Eco-innovation in Romanian SMEs

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Abstract: - The paper presents the results of a qualitative research on the perception and implementation of eco-innovation in Romanian SMEs. The focus on the paper is on the isolation hypothesis of SMEs, as compared to multinationals, which have a larger access to funds and information, and, through this, may be more susceptible of implementing the newest European policies and requirements in this issue. *This work was supported by CNCSIS-UEFISCSU, project number PN II-RU TE_328/2010.*

Key-Words: eco-innovation, SMEs, Romania

1 Introduction

The importance of sustainability is ever growing, especially in the context of a society focused on the issues of diminishing resources, the urgency of climate change, whilst still enhancing the importance of efficient and good quality solutions for mitigating these issues. Started by Brundtland (1987) in the famous 'Our Common Future' report, and afterwards by authors such as Newton and Freyfogle (2004), the discussion on sustainability is three-pronged: economic growth, social development and environmental protection. Its multilateralism leads thus to it being on the agenda of various international bodies, such as the European Council (on issues regarding the Greenhouse Gas emissions, renewable energy,

energy efficiency, in the Europe 2020 agenda, and prior to this the establishment of ETAP - the EU Environmental Technologies Action Plan). This positioning of the sustainability issues in the front of the minds of most decision-makers has lead to the development of solutions and innovative processes, among which eco-innovations (Fussler, (1996), Rennings, (2000)). These elements must be analyzed and modeled properly in order to lead to their optimal implementation, and thusly to the full achievement of their objective: sustainable development.

2 Problem Formulation

2.1 Eco-innovation – Basic concepts

Defined as ''*the production, assimilation or exploitation of a product, production process, service or management or business method that is novel to the organization (developing or adopting it) and which results, throughout its life cycle, in a reduction of environmental risk, pollution and other negative impacts of resources use (including energy use) compared to relevant alternatives.*' (ETAP, 2004), eco-innovation may be considered from an evolutionary point of view (in the industry dynamics) or as a response to market failure, by distributing negative externalities (Andersen, (1999, 2002, 2008)). In literature (Andersen, (2008)), there may be identified five types of eco-innovation, as in Figure 1. The purpose of this taxonomy is to create an academic environment for modeling eco-innovation, and thus to provide the proper medium for the analysis of the techno-economic paradigm change (Kemp, (2004)).
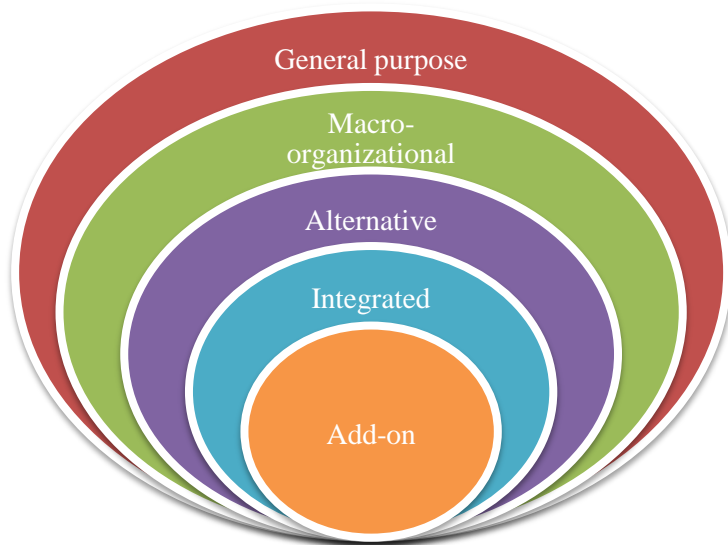

Figure 1 : A taxonomy of Eco-innovations

according to Andersen (2008)

In which concerns competitivity, Kemp (2004) considers that eco-innovation may be a determinant of competitive advantage for European companies internationally. SMEs become thus more susceptible to becoming more competitive through the use of eco-innovations as they have a larger organizational flexibility.

