



UNIVERSITI PUTRA MALAYSIA

**THE IMPACT OF ISO 9000 CERTIFICATION
TO THE ORGANIZATION PERFORMANCE**

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GSM 1998 28

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A Final Project submitted in Partial Fulfillment of the Requirement for the
Degree of Master of Business Administration
Universiti Putra Malaysia

1998

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ABSTRACT

ISO 9000 Standards have become an important tool for an organization to enhance its market share in both local and overseas market.

However, little empirical studies have been conducted to determine the impact of ISO 9000 certification on the financial performance of the company.

In this study, a survey questionnaire has been designed to collect some information from the quality assurance personnel through telephone interviews. On the hand, company financial data was gathered to analyze the relationships of the ISO 9000 certification and the company financial performance.

Descriptive statistics namely frequencies, percentage and mean were used in describing the some of the finding. In addition, simple regression analysis was carried out to analyze the significance of ISO 9000 certification on the financial performance of the company.

Findings showed that the companies registered with ISO 9000 were mainly driven by external forces, such as market trend and statutory requirements. The study also found that the most quality assurance personnel perceived that they gained all the benefits (competitive edge) after pursuing ISO 9000 certification. However, the profitability ratio analysis did not support such conclusion. It revealed that the business performance of a company have indicated a declining trend instead of improvement after achieving ISO 9000 certification status.

This study also highlighted the necessity of Total Quality Management in a company and the integration of both in order to achieve the ultimate goal of the company.

ACKNOWLEDGEMENTS

First and foremost, I would like to express special appreciation to my project supervisor, Dr Salleh Yahya, for the worthless helps and guidance in making this project a successful one.

I am also grateful to my MBA colleagues, staff members at the Faculty of Economics and Management, UPM and Yayasan Pelajaran Malaysia, Kuala Lumpur who have contributed in one way or another.

My special thanks and appreciation also I extend to my husband and daughter, for the support encouragement, and sacrifice during the entire process of the project and throughout my graduate program.

Last but not least, I am grateful to my parents for their love, understanding and encouragement throughout my life.



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Chapter 1

Introduction

Since the establishment of the ISO 9000 certification in 1987, there has been a tremendous increase in companies from different corners of the world applying for the certification. Today, there are at least 150,000 companies Registered (or Certified) to the ISO 9000 Standards worldwide (Vianna 1997).

1.1. ISO 9000 In Malaysia

From the most recent information announced by the International Trade and Industry Minister, Datuk Seri Rafidah Aziz during a ceremony to present the ISO 9002 certification to Central Malamineware Sdn Bhd on 23rd August 1998(NST-24/8/98), she revealed that 1467 companies in Malaysia have been awarded with the MS ISO 9000 certification for the 10-year period between October 1988 to August 1998. 119 companies had obtained the ISO 9001 certification while 1348 companies were certified with the ISO 9002 series of standards.

The companies are divided into nine sectors as shown in Table 1-A below:

Sector	No of Companies
Electrical & Electronic	346
Polymer & Material	236
Services	200
Mechanical	180
Civil Engineering & Building	176
Chemical	123
Automotive Related	85
Food & Agriculture	74
Pharmaceutical	47

Table 1-A Number of Certified Companies from Various Sectors

The highest ranking of the number of companies awarded with ISO 9000 certification was in the Electrical and Electronic sector, following by the Polymer and Material sector. Service sector was placed in ranking number three.

1.2. Statement of the Problem

The current craze over the ISO 9000 certification has awakened Malaysia companies to the importance of quality as a business strategy. The impetus for ISO certification in Malaysia came from the desire to sell products in Europe, which has been the forerunner in requiring ISO 9000 certification for suppliers.

Seeing the trend that more and more companies are rushing for ISO 9000 certification, an important issue has been raised whether companies are implementing ISO 9000 because they believe in it or because they are being forced by market force or handful of insensitive but powerful bureaucratic entities (James 1997).

To date, more than 10 years have passed since ISO Standard first appeared in Malaysia. Is it worthwhile spending numerous manpower, money and effort in the route of applying the ISO 9000 certification?

1.3. Research Objectives

A number of surveys have been carried out to study the impact of the ISO 9000 certification to the company performance both locally and overseas. Most of the research was emphasized on studying the end users perception of the ISO 9000 standards but not many research works was done to study the impact of registration of ISO 9000 onto the financial performance of the company. Hence, it is the intention of this study to take a first glance on the impact of ISO 9000 certification to the financial performance of the organization in Malaysia.

