supervisor.

Study found that the level of apprehension for position supervisor and above is better than position supervisor and below (41% compared to 31%). However, the statistical shows that the level of apprehension still low when the value of

mean, median and mode are in 3rd scale which as shown in Table 1.

Table 1. Statistical differences of apprehension

	Supervisor- below	Supervisor - above
Mean	3.1	3.49
Median	3.22	3.75
Mode	3.79	3.99
Varian	1.7	1.49
Std.Dev.	1.3	1.22

The differences between these two positions are caused by the differences of education and working experience. Besides that, for position supervisor and above, they are more close to the management and know better the system of the company. Therefore, it is clear that the effort of management of the company to increase the awareness of the employees towards the Quality is still low or none.

- Differences of management action between small and medium industry.

32% of employees in small industry admit that they work in a company where their management try to practice a good management of ISO 9001:2000. On the other hand, 29% of them deny it. In medium industry, 30% of employee agrees that their management try to get a good management whereas 25% of them do not agree. Most of IKS employees admit that their company practices a good management but the result from statistical analyses in table 2 shows the mean scale for small industry is 3.12 and 3.24 for medium industry.

Table 2. Statistical differences of action

	Small industries	Medium industries
Mean	3.12	3.24
Median	3.29	3.43
Mode	3.61	3.81
Varian	1.48	1.66
Std.Dev.	1.21	1.29

This differential happens because most of the medium industry is exposed to the business rivalry which is indirectly force the company to have a good management. For the small industry, they think that they do not need any system to support their company because they are involved in lower risk business.

- Level of apprehension for all the IKS employees.

Majority of IKS employee's apprehensions are in 4th scale. The facts show 33% of them understand with ISO 9001:2000, 23% are not understand, 16% are not sure, 15% are really sure and 13% are not really understand. This is not enough to know the level of apprehension of employees. Statistical approaches have been used to assess the level of apprehension. Based on the statistical analysis, the mean value are 3.19, median 3.44, mode 3.89 and standard deviation 1.3. These values show that the level of apprehension for IKS employees are in a lower level and need to be improved to help the management of the company more better. A few factors that contribute to this problem have been identified such as factor of IKS location, education background, working experience, realization from managements, and company managements system. When the IKS is in the industrial area, it will be surrounded by other companies and indirectly this will bring a good rivalry among IKS. Education background and working experience makes person become more mature and smart in making a decision. IKS management plays an important role in encourage the awareness of quality among the employees. A good management system will generate a self-motivation to their employees. According to the previous analysis, the apprehension level of supervisor job and below contributes to the employee's apprehension in small industry.

- Level of IKS action towards to Quality System Management.

Majority of IKS employees that is 31% said that their company does not have a good management. Nevertheless, 26% said that they satisfy with the management, 16% totally agree with the management, 14% are not sure and 13% are not satisfied with the management. Based on the statistical value it is found that the value of mean, median and mode are 3.21, 3.39 and 3.75 with standard deviation 1.27. This is happened because IKS companies do not care about the quality management system in their business especially for small industry. IKS entrepreneurs are satisfied if they fill their customer demands on product and service without considering a quality management system. It shows that the entrepreneurship knowledge about the quality is in a lower level. The study shows that IKS companies have problem to hire a specialist in quality field with a reasonable payment and this indirectly proves that IKS companies have a financial problem to improve the quality management system in their companies.

- Involved process towards to ISO 9001:2000.

Generally the process for committed IKS companies to improve their management system to get the ISO9001:2000 certificate is by applying 6 steps. And it is impossible for IKS to commit these steps without appointing an exterior consultant. IKS need to go through 6 phases starting with preparation process, planning, development, implementation, assessment, evaluation and amenable audit to get the certificate. The activity for every process is as following:

a. Preparation

For the beginning stages, IKS need to establish the ISO Guidance Committee and Internal Audit Quality Committee and issue a publication to encourage the awareness of organization to participate towards ISO

9001:2000. In this stage, the appointed consultant will train the organization main employees and help to establish ISO Guidance Committee and Internal Audit Quality Committee with discretion of IKS management. Further on, the consultant and the appointed committee will raise the awareness and commitment in organization towards to the importance of ISO by publicity, communication, and full participation from the all involved persons. Further, the committee will identify the activity and existing practice towards to standard requirement of ISO 9001:2000. Current system will be studied according to the documentation, the data initialising, and the management controlling to fulfil ISO needs.

