

Exploratory review of the state of the art on the impact of implementation in SMEs: Case study in the environmental management system

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Abstract

The implementation of environmental management systems in SMEs has had an imminent importance for compliance with regulations and regulations, which affects the decision making of organizations, in the course of the activities of their corporate purpose. Analyzing the influence of these factors will establish important elements that will affect organizational behavior. Through the review of the state of knowledge about the impact of the implementation of environmental management systems and its impact on other countries, which serves as a support to understand the dynamics considered as a management system in companies.

Keywords

Environmental management system, influence analysis, impact, goal-based selection, decision making

1. Introduction

The implementation of the management systems has generated a change in the organizations that tend for the continuous improvement of the processes. Different positive and negative results have been observed on the effectiveness of the solution in different organizations, depending on the size of the company, the maturity of its organization, the social object of the organization, among others.

This document is the continuity of the studies carried out on the impact of the implementation of management systems. Through the review of the state of the art, it was possible to deepen in the incidence of the different factors that can influence the decision making for the implementation of environmental management systems.

2. Statement of the case

In the exploratory study of SMEs in Bogotá, on the impact of the implementation of quality and environmental management systems, showed weaknesses in the measurement of productivity and the alignment of a management system with the results was not evident financial and sales income (Vásquez, O., Mosquera, W., 2014).

Similarly, it was observed that the need to develop the management systems implementation process was due to the compliance generated by the customers with a mandatory compliance requirement generated by the client, the sector's union where the organization or government regulations are developed. It was observed that "the interest groups" among the client-supplier-competitor relationships had a high degree of influence in the management decisions of

SMEs. On the other hand, it was evidenced that, in the certified SMEs of the study, their certified management system is net of filing of forms and records in order to show evidence (Vásquez, O., Mosquera, W., 2014).

On the other hand, in the review of the state of knowledge about the implementation of quality management systems (Vásquez, O., Mosquera, W., 2015), different authors indicate a positive correlation of the benefits of implementation with respect to business results (Sampaio, P., Saraiva, P., Monteiro, A., 2012), (Quazi, H., Hong, C. and Meng, C. 2002). However, it is also observed that the presence or absence of a certification of the management system is a poor predictor to determine the good performance of an organization (Terziovski, M., Samson, D. and Dow, D. 1997).

Hence the importance of determining if the same tendency is present, in terms of the implementation of the environmental management system, for this reason, the review of the state of knowledge that shows the behavior of the impact of the implementation of environmental management systems is justified in other countries and to understand in depth its incidence in the decision making of organizations.

3. Methodology

For the revision of the state of knowledge, the exploration of different bibliographic databases was carried out, among them Science Direct, Scopus, IEEEExplore, EBSCO, by means of guiding keywords. In this process of consulting the databases, it was deepened by reviewing the bibliographic references indicated by the authors in each article, in order to delve into theoretical referents of greater depth and specialty.

In the exploratory process of the databases, a time horizon was taken into account from 2011 to 2017; however, articles of greater antiquity were considered, given that they were germinal referents of the authors consulted. On the other hand, articles that dealt with the implementation of environmental management systems in SMEs were taken into account, as in the evaluation of the impact of this certification, articles aimed at reviewing theories and models for improving competitiveness.

4. Results

The review of the state of knowledge about the impact of the implementation of environmental management systems, generated interesting results in the behavior of organizations both in their organizational structure, the development of administrative and productive processes, as well as in the flow and management of information. Environmental issues are related to the different areas of the company having an impact on them (Plaza-Úbeda, J.A., De Burgos-Jiménez, J., Carmona-Moreno, E., 2010).

For example, in the commercial area with access to new markets and distribution channels, with a differentiated product or with better publicity; with the finance area by allowing access to grants or creating financing needs for the start-up of projects; with the area of operations when modifying processes, technologies or redesigning the product; with the area of human resources to sometimes require training for staff training or improving motivation and satisfaction at work or with the procurement area for example to influence the criteria of selection of suppliers or the content of purchases (Plaza-Úbeda, J.A., De Burgos-Jiménez, J., Carmona-Moreno, E., 2010).

Implement environmental protection in SMEs requires implementing certain practices or measures in the strategy of the same and its processes, so that management faces various barriers that must be addressed in order to subsequently obtain the benefits that these may entail. Many of these barriers are of an economic nature, since they have to face costs that must be amortized and investments that may not have an immediate return.

