

Foresight and innovation in the context of industrial clusters: The case of some Italian districts

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Received 20 November 2006; received in revised form 25 July 2007; accepted 18 March 2008

Abstract

The “territory” is widely recognized in the literature on business strategy as a critical driver of industrial competitiveness (see, as an example, Porter, *The Competitive Advantage of Nations*). The generation and exploitation of new knowledge, both tacit and explicit, through the process of socialization, articulation, combination and internalization (see Nonaka and Takeuchi, *The Knowledge-Creating Company*) is essential to enable innovation of processes and products of “local” firms.

Our recent Foresight exercises in the metal working and machinery district of Lecco and in the silk district of Como show that Foresight can play an important role in creating and exploiting new knowledge, and that different methodologies can be more or less effective to this aim.

Critical technology list and interactive workshops, with the participation of entrepreneurs of SMEs and technologists, are more suited to foster the transfer of technologies that have overcome the initial stage of the life cycle and that have been already applied in other sectors. However, when radical innovations are needed in order to face the challenges posed by global competition, other methodologies, as Scenarios, are more appropriate. Even if these approaches are complex and time and resource consuming, they may be very effective in actively involving the most relevant private and public stakeholders of a district, and in making them to envisage the long term future of the economic, social, and cultural structure of their district. In this way Foresight drives the small entrepreneurs, the district stakeholders and the medium and large size firms to play the critical roles of Nonaka and Takeuchi’s “frontline employees”, “senior managers” and “middle managers” in their “knowledge creating company”: the first ones grasp *what the district is*; the second ones build the vision of *what it ought to be*; the third ones, serve as a *bridge* between the future and the present. © 2008 Elsevier Inc. All rights reserved.

Keywords: Foresight; Scenarios; Interactive workshop; Critical technology list; Industrial cluster; International competitiveness; Tacit and explicit knowledge

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1. Introduction

The main objective of this paper is to describe and to assess the role that Foresight may play in order to foster the innovation capability of an industrial cluster.

“Foresight” is now widely used to refer to a wide range of approaches and methodologies which aim at improving future-oriented decision-making by the early detection and assessment of emerging trends and drivers of change [1–3]. Foresight has become quite popular in the scientific literature and among policy and strategy decision makers, and many projects and exercises have been carried out both in the public sector, at national [4,5] and regional level [6,7], and in the private sector [8–11].

However, up to now in the scientific literature there is a substantial lack of analysis of Foresight in the context of industrial clusters: the distinctive features of this specific business environment raise the need of a careful selection and tailoring of the foresight methodologies and processes if its outputs have to bring remarkable benefits to local firms.

This paper is structured as follows: firstly, on the basis of both scientific literature and our field experiences, we examine how innovation, mostly technology driven, takes place in industrial clusters. Secondly, we illustrate how, given these distinctive features, foresight can be a valuable tool for bringing and developing new (technical) knowledge in an industrial cluster. The analysis is based on the foresight projects we carried out in the silk district of Como and in the metal working and machinery district of Lecco, i.e.:

- the “FoMoFo” Project, 2003: it was sponsored and financed by the European Commission, it made use of the methods of Critical technology list and Interactive workshops and it involved both districts;
- the “Technology Foresight at Lecco” Project, 2005; it was sponsored and financed by the Regional Government of Lombardy, it made use of the methodology of Scenarios and it involved the metal working and machinery district of Lecco only.

2. The innovation process in industrial clusters: peculiarities and distinctive features

2.1. Explaining national competitiveness: the role of industrial clusters

The competitiveness and innovation capability of a country have been largely dealt with in the economic and business literature. In the early '90s, the core of the debate evolved from the main issue of the comparative advantage of nations, developed by macro economists since Ricardo [12], towards the search for an explanation of the competitive advantage of nations, developed by strategists like Porter [13]. The classical theory of the comparative advantage explains the success of nations on the basis of the so-called “factors of production” such as land, labour and natural resources: nations achieve a comparative advantage in industries that make an intensive use of the factors they own in abundance. On the other hand, the competitive advantage theory goes beyond the access to labour and natural resources, by moving towards a richer concept which includes product differentiation and by focussing on the following core questions: why are some companies, located in some nations, able to innovate more than companies located in other nations? Why do some nations provide an environment that enables domestic companies to grow and innovate more effectively than others?

Following Porter [13], the answer to these questions lies in four interrelated sources (the so-called “Diamond of National Competitive Advantage”), namely: factor (input) conditions, context for firm strategy and rivalry, demand conditions, related and supporting industries. What is more, in the global

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