Proposition of a method to diffuse environmental information to SMEs – Application to the French context

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Small and Medium-sized Enterprises (SMEs) are the backbone of European economy and job creation. Due to financial and resource constraints, they are not inclined to look for environmental information autonomously. As a result, they often consider environmental issues as a constraint rather than a potential benefit. SMEs generally invest neither time nor money in pollution prevention and thus remain in an "inactivity cycle". However, their global environmental impacts cannot be neglected and make their interested parties (local authority, non governmental organisations, governmental agencies, etc.) more and more concerned. Therefore, various actors are willing to diffuse information to SMEs in order to help them to improve their environmental performances. Nevertheless, they encounter difficulties to identify which are the needs of the firms in term of environmental information and which are the more efficient information channels.

This study analyses the environmental information system of SMEs in order to help these actors to find solutions to these issues. Its first hypothesis is that SMEs are in a situation of imperfect information with regards to the mechanisms that are supposed to incite them to prevent pollution. It is also assumed that access to environmental information is necessary for the SME to reduce its environmental impacts. This study is based on an interdisciplinary approach. Economic and sociologic approaches were associated to an engineering approach to survey SMEs and understand their pollution prevention behaviour. This approach shows the link between the SME's envi-

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ronmental information channels and its effective level of pollution prevention.

In order to identify the main environmental issues and the favourite information channels of each SME, a questionnaire was used to guide one-hour face-to-face interviews. It evaluates simultaneously the environmental performances of the SME and its ability to access to environmental information. Then, the evaluation of 15 criteria - issued from this interview – gives the "profile of environmental behaviour" of each firm and can be linked to its "partnership profile" that can also been drawn from the interview. Thus, each firm can be quickly evaluated and helped.
This approach was used by several French SMEs partners (Chamber of commerce, consulting firms, researcher and students) to survey 47 SMEs in 4 different geographical areas. The firms that were interviewed were diverse in terms of size - 4 to 172 employees – and activity sectors in order to represent the heterogeneity of French industries.

The survey shows that SMEs favour direct contact with various organisations. The more a company is open to its partners, the more it prevents pollution. Each SME has a different "partnership profile" according to the area where it is situated, its level of independence, its status according to environmental legislation and its situation with respect to quality standards. Most of the surveyed companies do not conform to the environmental legislation. It also shows that six criteria have a significant impact on the level of pollution prevention: the company's status according to environmental legislation, the presence of an environmental manager, the type of motivation of its manager and its situation with respect to quality standards.

A framework is proposed to represent the "ideal pathway" that a firm should follow to use environmental information and improve its environmental performances. It shows that the firm may need information to prevent pollution at three different levels: operational, tactical and strategic. Usually, the awareness arising takes place at an operational level when the firm is confronted with a problem linked to its environmental impacts: closure of a landfill where the firm used to put its waste, for example. However, in order to find a sustainable solution to the problem that arises; the firm generally need to take a strategic decision that integrates environmental considerations into its long term strategy. Often, this necessity of a strategic leapfrog appears when the firm appeals to an external organisation – as an association or a consulting firm – in order to help it to resolve its initial problem. When assessing the environmental behaviour of the firm, this external organisation might reveal other environmental problems and risks. Then, the general goals to prevent pollution will have to be transformed into tactical decisions

to integrate environmental issues to the production equipments and, at last, translated into operational specifications for the day-to-day life of the firm. in order to give relevant information to a SME manager, it is important that the stakeholders are conscious about this framework and that they are able to identify which is the level of decision – strategic, tactical or operational – of the SME manager when he asks for an external help. For example, it may not be relevant for a manager to receive operational information about the characteristics of a wastewater treatment process if he needs to decide whether or not it will carry on using a certain chemical in its processes.

From this evaluation of the needs of SMEs in term of environmental information, recommendations are proposed for the conception of an information system that aims to spur small firms to improve their environmental performances. The main issue of such a system should be to help the firm to do this leapfrog from an operational problem into strategic considerations about cleaner production. To stimulate such behaviour, it seems necessary to favour partnerships between public and private organisations through the implementation of collective projects that aim to help SMEs to improve their environmental performances. Therefore, such an environmental information system should be targeted towards the most "environmentally concerned firms", but most of all towards their stakeholders. One of its aims should be to help these various institutional and private "eco-players" to co-ordinate their actions and show the positive benefits of pollution prevention for the firm. With this in mind, a structure for the organisation of information within such an information system is proposed. It is based on the continuous improvement principle. The first stage aims to identify the various organisations that are to be involved in the project, theirs mutual and common objectives and the issues that need to be addressed by the diffusion of information. Local partners are the most appropriate to visit the firms and distribute environmental information by direct contact with the managers. The second stage aims to identify the specific needs of each targeted firm in order to involve them in cleaner production through the evaluation of their role within local and global pollution and the identification of the stakes that are linked to pollution prevention for each firm. Then, the project partners can help the firms to find the relevant information and/or appeal to their traditional partners as customers or providers to do so. During the third stage, stakeholders have to check if the firms could access to and understand the information that have been diffused. The fourth stage aims to sustain the collective project by identifying new issues to address or new firms to involve.

This local approach could be used to facilitate partnerships as collective management of wastes or energy. Besides, as it decreases the level of infor-

mation asymmetry between the firm and its stakeholders, it could contribute to improve the rate of enforcement of environmental regulation.

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