



Deciding on ISO 14001: Economics, Institutions, and Context

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ISO 14001 is an international standard for environmental management systems that was introduced in September 1996. It has gained wide recognition among businesses, much like its sister standard on quality management systems, ISO 9000. As a result, managers in almost every organization will evaluate whether the organization should become ISO 14001 certified. However, most analyses of ISO 14001 intended to guide managers in their evaluation have focused on the merits of ISO 14001, such as improved competitiveness, management control, and regulatory compliance. Very few articles provide a balanced picture of the costs and benefits of ISO 14001—including the conditions under which adoption will be most effective. This article redresses this gap by providing an analysis of not only *why* firms may choose to certify based on economic and institutional considerations, but also, when certification might be appropriate based on the firm's context. © Published by 2002 Elsevier Science Ltd.

In 1998, the Jutras division of Meridian Magnesium Inc., which manufactures magnesium automotive parts, reported that it saved almost \$2 million soon after its \$45,000 investment on an ISO 14001 certified environmental management system (EMS).¹ The company reduced its use of electricity, natural gas, and lubricants, while producing less solid waste and contaminated water. These were not just one-time savings: they were expected to continue into perpetuity. Not all their ISO 14001 projects were winners, however. Jutras implemented ten projects for their EMS in the first year with an initial goal of saving over \$460,000 in costs. Four of the projects did not result in any savings and one had disappointing but positive results. The remaining projects, however, provided larger than expected returns. The cost savings

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increased the competitiveness of a firm that prides itself on being the low cost leader in an increasingly competitive automotive parts industry. The benefits to the environment were a bonus. And there was yet another bonus from ISO 14001 that had not been anticipated: the preference for ISO certified suppliers by its key customers, Ford and General Motors, and the social legitimacy earned from stakeholders pressuring for greener business practices. The company now posts its ISO 14001 certification on its web site as one of its main achievements.

Although this type of vignette presents ISO 14001 in a positive light, not all firms have embraced the standard with enthusiasm. While over 22,000 facilities in 98 countries were ISO 14001 certified by December 31, 2000, many firms had decided to delay certification or reject it altogether.² The significant financial rewards realized by the Jutras Division of Meridian Magnesium have not been perceived by many of its peers, even though most analyses of ISO 14001 attempt to convince the reader that such a system is of significant strategic importance and a panacea of opportunity. Writers typically tout the potential for lower costs, increased competitiveness, market share growth, higher profits, and regulatory compliance, such as those experienced by Meridian Magnesium.³

The costs of ISO 14001, however, are not trivial. Managers need to undertake a careful analysis of the relevance of ISO 14001 to their firm before they decide to jump on the ISO 14001 bandwagon. While managers can estimate the direct costs of certification with the help of good internal cost accounting, evaluating the intangible costs and benefits and the indirect impacts on the firm's performance is more difficult. In this article, we provide background perspectives and evaluation criteria for those aspects of ISO 14001 certification, looking specifically at the marginal benefit of ISO 14001 certification over an in-house EMS. This article, then, identifies why firms may certify and in which contexts, based on economic and institutional considerations. Armed with relevant decision-making criteria, we present managers with an analytical tool to assist them in determining if ISO 14001 is appropriate for their firm.

The insights provided here build on three studies:

- 1 an investigation of the motivations of environmental responsiveness by interviewing members of 53 firms in the UK and Japan;⁴
- 2 an investigation of the factors that influence the adoption of ISO 14001 based on a statistical analysis of 46 matched pairs of certified and non-certified firms and interviews with members of six firms in the US;⁵ and
- 3 an investigation of the contexts that explain adoption based on interviews with 16 pulp and paper companies in Canada.⁶

Details of these studies are provided in text boxes later in this paper. While these studies form the foundation of this paper, many of the anecdotes provided here are based on published

business. Her research has been published in a book titled *Business and the Natural Environment*, the *Academy of Management Journal*, *Academy of Management Executive*, *The Independent*, and the *Ivey Business Journal*. She received her doctorate from the University of Oxford.

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