The research shall focus on the following objectives:

- To study the perceived benefits from the ISO 9000 certification
- To study the impact of the ISO 9000 certification on the organization financial performance
- To compare the perceived benefits and financial performance
- To elaborate the need for the Total Quality Management (TQM)

1.4. The Importance of the Study

The findings of this study would be useful to those companies that aiming to pursue ISO 9000 certification. It could assist the companies in analyzing the cost and benefit of the ISO 9000 certification. In addition, it would enable those companies to set right objectives and clearer direction in pursuing ISO 9000 registration.

Nevertheless, this study would also encourage companies that already achieved ISO 9000 certification to go beyond the standards to implement TQM system. This shall form one of the objectives in this study.

Chapter 2

Literature Review

This chapter is divided into various subjects with the purpose of describing and interpreting the concept of quality and business performance. It attempts to describe the background and requirements of the ISO 9000 standards. In addition, this chapter will give an overview of other relevant studies that have been done in the area of ISO 9000 and how the ISO 9000 certification affects the organization performance.

2.1. Customer-driven Definition of Quality (Krajewski, 1995)

Customers define quality in various ways. In a general sense, quality may be defined as meeting or exceeding the expectations of the customer. To be more specific, quality has multiple dimensions in the mind of customer, and one or more of the following definitions may apply at any one time.

- Conformance to Specifications

Customers expect the products or services they buy to meet or exceed certain advertised levels of performance. Typically, products and services are developed with some standards and specifications in mind.

- Value

Another way customers define quality is through value, or how well the product or service serves its intended purpose at a price customers are willing to pay. How much value a product or service has in the mind of the customers depends on the expectations the customer had before purchasing the product or service.

- Fitness for use

In assessing fitness for use, or how well the product or service performs its intended purpose, the customer may consider the mechanical features of a product or the convenience of a service. Other aspects of fitness for use include appearance, style, durability, reliability, craftsmanship, and serviceability.

- Support

Often the product or service support provided by the company is as important to customers as the quality of the product or service itself. Customers get upset with a company if responses to warranty claims are delayed or advertising is

misleading. Good product support can make up for quality failures in other areas.

- Psychological Impressions

People can evaluate the quality of a product or service on the basis of psychological impressions: atmosphere, image, or aesthetics. In the provision of services, where the customer is in close contact with the provider, the appearance and actions of the provider are very important. Nicely dressed, courteous, friendly and sympathetic employees can affect the customer's perception of service quality.

2.2. Quality and Business Performance

According to Deming chain reaction (Deming 1982); as quality improves, costs will decrease and productivity will increase; resulting greater market share. The relationship between quality, profitability, and the market share has been studied in depth by the Strategic Planning Institute of Cambridge, Massachusetts. The conclusion from the studies which were based on performance data of about 3000 strategic business units, is unequivocal:

"One factor above all others - quality - drives market share. And when superior quality and large market share are both present, profitability is virtually guaranteed." (Robert, 1987)

"There is no doubt that relative perceived quality and profitability is strongly related. Whether the profit measure is return on sales or return on investment, businesses with a superior product/service offering clearly outperform those with inferior quality" (Robert 1987).

According to Joel, in addition to profitability and market share, quality drives growth. The linkages between these correlates of quality are shown in

Figure 2-A.

