

Process of Innovation in Beira Interior¹

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INTRODUCTION

The competitive and innovative performance of a territorial region depends on the persistence and attitude of the different actors (public and private) towards promoting innovation and competitiveness. The capacity of innovation of the territories is related with company behaviour in that area and vice versa. Thus, the aim of this chapter is to generate local development using innovative small companies.

This chapter examines: (1) the conceptual and empirical issues associated with local innovation capacity, (2) the essential factors that promote territorial innovation and presents the results of an empirical research of the companies of three Portuguese sub-regions (NUTS III) of the Interior Central Region–Beira Interior² (BI) (Beira Interior Norte (BIN), Beira Interior Sul (BIS) and Cova da Beira (CB)), and (3) to what extent companies have been involved in fomenting innovation and competitiveness in this region.

The methodology is based on the application of the multivariate statistics: *K-means analysis clusters* that allow the study to distinguish three standard behaviours of the companies relative to their involvement in innovation activities. To the classification of the standard behaviours of the companies the *crosstabs* and *compare means* analysis method was applied to identify the characteristics of each standard.

Thus, the chapter is structured as follows. We will present a brief theoretical framing about innovation systems concept and the methodology. Later, we will evaluate the imbalances in the innovation activities in the three sub-regions of Beira Interior. Lastly, we present some final reflections.

BACKGROUND

In the area of regional economy, the influence of economic geography has enlarged the debate, introducing

new concepts like “*territory, local development, milieu innovateur,*” and regional/local innovation systems. Theorists of development issues, like Bramanti (1999), Bramanti, Senn and Tamisari (2000), and Camagni (Eds.) (2000), use a few theoretical approaches incorporating the territorial and spatial socio-economic constraints from which a set of conditions for local endogenous development could be suggested. In this context, many of these descriptions refer to small companies as determinant actors in the process for regional dynamism, but only when the economic territories generate an environment context do inputs from agents have a synergetic effect.

Moreover, in the last few decades the idea that innovation results from a process in chain with origins in applied investigation, with well delimited sequences and of automatic chaining, has been rejected. Effectively, the linear model was abandoned. Today, consensus is verified in the studies of Edquist (1997), Lopes (2001), Conceição and Avila (2001), and Lundvall (1992), among others, that innovation results from a system of feedbacks, forward or backward linkages, between different functions and different actors in a network of cooperation. The innovation concept has come to encompass not only the perspective of Schumpeter (1934), that innovation exists when new elements are introduced (radical innovation), but also the adaptation, modification and improvement of products, processes or services (incremental innovation).

Prior to the paradigms global-local-regional level, the systemic and network approach, the mechanisms of governance and the rise of the knowledge economy, we can analyse the companies behaviour relative to the following elements: process of innovation, the mechanisms of knowledge, the networks and the system of governance. These elements are both inter-linked and affect each other from within and can be organized to promote territorial innovation and competitiveness.

The competitive capacity of a territorial region does not depend only on its endowment in traditional resources (capital, label and money), but rather

depends basically on its innovative dynamics. The territories with pro-innovation attitude (in intangible resources—knowledge) are more competitive in a world that is increasingly marked by internationalization and globalization.

The knowledge mechanisms *collective learning* and *individual learning* improve existing knowledge and allow for the production of new knowledge. Thus, ongoing training and permanent learning are of extreme importance for the economies to become innovative and more competitive.

To reduce the uncertainty and the excessive risks associated with the innovation process, networks are a good solution. The network seems to be a necessary (but insufficient) condition to transfer skills, knowledge and information and sources of innovation for the region. The networks have been pointed out in some studies by Lundvall (1992), Bramanti (1999), Edquist (1997), and OECD (1997) as an efficient vehicle to promote territorial innovation and competitiveness.

However, the ability to guide and decide on the organization and regulation of the territory to promote innovation and competitiveness depends on an efficient governance system. The governance system, the set of institutional actors with capacity to decide on the territory, has a central role in this process, through the projects that it defines, regional politics, and also in the organization and regulation of the local activities. It defines the rules of the game of decision procedures, modalities of commitments and the coordination actors. The governance of a territory must be assured by the functioning of local cooperation networks (formal or informal).

Thus, the complex interaction among these elements (knowledge, networks and governance), brings a potential innovation into an effective innovation; it allows for improvement in the ability to innovate and enable the territory (innovative) to compete, grow and strengthen its internal cohesion.

MAIN FOCUS OF ARTICLE

Methodology

To analyse the innovative performance of the companies of Beira Interior, we used a survey applied to a vast set of companies in this region. To identify the set of companies for Portuguese NUTS III (BIN, BIS and

CB), we use the Portuguese Base of Establishments and Companies (BELÉM)³ of INE for the year 2002. That database supplies the name, the residence, the CAE⁴ and the number of workers in each company.

The principle source of data resulted from an inquiry carried out with the different companies of these three regions that had been developed in order to attain the objectives: to analyse the participation of local companies to promote and increase innovation and to evaluate the territorial dynamics of innovation as a function of the companies' behaviours. The inquiries of companies were directed to the managers. The information was collected through the months of January, February, March, and April of 2003.

In selecting the universe of this study, all sectors were considered and the companies could present any legal form. Only companies with more than 10 employees were included. Effectively, the small companies frequently manifest more innovative initiatives, "because they show greater ability to face new challenges without facing as many bureaucratic blockages" (Vaz & Cesário, 2003). Moreover, the development of new technologies is more adapted to small companies, where there is little bureaucracy.

The sample of this study is constituted by 105 companies⁵ in Beira Interior that represent 15 percent of the universe.

In the study of innovation in regions of small dimension, such as those we have analysed, where most innovations are new to the region or company, the adoption of a concept of innovation is advisable, including the diffusion and the imitation of technological, organizational, economic and cultural modifications as well as the qualification of human resources.

Thus, to characterize the attitude of companies in innovation activities, accord Community Innovation Survey III, we consider the following set of variables:

R&D inside the company

1. Acquisition of external services—R&D
2. Acquisition of new technologies
3. Acquisition of information technologies
4. Acquisition of other external knowledge
5. Training of human resources
6. Introduction of innovation into markets
7. Management strategy/techniques
8. Changes in organizational structure
9. Marketing innovation
10. Company introduced innovation

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