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Incorporating green purchasing into the frame of ISO 14000

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Abstract

More and more firms have begun to voluntarily adopt ISO 14001 as a tool for continuous improvements to meet the goals of sustainability. At the same time, these firms have also encouraged their suppliers to apply for the certification of ISO 14001 and to regulate the certification as a minimum requirement in selecting suppliers (Ind Mark Manage 4 (1997) 363; J Qual Manage 4 (1999) 111; Renew energy 23 (2001) 579). By contrast, green purchasing is increasingly being used as an effective tool to mitigate the environmental impacts of consumption and to promote the development of clean production technology (Am Prospect 11 (1992) 71). It mainly focuses on product design and process improvement (Acad Manage Rev 20 (1995) 18; Harv Bus Rev 75 (1997) 67), eventually bringing about a competitive advantage in international markets (Harv Bus Rev 75 (1997) 67; Harv Bus Rev 73 (1995) 120). This paper highlights the role of ISO 14000 and green purchasing in achieving sustainable development when firms focus their concerns on improving both financial and environmental performance, and asserts the importance of the incorporation of green purchasing into the frame of ISO 14000. We propose that (1) environmental purchasing is an effective tool in controlling pollution externalities and provides a positive effect on the implementation of ISO 14001 environmental management and (2) with the incorporation of green purchasing into the framework of ISO 14000, it can encourage firms to implement pollution prevention from the source and to educate the public to engage themselves in green consumption, which leads to the attainments of both environmental and financial performance. In this paper we also present a framework of guidelines for green purchasing and the related implementing procedures.

Keywords: Green purchasing; ISO 14000; Environmental performance; Financial performance

1. Introduction

Environmental problems have become the focus of the general public and company stakeholders, affecting both regional and global cooperation and prompting conflicts in many aspects. As a consequence, various governmental, non-governmental, and industrial initiatives have been designed and adopted in searching out sustainable development to improve environmental performance. The political connections among countries to mitigate environmental impacts and the close relationship within the global economy to reduce trade barriers have increased the competitive effects of environmental regulations and enhanced the demand for a common environmental management across countries [1,2].

To meet the common requests of the global community, ISO 14000 emerged in 1996 and was developed by an independent organization of the International Standards Office (ISO). It is a formal, certified quality system, consisting of a series of guidelines or processes to help direct a company's management to accept and acknowledge technical standards. It is believed that the adoption of this system can help management to create competitiveness by reducing costs in the manufacturing process and to inspire management to seek for sustainable development through the design of green products and clean production processes. It is seen as an effective tool to create competitive advantages for firms by allocating resources to satisfy both the firms and the stakeholders.

The introduction of ISO 14001 enhances a firm's awareness and involvement in environmental activities

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through a continuous improvement process of environment-related education programs and appropriate management systems provided by such a certification [3]. As a consequence, it ensures the attainment of sustainability by supporting the firms to investigate and achieve both financial performance and environmental performance. Many studies prove that the implementation of ISO 14001 and other environmental activities can increase a firm's relative competitiveness in the market [4–8] and environmental performance (Green and Morton, 1998; [9,10]). Other researchers argue that there are other factors in addition to environmental regulations that determine environmental performance [11,12].

External pressure to comply with environmental regulations encourages industrial innovations in finding out a greener process or product through the choice of a cleaner technology. Future trends, relating to environmental issues that call for more stringent environmental regulations, yield a new impact on the future prosperity of business firms to survive if those firms cannot cover the extra cost for green materials or extra-investment for new designs or new processes. In practice, an environmental management system is seen as a tool to provide a framework for assessing environmental impacts and then to help management to form firm-level environmental strategies.

In the ISO 14001 adoption process, firms pressure their suppliers to apply for the certification of ISO 14001 and to regulate the certification as a minimum requirement to select suppliers [13,7,14]. Under such a circumstance, many firms modify their activities and behaviors to try and improve environmental performance, since they believe that the success in environmental management can create business opportunities [15–19]. Unfortunately, ISO 14000 does not contain any specification on green purchasing even though it is generally accepted that prevention activities from source are an effective tool to support the objectives of sustainability. More and more evidence finds that a growing number of consumers are willing to pay a premium for products with "green labels".

ISO 14000 helps provide industry with very important guiding principles for the development of an environmental management system and offers some benefits of self-checking mechanisms on environmental performance. However, it does lack the guiding rules to motivate firms or supply chains from upstream manufacturers (suppliers) to downstream distributors to engage in voluntary research or involvement in the development of clean technology and the manufacturing of green products. In this paper we attempt to address the important role of green purchasing in supporting ISO 14001 to form integrity when firms attain environmental performance as well as financial performance.

2. The status quo of ISO 14000 certifications

Many firms see ISO 14000 as an extension of the quality management system ISO 9000 that emphasizes the importance of continuous improvements in the design of the process, final products, and services, meaning it can offer the same benefits as ISO 9000. Its objectives include both quality and environmental aspects by mitigating emissions and effluents, reducing environmental impacts, and through the enhancement of customer satisfaction. The implementation of this system can assure the public of the environmental information released by firms and to help the public obtain a certainty that the firms have control over significant environmental aspects of their operational processes. This can be seen from the results of the firms' compliance with all relevant environmental regulations and their commitment to the public to improve continually their overall environmental performance.

Due to ever-growing concerns, the number of firms globally that have achieved the certification of ISO 14001 has been growing steadily with a sufficiently high rate [20,21,4]. According to a report by ISO [22], "a worldwide total of 22,897 ISO 14000 certificates was reached by the end of 2000, representing an increase of 8791." Table 1 lists the number of firms with ISO 14000 certification in the 10 leading countries. Japan leads all with 5338 certified firms and Taiwan is ranked 7th in the world in 1999. "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" [23].

According to the report issued by Taiwan's Environmental Protection Agency, more than 881 firms in Taiwan have received the certification of ISO 14001 through December 2000, with about 98% of these certified firms being manufacturers. This data implies that manufacturing sectors are more interested in achieving ISO 14001 certification than service sectors.

Table 1
The number of ISO 14001 certified firms of 10 leading countries in 2000

Ranking	Country	Number of certified firms
1	Japan	5338
2	German	2400
3	UK	1400
4	Sweden	1370
5	USA	1340
6	Australia	1053
7	Taiwan	881
8	France	802
9	The Netherlands	800
10	Italy	724

Source: ISO World, 2001/January.