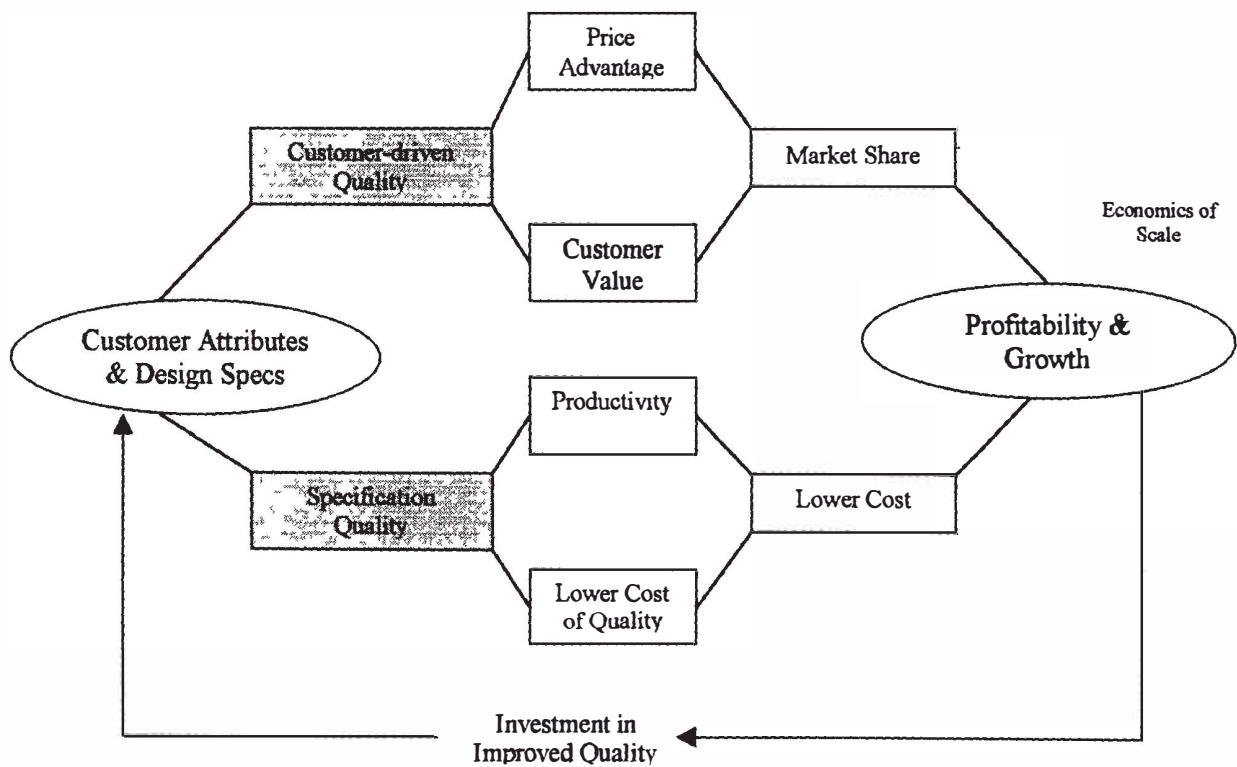


Figure 2-A The Quality Circle

Quality can also reduce costs. This reduction provides an additional competitive edge. Note that Figure 2-A includes two types of quality: customer-driven quality and conformance or internal specification quality. The latter relates to appropriate product specifications and service standards that lead to cost reduction. There is an inverse relationship between internal or conformance quality and costs. As quality improves, so does cost, resulting in improved market share and hence profitability and growth. This, in turn, provides a means for further investment in such quality improvement areas. The cycle goes on. In summary, improving both internal (conformance) quality and external (customer perceived) quality not only lowers cost of poor quality or "non-quality" but also serves as a driver for growth, market share and profitability.

Noted at this point that quality leads to improve productivity, reduce costs and improve market share; which ultimately increase profitability and growth of the company.. These same benefits would be achieved by ISO 9000 certification to the extent that actions leading to certification result in a quality management system .

2.3. ISO 9000 - Background and Systems Requirements

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from some 100 countries. ISO is a non-governmental organization established in 1947. The mission of ISO is to promote the development of standardization and related world activities in order to facilitate the international exchange of goods and services and to develop cooperation in intellectual, scientific, technological, and economic activities.

Standard	Content
ISO 9000	Provides definitions and concepts. Explains how to select other standards for a given business.
ISO 9001	Quality assurance in design, development, production, installation, and servicing.
ISO 9002	Quality assurance in production and installation.
ISO 9003	Quality assurance in test and inspection.
ISO 9004	Quality management and quality system elements.

Table 2-A Summary of ISO 9000 Standards

ISO 9000 series is a series of generic quality system standards developed by the ISO in 1987. The ISO 9000 series is a set of five individual, numbered sequentially from 9000. A brief summary of each standard is provided in the

above Table 2-A They are generic, not specific to any particular products They can be used by manufacturing and service industries as well In one of the ISO 9000 series of standards such as ISO 9001, it requires an organization to design and implement a management system with effective versions of 20 subsystems as listed in the following table

4 1 Management Responsibility	4 11 Control of Inspection, Test and Measurement Equipment
4 2 Quality System	4 12 Inspection and Test Status
4 3 Contract Review	4 13 Control of Nonconforming Product
4 4 Design Control	4 14 Corrective Action
4 5 Document Control	4 15 Handling, Storage, Packaging, Preservation and Delivery
4 6 Purchasing	4 16 Control of Quality Records
4 7 Control of Customer-Supplied Product	4 17 Internal Quality Audits
4 8 Product Identification and Traceability	4 18 Training
4 9 Process Control	4 19 Servicing
4 10 Inspection and Testing	4 20 Statistical Techniques

Table 2-B Clauses That Define The Required Subsystems In The ISO 9001 Model

The requirements of the sub-systems can be divided to 3 categories, which are documentation, management responsibility and functional standards

- **Documentation**

Documentation actions are necessary to comply with the standards. There are three major tasks:

1. Write the quality manual according to ISO guidelines.
2. Document all relevant procedures.
3. Write all relevant work instructions.