There may also be obstacles or barriers imposed by the human factor of the company, as both employees and managers will need to be trained in the new measures and know their importance to have a motivation regarding them and achieve compliance with the objectives (Plaza-Úbeda, J.A., De Burgos-Jiménez, J., Carmona-Moreno, E., 2010).

Therefore, managers must be able to carry out a series of tasks within lines of action appropriate to each company and its functional or department areas, setting goals to meet within its tactical horizon as part of the business strategy (Plaza-Úbeda, J.A., De Burgos-Jiménez, J., Carmona-Moreno, E., 2010).

The pressure of the interest groups causes the implementation of environmental protection measures in the company and makes collaboration with these groups very convenient. Strategic proactivity is manifested both in the adoption of environmental protection measures and in the development of relations with "stakeholders", and the satisfaction of these is conditioned by the environmental behavior of the organization. However, integrating interest groups also

means making changes in the company (Plaza-Úbeda, J.A., De Burgos-Jiménez, J., Carmona-Moreno, E., 2010), and these changes can usually involve a cost that is not always compensated by improving results.

However, the important connection of environmental management in the company and the management of interest groups allows us to suggest the existence of synergies in terms of improving the image of the company, providing knowledge of interest groups, reducing possibilities of rejection by groups, collaborations in specific processes (Plaza-Úbeda, J.A., De Burgos-Jiménez, J., Carmona-Moreno, E., 2010).

Organizations do not act correctly on environmental factors, so much so that in their strategic formulation they often do not direct activities to do so, focusing only on reducing costs and risks that may have repercussions on sanctions, investments and economic reparations in an environmental sense. Seeing it as a business opportunity, as explained by those who argue that it is not a possibility or opportunity, but a necessity given the current environmental conditions (Acuña, Norberto, Figueroa, Lindsay, & Wilches, María Jimena., 2017).

The environmental improvement was identified as a way to reduce costs. These findings are consistent with the literature where it has been identified that the improvement of environmental performance is one of the main drivers when considering the ISO 14001 certification Florida, R., Davison, D., (2001), (Fryxell, G.E., Szeto, A., 2002), (Morrow, David and Rondinelli, Dennis, 2002). It has also been found that cost savings are a comparatively strong factor, reducing costs by reducing waste treatment, energy consumption, the use of water and raw materials, as well as minimizing the risk of penalties (Heras, Saizarbitoria; Iñaki Arana Landín. 2011), (Aba, E. K. y Badar, M. A. 2013), (Ferenhof, H. A., Vignochi, L., Selig, P. M., Rojas-Lezana, A. G., Campos, M. S. 2014).

From the empirical point of view, a growing number of studies have tried to contrast the relationship between environmental management and business performance, and the results obtained are not conclusive. Some studies detect a positive relationship between the variables mentioned (Franco, P. 2010), (King, A., Lenox, M., 2002), (Klassen, R. D., McLaughlin, C.P., 1996), (Melnyk, S. A., Sroufe, R. P., & Calantone, R. 2003), but others, on the other hand, do not identify the existence of a positive impact of environmental management on the performance of companies (Cordeiro, J. J. and Sarkis, J. 1997).

The environmental action can be understood either as the actions carried out by the company, voluntarily or by obligation to comply with the legislation in force, aimed at reducing or preventing the environmental impact of their activity, such as making more efficient use of natural resources. Therefore, the environmental performance of the company can have a very varied nature, which hinders the comparison of the different empirical studies (López-Gamero, M. D., Molina-Azorín, J. F., Claver-Cortés, E., 2009), so that the concepts of management and environmental performance become important in these investigations. Both concepts are intimately related, since while the measure of environmental management detects the degree of application of measures related to the protection of the environment, environmental performance expresses the degree to which environmental objectives are achieved (Plaza-Úbeda, J. A., Burgos-Jimenez, J., Belmonte-Ureña, L. J., 2011).

Despite this, on many occasions the positive or negative relationship (win-win or win-lose) between the company's environmental effort and its results has been measured by taking environmental management and environmental performance as independent variables and analyzing their effect on the business result considered dependent variable (Dowell, G., Hart, S. L., & Yeung, B. 2000), (Murty, M.N., Kumar, S., 2003).