2.2 Eco-innovation for SMEs

The optimality of eco-innovations must be analyzed regardless of the size of the organization, more so in SMEs, regarded as less favored in the information diffusion. Most models regarding innovation are focused on the diffusion of new developments within business networks and clusters, such as percolation models. If multinationals benefit from a large support network at an international level, drawing information from various sources, SMEs are often isolated, thus reducing their capacity to have access to the newest research. The European Union has acknowledged this element in the Framework for Competitivity and Innovation 2007-2013 (CIP – Competitivity and Innovation Plan). This document, focused on SMEs, has been created mostly due to the share of this type of companies in the number of European companies, as well as their flexibility. CIP facilitates the access to financing, with a budget of 430 million Euro. This amount is directed to reduce the major issues SMEs face in their development, such as: lack of information on the environment and its risks; lack of knowledge (mostly from the management part) regarding the environment, eco-innovation, life-cycle approach, or any other method, model or measure that may reduce the impact of the company on the resources; lack of proper training in these issues.

3 Problem Solution – The analysis of eco-innovation perception in Romanian SMEs

In order to gain long term competitive advantages, SMEs in particular, but all companies, in general, must take into consideration the new tendencies regarding the improvement of their efficiency. These trends include the enhancement of their eco-innovative capacity on three major directions: the focal point of eco-innovation, the mechanism and the impact. While the focal point may be represented, according to the Oslo Manual (OECD, 2005 and 2009), by products, processes, people, structures and strategies, the mechanism and impact of eco-innovation are revealed through its very nature, by providing alterations, alternatives,

redesigns and, in the end, creation of new elements in order to impact, directly or indirectly, the well-being of companies. However, this may be achieved only if the SMEs in question acknowledge both current status and the need for the change.

This paper outlines the current requirements regarding eco-innovation to be considered in the decision making process (DMP) of SMEs. In order to achieve the objective of determining the perception of eco-innovation in Romanian SMEs, the qualitative research has started from a sample of Romanian managers of SMEs (20, across industries) who were asked to answered an in-depth questionnaire on their current DMP and the way it may be affected by eco-innovation, seen as requirement, not part of a Corporate Social Responsibility strategy. Their answers were compared to the answers of a 10 managers of multinationals, in order to determine the isolation hypothesis.

The results of the questionnaire have led to the following conclusions:

-   Most of the SMEs have a centralized DMP, thus allowing for a more straightforward implementation of public and private initiatives in eco-innovation
-   SMEs use as sources of eco-innovation: the in-house development of instruments (May these be new procedures or alteration of products) and international partnerships (10% of the respondents). The exposure to international elements (requirements in public policy or demands from partners) determine a more focused reaction in companies, which become more accountable than in the isolated environment in their own countries.
-   Eco-innovation is being implemented mostly as a requirement of European Union demands, rather than from an acknowledgment of the fact that it may be the way of the future, as is the case in other countries.
-   Eco-innovation is not perceived as having marketing potential, most companies not having a clear corporate social responsibility strategy defined or implemented
-   15% of respondents have R&D activities, even at an incipient level, most of them gaining their innovation level from the business network they have become part of.

-   All SMEs lack long or medium term objectives in the R&D department. Thir strategy in this field is mostly 'touch and go' or 'work as it goes along': survival tactics being most used.
-   The main strategic planning methods are: financial analysis, SWOT analysis, most companies ignoring other methods that may require any type of effort on behalf of the company apart from it doing the 'normal thing'.

All these conclusions are in contradiction with the same elements coming from multinationals, that is:
-   Eco-innovation has marketing potential and makes sense to be included both in the overall strategy of the company as in the CSR strategy
-   The multinationals develop eco-innovations in house (mostly in processes, instruments, products), share the same eco-innovations in innovative clusters and develop coherent and consistent responses alongside other companies, by using their lobby power on the public authorities in order to transform the exception in the rule.
-   All the multinationals have R&D activities, with long and medium term objectives resulted from a strategy based on a mix of strategic planning instruments.
-   While the decision making process in mostly decentralized in Romania, the implementation is made easy by the management of multinationals and its focus on procedures.

4 Conclusion

The novelty of the present research comes from the focus on the eco-innovative capacity of SMEs, as opposed to multinationals.

The similarity of the Romanian market with other South-Eastern European countries, as well as other emerging economies, allows the extrapolation of the results at an international level, in view of improving the quality of the integration of eco-innovations into the normal activity of SMEs.

The perception of eco-innovation in Romanian SMEs becomes thus relevant for a further development of future local policies.

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