b. Planning

In this stage, ISO Guidance Committee with the assistance of appointed consultant will plan the step to execute ISO 9001:2000 by using QMS. The committee needs to prepare the planning for all the coordination and time scheduling into a form that can be understood by the employees. The committees also need to make a selection and appoint the certification board for audit and certification works.

c. Development

This stage will give an accentuation in execute the ISO 9001:2000 needs especially in the necessary documents. The committee and office workers will involve in preparation of Quality Manual, Quality Procedure and other documents.

d. Implementation

The 4th stage will involve the IKS in the implementation of QMS standard practice that have been documentation in the stage before. The implementation covers all the record works and activity documentation and the existing operation in the organization to fulfils the QMS standard requirement of ISO 9001:2000. The entire person that involve in this implementation needs a guidance, assistance and support from the committee.

e. Assessment and evaluation

IKS will be involved in this stage to operate the audit pre-assessing. There are two forms of audit need to be processed, which are Internal Quality Audit and Adequacy Audit. The Committee of Internal Quality Audit that have been appointed in 1st stage and have been trained will lead and co-ordinate all the quality management system activity including preceding the audit works before the external auditor take over the audit works. Documentation audit need to be done to check the entire needed document and to ascertain the documents in order to fulfil the ISO 9001:2000 quality requirement.

f. Amenable Audit

Amenable Audit is the last stage and in this stage, external auditor from appointed certification board will judge a current assessment. They will assess the effective of QMS implementation for ISO 9001:2000 certification and the amenable of ISO 9001:2000 requirements. The amenable allows the IKS to get the recognition of ISO 9001:2000.

- Documents that are needs to ISO 9001:2000.

QMS needs to clarify a few documents such as quality policies and quality objective statements, quality manual, procedures, supporting documents, and record control. Companies should take action according to these documents.

Conclusion

It can concluded that the level of apprehension of IKS companies in North of Peninsular Malaysia towards to ISO 9001:2000 is in a lower level especially in small industry and for the employees in position supervisor and below. This study shows that the value of mean, median and mod are in 3rd scale which proves that the employees do not understand the concept of ISO 9001:2000. In this case, the management should not ignore the aspect of quality management system and they need

to take an initiative to clarify a quality management system in their companies. ISO 9001:2000 is an international standard that needs to be achieved by IKS companies to keep their successful. IKS companies need dare to change so that they are not leftover and still in the former level. The elements that are involved towards to ISO 9001:2000 will guide and bring the IKS big changes in their management system.

References

- [1] D. Hoyle, ISO 9000 Quality System Handbook, 4th ed., Elsevier Butterworth Heinemann, UK, 2001.
- [2] P.L. Johnson, ISO 9000 Meeting the New International Standard, 1st ed., McGraw-Hill, UK, 1993.
- [3] D. Lock, Gower, Handbook of Quality Management, 2nd ed., Library of Congress Cataloging in Publication Data, UK, 1994.
- [4] Syed Imtiaz Haider, ISO 9001:2000 Document Development Compliance Manual, 1st ed., St. Lucie Press, UK, 2001.
- [5] IDRC team (no name), Information on Technology Adoption by Small and Medium Industries in Malaysia, SRC, 1988, pp.6.
- [6] A.Hesan, A. Quazi , and S. Padidjo, Journey Toward Total Quality Management through ISO 9000 certification a study on small and medium size enterprise in Singapore, International Journal of Quality and Reliability Management, Vol. 15 No 5 (1998), 489-508.
- [7] D. Centrad, Latihan Pendedahan dan Kefahaman ISO 9001:2000 (Awareness Training), 1st ed. , Central Sdn. Bhd., Kuala Lumpur, 2000.
- [8] Mohd Diah, The Development of Small Scale Industry In Malaysia, Text of Adress to MIM, Kuala Lumpur, July 1985.
- [9] Cik Sri Mazzura Basri, Kek Sie Long, Hjh. Kamariah Md. Kamaruddin, Phang Piau, Engineering Statistics, 2nd ed., Kolej Universiti Teknologi Tun Hussein Onn, Batu Pahat, 2004.