Chapter 19
U.InovAcelerator:
A Model of Innovation Indicators

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ABSTRACT

Following the reflection around the emergence of "research university" in the context of the slow but progressive increase in value of science and technology and research and development in Portugal, a study applied to the knowledge transfer and the process of innovation in the university, in the context of a master dissertation in information science (IS), study area of information management, is presented. The university is one of the most important institutions in the context of the national innovation system (SNI), being part of its mission the creation and transfer of knowledge. At the University of Porto (U.Porto), projects, such as the University of Porto Innovation unit (U.Porto Inovação) and the Science and Technology Park of the University of Porto (UPTEC) seek to support the university's innovation value chain, promoting the reinforcement and solidification of knowledge transfer and of the relations between the university and companies, as well as the promotion and support to the creation of companies with a technological, scientific, and creative base, and the attraction of numerous innovation centers of national and international companies. This chapter points out an informational perspective on I&D+i (research and development and innovation) and entrepreneurship, based on the systemic theory and the quadripolar method, as theoretical and methodological guidance tools, and an information management/knowledge management approach of innovation models for the knowledge economy, the national and international referents, and corresponding set of indicators. An exploratory study, which allowed the identification of internal and external agents, the resources, the relations between actors and institutions, the processes and flows, and the main inputs and outputs, is presented. The most relevant result is embodied in a model of innovation indicators in an academic context and applied to the University of Porto.

INTRODUCTION[1]

A National Innovation System (NIS) integrates a group of institutions and organizations from the same country that interact, create, develop, use and share innovation. It includes companies, research and teaching institutes, technology centers, public administration services and the financial system. The main goals of this cooperation are the production of research and development (R&D), the sharing and transfer of knowledge and the development of products, tasks or activities that are identified as essential to innovation.

The University presents itself as one of the most crucial institutions in the context of the NIS, being intrinsic to its mission the production and the transfer of knowledge. At the University of Porto (U.Porto), the focus on R&D and innovation (R&D+i) is reflected in projects such as the creation of University of Porto Innovation (U.Porto Innovation) – a structure aimed at supporting university research, entrepreneurship and the relation between the university and companies – and the University of Porto Science and Technology Park (UPTEC), a structure that supports the transfer of knowledge from the university to the business market, so as to economically and socially enhance the generated knowledge and provide a favorable environment for the incubation of new companies, but also bolster those which were already launched into the market. Their objectives are diversified, with emphasis on supporting the U.Porto's innovation value chain, strengthening and solidifying the transfer of knowledge and the institution's relations with companies, promoting and supporting the creation of technological, scientific and creative companies and the attraction of innovation centers of national and international companies.

It is in this context that the U.InovAcelerator project arises. This project aims to the creation of an Innovation Observatory in the U.Porto ecosystem based upon three key elements:

1. An innovation chain model;
2. A model of innovation indicators and;
3. An informational, technological and information services for innovation model. This observatory will serve as an instrument for the aggregation, collection, systematization and dissemination of information in the context of U.Porto, being supported by an informational accelerator, with the role of monitoring the transfer of knowledge and the innovation value chain.

This study focuses on the development of the innovation indicators model.

The need to develop such model is due to the fact that there is a great dispersion of information and a reductive approach, considering the indicators already identified and obtained. It is, therefore, necessary to implement automated processes that can, from the informational mass that integrates the University's informational system, extract indicators to support the decision making, to reveal the quality of academy action and to guide its strategic definition, making the University an indispensable element in the production of new knowledge and in its transformation into innovation, that is, having an impact on the development of the communities in which it plays an important role.

The study was carried out in the Information Management (IM) area, with a contribution from the Science and Technology Management and Scientific Communication studies, which includes the bibliometric analysis (Silva, 2013), a domain that applies statistical and mathematical methods to analyze and build indicators on the dynamics and evolution of the scientific and technological information of certain disciplines, areas, organizations or countries.

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