

Implementing ISO 14001: is it beneficial for firms in newly industrialized Malaysia?

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Abstract

This paper aims to look mainly into perceived benefits derived from ISO 14001 registrations for firms with in a newly industrialized country like Malaysia. The results of a survey on Malaysian firms registered with ISO 14001 indicate that there were benefits to be gained from implementing ISO 14000 Standards. Generally, the benefits were rather similar to those documented for companies that adopted ISO 14000 in industrialized countries. ISO 14000 implementation was crucial in bringing about effective environmental management, and reduction of damage to the environment, as well as improvement of the company's image and operations.

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1. Introduction

Primarily due to the Uruguay Round of the GATT (The General Agreement on Tariffs and Trade) negotiations and the Rio Summit on the environment held in 1992, international interest in environmental management has seen some concrete results. Most significantly among these perhaps is the development and implementation of the ISO 14000 Standard for organizational environmental management.

It is expected that adherence to this standard and consequently obtaining the registration for it will be perceived by firms as necessary to gain entry into the global market. Therefore it is not surprising that all over the world, more and more companies are seeking ISO 14000 registration. According to statistics published by ISO [1], up to the end of 2002, at least 49,462 ISO 14001 certificates had been issued in 118 countries, an increase of 12,697 certificates (+ 34.54%) over the end of 2001 when the total stood at 36 765 in 112 countries.

The top ten countries for growth in ISO 14001 certification (up to the end of 2002) were: Japan (+ 2497), China (1718), Spain (1 164), USA (975), Italy (858),

Sweden (660), Brazil (550), France (375), Germany (320) and Hungary (300). Japan, with plan from the government to potentially subsidize some of the costs [2] for small and medium enterprises (SMEs) seems to be leading the way. In Malaysia, 38 companies were registered with ISO 14001 by 1998, and the number has risen significantly to 83 in 1999.

Given the increasingly wide-spread adoption of the ISO 14000 standards, it is not surprising that in time to come the implementation of an environmental system (EMS) through registration with ISO 14001 will be the norm rather than the exception. This will have significant effect on the management practices in Malaysia. At this juncture, it appears timely then to conduct an exploratory study on Malaysian firms implementing ISO 14000 Standards. It is particularly interesting to find out what would be the positive impacts or benefits associated with ISO 14001 certification.

In most industrialized countries, it has been observed that the demand for standards is fundamentally "market driven" [3]. However in Asian countries like Malaysia, this is not necessary true. Tan and Sia [4] in their study on ISO 9000 standards implementation, found that for Malaysian companies, top-management's direction was the main motivation for acquiring ISO 9000 registration rather than customer demand as in the industrialize

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countries. We suspect this may be the same with ISO 14000. Thus, a comparison of findings in Malaysia with that of other countries will also be included.

The next section includes a brief survey of the benefits derived from implementing ISO 14000 Standards reported by firms in the industrialized countries. This is followed by a discussion on the results obtained from a survey on a sample of Malaysian firms that have been successfully registered with ISO 14000 standards. The paper concludes with a comparison between benefits gained by firms in Malaysia and those in industrialized countries.

Throughout this paper, the terms ISO 9000 and ISO 14000 will be loosely used, to refer to certification of ISO 9001, 9002, 9003 (which is dependence on the scope of the activities certified) and certification of an environmental management system to the ISO 14001.

2. Benefits of implementing ISO 14000 standards—The industrialized countries' experience

A survey of the literatures revealed that the benefits most often mentioned may be grouped into eight broad

categories, which are summarised in Table 1. Generally, all authors mentioned that the establishment of an environmental management system by adopting the ISO 14000 Standards led to clean or green operations. Waste minimization or elimination were reported to be the benefits under this category by Melnyk [5], Fussler [8], and Weissman and Sekutowski [9] in the US; the Hong Kong Industry Department [6] and Pun et al. [7] in Hong Kong. In addition, Pun et al. [7], Weissman and Sekutowski [9], as well as Christensen and Rasmussen [10] mentioned reduction in energy consumption as another important benefit. So far, only in Poksinska et al. [11] and Denton's article [12], minimization of adverse impact on the environment was mentioned as a benefit. Increased public awareness of environmental issues at work and at home was mentioned by Rondinelli and Vastag [28]. Thus, based on the above observations, non-environment related benefits generally seem to have been reported more often in these literatures.

The other often mentioned benefit was that of effective operations as a result of adoption of the EMS standards. Under this category, Weissman and Sekutowski [9], Pun [7], and Sayre [13] had all mentioned, "improved operational safety" as one

Table 1
Summary of benefits of obtaining ISO 14000 registration documented in literatures

Benefit group	Benefit	Article/research
Clean/green operations	Minimize or eliminate waste	Melnyk et al. 2003 [5]; Hong Kong Industry Department, 1998 [6]; Pun et al., 1998 [7], Hong Kong; Fussler, 1996 [8]; Weissman and Sekutowski, 1991 [9], US.
	Reduced energy consumption	Christensen and Rasmussen, 1998 [10]; Pun et al. 1998 [7]; Weissman and Sekutowski, 1991 [9], US,
	Minimize the adverse impact on the environment, environmental improvement	Poksinska et al. 2003 [11]; Denton, 1994 [12].
Effective operations	Improved operational safety	Pun, 1998 [7], Hong Kong; Sayre, 1996 [13], US; Weissman and Sekutowski, 1991 [9], US.
	Improved material utilization efficiency	Christensen and Rasmussen, 1998 [10]; Weissman and Sekutowski, 1991 [9], US
	Improved process leading to cost-based competitive advantage	Miles & Covin, 1998 [14], Austria.
Profitability	Better financial performance	Cohen et al. 1995 [15]; US; Chapman, 1994 [16].
Competitive product/service	Environmentally friendly product that also meets customer needs has an advantage over their "non-friendly" competitors	Tibor, 1996 [17], US.
	Firms can enhance their competitive position through effective environmental conservation	Hong Kong Industry department, 1998 [6]; Lee 1997 [18]; Sayre, 1996 [13], US; Lin, 1995 [19], Asia.
Market expansion	Improved market share	Poksinska et al. 2003 [11].
	Uplifted public image	Poksinska et al. 2003 [11]; Boiral & Sala, 1998 [27]; Aboulnaga, 1998 [20]; Chin et al. 1998 [21], Asia; Clements, 1996 [22], US; Pouliot, 1996 [23]; Sayre, 1996 [13], US; Lin, 1995 [19], Asia.
Improvement in company image	Enhanced green image	Petroni, 2000 [24].
	Better communication with documented procedures and work instructions	Pun et al., 1998 [7]; Lau, 1997 [25]; Pearson et al., 1993 [26].
	Enhanced employee empowerment	Pun et al., 1998 [7]; Lau, 1997 [25]; Pearson et al., 1993 [26].
Public awareness	Highly systematic process	Boiral & Sala, 1998 [27].
	Managers and workers have become more aware of environmental issues at work and at home	Rondinelli and Vastag, 2000 [28].
Others	Enhance relationships between SMEs and their stakeholders	Morrison et al. 2000 [29]; Azzone et al. 1997 [30]; Polonsky, 1995 [31].

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