Environmental management has been consolidated in recent years as an important element to obtain both internal benefits as well as improving the efficiency of the organization or cost savings; as external benefits such as a better image, competitiveness or greater customer satisfaction. That is why more and more companies are striving to improve their environmental management and obtain certificates that attest to this (Molina-Azorín, J. F.; Claver-Cortés, E.; López-Gamero, M. D. & Tarí, J. J. 2009a).

For its part, economic performance can be understood as the economic result obtained as a result of the performance of the company and can be measured by short and long-term profitability (Wagner, M. 2005), which are observable through indicators of the financial and economic profitability and, although in the short term can be easily calculated, its measurement in the long term is affected by several factors that influence the competitiveness of the company before being observable on the results of the same.

Thus, the company's environmental performance can serve as a source of hard-to-imitate competitive advantages that generate differentiation and can be seen in variables such as improving the reputation of the organization, increasing the satisfaction of the "interest groups" or the value of the company's shares (Molina-Azorin, J. F.; Claver-Cortés, E.; Pereira-Moliner, J. y Tarj, J.J. 2009b). Other authors have focused their efforts on understanding the environmental challenges that small and medium-sized enterprises (SMEs) have to face, their perspective on environmental protection, on the one hand, and on the other, on the competitiveness and proactivity (Junquera, B., Brio, J.A. 2015).

It is convenient to analyze the determinants or internal and external causes that explain what leads companies to adopt environmental protection measures and the development of these strategies. In this aspect, the theory of "interest groups" has great explanatory value (Plaza-Úbeda, J. A., Burgos-Jimenez, J., Belmonte-Ureña, L. J., 2011). The pressure exerted by interest groups is an incentive for organizations to improve their financial performance, not only to ensure their survival, but also to be a source of income value of other interest groups such as customers, shareholders, suppliers, etc. (Lee, M.D. P. 2008)

This makes the interest groups an internal as well as an external factor that puts pressure on companies to carry out environmental protection practices at the same time that they can be a source of competitive advantage. The specific literature on stakeholders shows positive data on the implementation of environmental management systems, collaborative initiatives with clients, learning and improvements provided by the stakeholders themselves and allowing the company to participate in networks that improve its image and capabilities (Franco, P. 2010), (Mariotti, F.; Kadasah, N.; y Abdulghaffar, N. 2014).

5. Conclusions

The results found in this work confirm, in broad strokes, what has already been found in previous studies [1] in their exploratory study of SMEs in Bogotá, about the impact of quality and environmental management systems, of which it was found that companies seek to implement the environmental management system without developing a thorough analysis of the effects it generates on the administrative aspects of the organization and in many cases do not take into account an adequate strategic planning.

Companies certified with ISO 14001 have a barely acceptable use of the benefits and competitive advantages generated by this standard because the certification in ISO standards in Colombian SMEs is due more to the demands of the market than to having their processes and products under a world-class regulation and revision, seeing management as an additional expense and not as a strategic positioning and differentiation tool before other national or foreign companies.

On the other hand, despite the advantages derived from adopting an environmental commitment, many companies are reluctant to follow the trend and among the arguments, most frequently alluded to are the associated costs. The main problem of these costs is that even improving the competitiveness of the company when reviewing its production process in search of inefficiencies and the apparent improvement of economic performance, not all companies have the financial capacity to meet these costs of implementing the necessary measures or sometimes they even give priority to short-term results that would be depleted without considering the near future. However, these companies could benefit from the advantages derived from adopting a Corporate Social Responsibility integrated in their strategy and that covers more aspects not only of environmental protection, but also of their relations with the environment.

With the implementation of the environmental management system, direct advantages are obtained such as cost reduction by reducing the waste treatment, energy consumption, water and raw materials use, insurance costs are reduced, property is protected maintaining the value of the real estate and avoiding accidents.

Among the indirect advantages is the improvement of the relationship with the community and proves the will of the company to contribute for the future. Facilitates relationships by enriching the public image and becomes a good indirect advertising increasing the company's knowledge in the market.

On the other hand, it was found that pressure exerted by interest groups is an incentive for organizations to improve their financial performance, not only to ensure their survival in the shareholders, but also to be a source of value for the stakeholders.

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