Document Approval and Issue

The company is required to establish and maintain procedures to control all documents and data that relate to the requirements of this Standard. These documents shall be reviewed and approved for adequacy by authorized personnel prior to issue. This control shall ensure the following:

- a) the pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed;
- b) obsolete documents are promptly removed from all points of issue or use.

Document Changes/ Modifications

Changes to documents shall be reviewed and approved by the same functions that performed the original review and approval. The nature of the change shall be identified in the document or the appropriate attachments.

A master list of equivalent document control procedures shall be established to identify the current revision of documents in order to preclude the use of non-applicable documents. Documents shall be re-issued after a practical number of changes have been made.

- **Management Responsibility**

The commitment and involvement of top management are requirements for the success of ISO 9000. The concern of ISO with management responsibility is reflected in the following:

Quality Policy

The company's management shall define and document its policy and objectives for, and commitment to, quality. The company shall ensure that this policy is understood, implemented, and maintained at all level in the organization.

Management Review

Th quality system adopted to satisfy the requirement of the standard shall be reviewed at appropriate intervals by the management to ensure its continuing suitability and effectiveness. Records of such reviews shall be maintained.

Internal Quality Audits

The company shall carry out a comprehensive system of planned and documented internal quality audits to verify whether effectiveness of the quality system. Audits shall be scheduled on the basis of the status and importance of the activity. The audits and follow up actions shall be carried out in accordance with documented procedures.

The results of the audits shall be documented and brought to the attention of the personnel having responsibility in the area audited. The management personnel responsible for the area shall take timely corrective action on the deficiencies found by the audit.

Corrective Action

The company shall establish, document and maintain procedures for:

- a) Investigating the cause of nonconforming product and the corrective action needed to prevent recurrence.
- b) Analyzing all processes, work operations, concessions, quality records, service reports and customer complaints to detect and eliminate potential causes of nonconforming product.
- c) Initiating preventive actions to deal with problems to a level corresponding to the risks encountered.

- d) Applying controls to ensure that corrective actions are taken and that they are effective.
- e) Implementing and recording changes in procedures resulting from corrective action.

Functional Standards

ISO 9000 standards also require documentation and follow-up performance for all functions affecting quality. Functional requirements are illustrated by the following examples:

- a) Design - sets a planned approach for meeting product or services specifications.
- b) Process control - provides concise instructions for manufacturing or services functions.
- c) Purchasing - details methods for approving suppliers and placing orders.
- d) Service - detailed instructions for carrying out after-sales service.
- e) Inspection and testing - compels workers and managers to verify all production steps.
- f) Training - specifies methods to identify training needs and keeping training records.

2.4. Period For Development Of ISO 9000 Quality System

The average time taken to develop the quality system to a level certifiable to ISO 9000 in Singapore is about 18 months (Lam, Low and Teng, 1994).

Firstly, there is a preparatory stage of between 1 to 3 months during which the quality development team is set up and basic training is given to the team and senior management on the understanding and application of ISO 9000. This is followed by a development stage of between 6 to 12 months which considers the organizations operations, review of existing documentation and the development of quality systems within the organization. In the mean time, in-depth training may be provided for key quality development staff and in the case of a large organization and external consultant may be called in to assist. The final stage requires between 5 to 9 months and consists of the implementation of the developed quality system in actual projects so that the organization can be prepared for third party certification which involves live audits of the system being applied. Again internal training will take place of a larger span of staff, on the quality system and on setting up of internal audits.

2.5. The Reasons For Seeking ISO 9000 Registration And Its Results

Manchester Business School, 1995

The research conducted on behalf of SGS Yarsley, an international accredited ISO 9000 registrar showed that the driving force behind the majority of the decisions to pursue ISO 9000 registration was external pressure. There were 77% of respondents sought registration to the standard in anticipation of future customer requirement. Maintaining market share, pressure from existing customers and marketability were also identified. The finding were further supported by the Ebrahimpour, Withers, and Hikmet survey (1997) where the key reasons for ISO9000 registration were to achieve corporate objectives and to increase market share. It was also mentioned in Atwalter and Discenza (1993) research finding that the main reason for pursuing ISO 9000 registration was to fulfill the customer demand.

The Internal factors included improvements to the consistency, cost reductions, efficiency and quality of operations. Table 2-C summarizes the main reasons for seeking ISO 9000 registration.