

Chapter 23

Strategic Challenges of the Portuguese Molds Industry: A Sectoral Innovation Perspective

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ABSTRACT

In a competitive environment shaped by continuous change, the understanding of the different forces that support or hinder the development of an industry, enables more informed, and assertive decision making. As such, following a sectoral system of innovation perspective that takes into account the temporal evolution of its most important events, the main objective of this chapter is to define a set of strategic lines for the sustainable development of the Portuguese molds industry. The study supports set of strategic priorities so that the Portuguese molds industry can embrace both an international favorable position and an entrepreneurial outward looking governance perspective. This chapter proposes that the future outlook will support the diversification to and the penetration of new sectoral markets, associated with a strong international product engineering and development cluster capable of supplying integrated solutions to several international markets.

INTRODUCTION

The business environment is very dynamic, uncertain, and highly competitive with firms trying to outperform each other in order to achieve a stable market position. Technological advances are ‘forcing’ firms to be innovative, and to search for new ways to compete in a global technology-oriented, smart world (Gerguri et al., 2013; Lo, 2015).

Innovation systems can be defined as a group of innovation facilitators, which include private firms and public research institutions that, by interacting with each other, can promote the creation and facili-

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tate the diffusion or application of a series of technological innovations (Malerba, 2002; Gambardella & McGahan, 2010).

In general, a system of innovation is composed of entities (organizations and institutions) and the relationships among them. Organizations are formal structures that are consciously created and have an explicit purpose. Institutions are sets of common habits, norms, routines, established practices, rules or laws – known as the rules of the game – that regulate the relations and interactions between individuals, groups and organizations (Freeman, 1987; Malerba, 2002; Moreira, Carneiro, & Celada, 2008). Clearly, a system of innovation is composed of localized knowledge spillovers and a strong foothold of human capital, key ingredients of smart cities and smart regions.

Innovation and innovation systems are becoming increasingly important for policymakers to achieve their economic, and social goals. The “Europe 2020” strategy, a key European Union (EU) program for the current decade, aims to promote a smart, sustainable and inclusive economy. According to the European Commission (2011), innovation has to be placed in the center of the strategy, as it provides the best ways to successfully address key social challenges.

The concept of sectoral systems of innovation (SSI) was developed by Malerba (2002), who claims that a SSI is a set of new and established products developed for a special purpose by a set of agents that carry out activities for the creation, production, and sale of these products. Malerba (2002) describes an SSI through three dimensions that are responsible for generating innovation and new technologies: knowledge and technological expertise, players and chains, and institutions. Although these three dimensions are the main pillars of the concept of sectoral systems of innovation as a result of the interaction of various functional logics, complexity, and dynamism (Malerba, 2002), they are rarely associated to smart cities.

Edquist (1997) has introduced the concept of innovation systems based on the following features:

- The innovation, intrinsically connected to learning, and knowledge;
- A holistic and interdisciplinary perspective, involving institutional, organizational, social and political determinants;
- A path-dependent historical perspective;
- An emphasis on the interdependence and non-linearity of the innovation process;
- The main role given to institutions.

Following this systemic approach, the links between businesses and other organizations are portrayed as the result of the technological interdependence of their knowledge (Chang & Chen, 2004; Moreira, Carneiro, & Tavares, 2007).

The research question behind this work is: What is the future of the molds industry in Portugal? In order to address this main question, it is imperative to frame the analysis taking both an evolutionary and a systemic perspective. As such, this chapter seeks to answer the following questions:

- How is characterized the Portuguese molds industry?
- How has it evolved over the last/recent few years?
- How important is the Portuguese molds industry in the context of the national economy?
- How is the Portuguese molds industry positioned *vis-à-vis* the world molds industry?
- What are the main critical factors that will influence the future of the Portuguese molds industry?

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