

# An analysis of the implementation of an environmental management system in a local public administration

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## Abstract

The Environmental Management System (EMS) is commonly implemented in private firms. However, on the basis of a strengths, weaknesses, opportunities and threats (SWOT) analysis, our work analyzes the consequences of implementing an EMS within the context of local public administrations, particularly regarding the City Council of Ohanes in Almería (Spain). This is the first European corporation to implement an EMS according to the ISO 14001 Standard, certified by the Spanish Association of Normalization and Certification. Its analysis would be equivalent to the Shumpeterian “market innovator study”, so that public administration “followers” can take advantage of the derived benefits and of minimizing the negative effects of such an experience.

On the other hand, we show that the economic and environmental advantages derived from the EMS go beyond the activities that the City Council is in charge of. They have spillover effects that extend them to all economic activities in the municipality and these effects are expected to be increased in the medium and long-term perspective. In this paper, we compare the costs and benefits that the municipality obtains in two cases: the City Council implements the EMS or it does not implement it.

The main objective of this article is to show the economic and environmental advantages obtained by a municipality when it is only the City Council who is implementing an EMS. It is logical to suppose that this case study can stimulate other municipalities to use this instrument, even if the economic and environmental characteristics of the municipality are different.

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## 1. Introduction

In recent years, it has been observed that companies tend to adopt several procedures that use the environment to enhance their competitiveness. If the environment was initially considered to be a cost taken on by companies, they nowadays use instruments that, while protecting the environment, improve their efficiency. One of the main tools used in economic policy has been the implementation of an EMS.

*Abbreviations:* EMS, Environmental Management System; SWOT, strengths, weaknesses, opportunities and threats; AENOR, Association of Normalization and Certification

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We can define an EMS as “the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing, and maintaining the environmental policy” (UNE-EN ISO 14001, 1996, article 3). That is to say, its purpose consists of putting into practice the environmental policies of the respective organization. Therefore, this system should know and value both the environmental effects of the activities, products and services of the organization, and those effects which would take place due to incidents, accidents and emergency situations.

In the scientific literature, we can find several studies describing the costs and benefits of EMS, both regarding companies and very specific cases (Bell, 1997; Sheldon, 1997; Dowie et al., 1998; Steger, 2000; Ammenberg et al.,

2001; Brio and Junquera, 2001; Fryxell and Szeto, 2002; Hillary, 2002; Khanna and Anton, 2002; Kwon et al., 2002; Reith and Guidry, 2003; Hillary, 2004; Zobel and Burman, 2004; Peng, 2005) and the system itself (Johnson, 1997; Lamprecht, 1997; Roberts and Robinson, 1998; Baron, 1999; Jonquières, 1999; González, 1999; Seoáñez and Angulo, 1999; Block and Marash, 2000; Woodside and Aurricchio, 2000).

On the basis of the positive experience that EMS has provided companies, its application has been extended to other similar organizations, just as quality management systems were in the past. That is, although they arose as tools of economic policy, they are presently used by public administrations with the aim of improving their efficiency and their relationships with citizens (clients).

This is the reason why EMS has been moved from the private sector to the public administration, becoming an economic policy instrument that allows one to achieve environmental objectives. In the case of a local administration, and since the City Council represents the combined actions of its inhabitants, the use of a tool of this nature would imply some additional environmental respect within the economic relationships of this area.

Yet, it should be remarked that the EMS does not necessarily, in itself, guarantee environmental protection or enhancement. It is a tool that allows the continual improvement of the environmental behavior and performance. It is not a static process but dynamic: it is a process of continuous improvement in which the environmental impacts are studied in any situation (normal, abnormal and emergency conditions).

When an EMS is implemented by a private company, financial institution, a City Council or whatever, some advantages are obtained from both the economic and environmental points of view. Nevertheless, differences exist between industrial schemes or companies and local authorities. We want to emphasize five aspects in which the implementation of an EMS is different in a company and a local administration. Firstly, in the case of firms, the economic advantages can be very easily perceived, since competitiveness is increased as a consequence of the lower consumption of raw materials, the elimination of sanctions, the improvement of their own image, etc.

However, when an EMS is implemented by a City Council, benefits do not seem to be so clear (Lozano, 2003). Short and medium-term expenses increase since it is necessary to follow certain stages (environmental revisions, impacts corrections, environmental certifications, etc.) to put a sustainable development model into practice. As to the revenues or benefits obtained when acquiring this commitment of continuous improvement of the environment, the results appear to be long-term and sometimes rather of a social nature than of economic profitability. In this case, and contrary to what happens in the private sector, there is no market competition for a certain product. We could indirectly observe a sort of parallelism with the benefits provided by services.

Secondly, we found a reason that would explain this difference in the type of effects generated in the environment. The companies are especially concerned about the control of production activities (contaminating emissions, solid waste, energy consumption, etc.) with direct effects on the environment. Even though the local authorities also have this type of effect, most are indirect because they come from the providing of services (Sheldon, 1997).

Thirdly, in a local administration, the decision to implement an EMS is taken by the ruling political group, moved or not by the citizen pressure. In the case of companies it is the market, or rather the clients with their purchase decisions, which is in charge of awarding environment-friendly companies (an EMS is a proof of this) and of penalizing polluting firms.

On the other hand, when a firm implements an EMS, the benefits extend to its clients and in some cases to the suppliers. Nevertheless, the implementation of the EMS in the activities that the City Council manages has economic (employment opportunities), environmental (sustainable resource use) and social (a better quality of life) consequences that go beyond the City Council: spillover effects take place in the totality of the municipality.

Lastly, it can be seen that the clients can influence in the short-term the environmental behavior of companies: from a great variety of products they can choose the most environment-friendly. This way, the companies are forced to improve their environmental behavior in the short-term if they want to avoid the risk of being expelled from the market. Nonetheless, if the citizens are not in agreement with the environmental policy of the City Council they have just two options: to vote for another political party in the following elections or to leave the municipality. In both cases their capacity of choice is much smaller and in the mid-term (Lozano, 2003).

Within a competitive economic framework, such as we have nowadays, where qualitative features are becoming more relevant (Townroe, 1972; Richardson, 1986; Chapman and Walker, 1988; Porter, 1991; McCormack et al., 1995; Galán et al., 1998), the implementation and maintenance of an EMS by a City Council implies a potential intangible asset provided by the local economy for the companies to take advantage of. Therefore, environmental protection becomes a business opportunity that favors ecological agriculture, the attraction of industries that respect the environment, the growth of rural tourism and all kinds of activities which combine economic and environmental components.

Hence, if a City Council not only looks for economic development but also for sustainable development, with a maximum respect of the environment when providing its own services, it is likely that both residents will stay longer due to the forthcoming new work possibilities and new residents will arrive and new sustainable economic activities from the surroundings will arise, e.g., rural tourism. Everything will turn into a source of new revenues (Lozano, 2003).

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