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Alternative models for environmental management in SMEs: the case of Ekoscan vs. ISO 14001☆

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ABSTRACT

In the case of SMEs, ISO 14001 and EMAS have been the most used models of reference for implementing Environmental Management Systems (EMSs). Their success has eclipsed that of other alternative SME models deployed in the European Union and Japan. In this paper the authors analyze the content and objectives of one of these models, the Ekoscan model, and compare it to the ISO 14001. Furthermore, a survey composed of 262 participating companies is presented, where motivations, obstacles and benefits of adopting both models in SMEs are compared. The article concludes that only the drivers differ in a significant way, since the perceived obstacles and benefits of adopting the respective models by the SMEs are similar (although their respective signaling and market value are different).

1. Introduction

An Environmental Management System (EMS) is a systematic process that corporations and other organizations use in order to implement environmental goals, policies and responsibilities, as well as regular auditing of its elements (Cascio, 1996). EMSs tend to be based on international models of reference: the most used ones are the international ISO 14001 standard and the EcoManagement and Audit Scheme (EMAS), created within the European Union (EU).

According to the latest available official data from ISO (2008), by the end of 2007, the number of ISO 14001 certificates awarded exceeded 154,000 in over 140 countries. According to European Commission data from the end of 2007 (European Commission, 2008), more than 5900 sites and 3900 organizations had taken the EMAS standards on board. Both ISO 14001 and EMAS are also extending to small and medium-sized enterprises (SMEs) (European Commission, 2008; ISO, 2005). According to the most recently published EMAS data (December 2008), 76% of all companies appearing on the European Union register were SMEs.[1] Owing to the fact that ISO do not publish results specific to the scale of companies and their ISO 14001 certification, the relevant data are not available. However, as indicated by Hillary (2004), the standards popularity in comparison with EMAS would suggest the percentage of SMEs registered to ISO 14001 is likely to be higher than for EMAS (Hillary, 2004).

SMEs are socially and economically important, since their 23 million companies represent 99% of all enterprises in the EU (57% of value added), provide around 65 million jobs and contribute to entrepreneurship and innovation (European Commission). As Andrea Vettori, Directorate-General for the Environment of the European Commission, has pointed out (Vettori, 2007), SMEs are responsible for 60–70% of all industrial pollution, 40–45% of air emissions, and water & energy consumption, and 70% of industrial waste production in the EU.

For years now, there have, at the heart of both the European Union and the Japanese Ministry of the Environment (the current Environmental Agency), been special awareness-raising policies regarding the challenges that need to be faced by European and Japanese SMEs when promoting environmental management in

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their organizations. Thus, in Europe, projects have been carried out within the EU aimed at facilitating the implementation of an EMAS on the part of SMEs (EMAS Easy Project, 2008). The dissemination of specific models and standards for EMSs have also been promoted, resulting in a great diversity of alternative models for Environmental Management (AMEMs) in SMEs (Kahlenborn, 2004; ISO, 2005). Indeed, ISO, having witnessed the difficulties encountered by companies attempting to adopt the standard international framework (ISO, 2005), has also studied the alternative SMEs available. Given that the alternative programmes are so diverse—as highlighted by Wenk (2006) and Kahlenborn and Freier (2007)—there exists a real need to study the AMEMs for SMEs in depth, improving as a consequence existing transparency in terms of information.

As a result, the aim of this paper is to present a specific AMEM for SMEs (Ekoscan)—addressed for the first time in the field—with the specific objective of analysing whether or not the model in question is adopted in a different mode to ISO 14001. Consequently, the motivation behind, obstacles to and benefits for companies that have adopted the AMEM for SMEs are analyzed and are compared to the cases of other SMEs that have implemented and certified ISO 14001, in order to analyze the suitability of the SME specific models in question.

The remainder of this paper is arranged as follows. The following section of the paper presents a brief overview of the main AMEMs for SMEs. It then goes on to analyze the Ekoscan model and, within the comparative analysis between ISO 14001 and Ekoscan, the working hypotheses related are stated. The third section discusses the empirical methodology deployed during the study. The results of the aforementioned survey are synthesized in the fourth section, with discussion of the results following in the fifth section. The paper concludes with a summary of the main findings and suggestions of particular interest to those stakeholders involved in the promotion of EMSs.

2. Theory, concepts and research propositions

2.1. AMEMs for SMEs

In the literature various factors have been pointed out as being responsible for the emergence of AMEMs for SMEs (ISO, 2005; Kahlenborn and Freier, 2007). Two of the principal reasons are that EMAS and ISO 14001 initiatives have experienced limited success among SMEs and that due to the realization that systems adapted to SME requirements represent a new business segment, SMEs, especially, require support when introducing environmental management initiatives.

SMEs, due to their size and the resources at their disposal, have clear disadvantages or diseconomies of scale when implementing EMSs based on ISO 14001 or EMAS. In contrast, in the literature these major advantages AMEMs for SMEs are mentioned (Wenk, 2006; Kahlenborn and Freier, 2007; European Commission, 2007):

- Less work required for documentation compared to EMAS/ISO 14001.
- Better adaptation to local/regional circumstances and/or to branch specific requirements.
- Dissemination of the approaches is enhanced through service packages provided by consultants.
- Where external certification exists, the costs are usually low and/or subsidized.
- Political/financial support.

Table 1 is a summary of AMEMs for SMEs. The initiatives have been adopted either by countries with a high volume of ISO 14001 certified countries (e.g. Spain and Japan) (Marimón et al., 2006), or by countries not noted for their ISO 14001 certification record but which have instead adopted the EMAS model (Heras et al., 2008a) (e.g. Germany). With regard to the contents of the table it is mainly concerned with the relevant environmental legislation and with formalising and systematising aspects of Corporate Environmental Management (CEM). The aspect of cleaner production is not particularly highlighted.

As several reports have pointed out (Kahlenborn, 2004; Kahlenborn and Freier, 2007), the total number of companies operating and using the AMEMs is very difficult to estimate, since many of them have no record of participants or participants are not certified, and the transparency in terms of information of many of the entities that promote these models does not appear to be the most suitable.[2] According to the data available (Heras et al., 2008b), it would seem that the adoption of these specific models has not been significant. It would therefore seem that the models for SMEs are not forceful enough to deal with the major models of reference such as EMAS and ISO 14001. As can be seen in Graph 1, the AMEMs that appear to have been most successful (in terms of application) have been the Ecoaction 21 model, the Eco-Lighthouse model and the Ekoscan model.

2.2. The Ekoscan model

The Ekoscan model has been promoted in Spain, a country ranked third in the world in terms of ISO 14001 certificates in absolute terms behind China and Japan (ISO, 2008). As a result Spain is, in relative terms, the country in the world which has experienced the greatest intensity of ISO 14001 certification (Marimón et al., 2006). In fact, Ekoscan was created in the Basque Autonomous Region, one of the regions in Spain where ISO 14001 registrations are most highly concentrated (Heras et al., 2008c).

Ekoscan was created in 1998 by Ihobe, the publicly owned Basque Agency for Environmental Management, in order to improve the lack of environmental awareness-raising among industrial SMEs from the region (Heras et al., 2008c; Ihobe, 2007). Although the programme was launched in 1998, it was only at the beginning of 2003 that Ihobe took the decision to advance and enable the Ekoscan model to be certifiable. The aim set out by Ihobe for Ekoscan was to enable SMEs to improve their environmental behaviour, as well as to comply with environmental legislation. By the end of 2007, 148 organizations had been certified, with a total of 156 sites (Heras et al., 2008c), 92% of them SMEs.

The Ekoscan standard involves drawing up an Environmental Improvement Plan (EIP), which is viable from both a technical and a financial standpoint. This process must comprise the following steps at least (Ihobe, 2004):

a) Identification of potential minimization methods for each aspect selected.
b) Selection of the specific methods to be analyzed.
c) Documented analysis of the technical, financial and environmental viability of the measures considered, including the potential improvement results.
d) Definition of the EIP.
e) Approval of EIP by top management.

The requirements of the Ekoscan standard are structured into six sections, as shown in Table 2 and Table 1A (in the Appendix). These sections are in turn structured into four sections of a continuous improvement cycle.

[2] The authors of this paper repeatedly requested the collaboration of these organizations and very few replied or agreed to collaborate by supplying the information required.