

Chapter 8

Technology Transfer Process in Brazil: An Overview of the National Context

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ABSTRACT

The objective of this study is to analyze the technology transfer flow in Brazil from 2000 to 2014, considering the domestic and foreign markets, and also the activities carried out by universities and technological institutes from 1972 to 2015. From results, Brazil has been receiving technologies from major economic powers such as the United States, Germany, Japan, France, Italy, the United Kingdom, Switzerland, Canada, and Spain. The barriers regarding cooperation between university-industry are still present, currently there are 27.523 research groups distributed in all areas of knowledge, but only 0.31% develops activities related to technology transfer, and 58% do not establish any relationships with industry. Notwithstanding, the technology supply must depend on the technological diffusion process and the adoption of technology by the society through continuous learning, thereby enabling to increase the performance of services, processes, and products in the domestic market.

INTRODUCTION

Technology transfer is a crucial process in the development of a nation's economy, and it plays an important role in promoting innovation, generating employment, and fostering economic growth. In Brazil, technology transfer from universities to the industry is a crucial aspect that can drive the country's economy forward.

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Questions concerning the technological and scientific innovation have been widely discussed by most researchers, since it brings benefits to both industries and universities. The process of production and implementation of knowledge by an organization is an important theme of literature on innovation, however only few works are focused on the commercialization of this kind of knowledge, a subject directly related to technology transfer.

Technology transfer is a mechanism by which the productive sector can conquer and maintain its competitiveness in the market, not been this only a result of technological advances, but result of an attitude in order to change and monitor the human, economic and social needs of today's world.

Thus, the interaction of research institutes and universities with industries facilitates the technology expansion in several areas of knowledge, enabling the growth of organizations and, consequently, producing greater national, regional and local economic development.

Relying on this line of thought, Debackere & Veugelers (2005) affirm that the development of a suitable structure for university-industry cooperation demands special attention on the interests of the university and, above all, the productive sector.

In addition, analyzing the interaction between these two segments, and understanding the advantages and limits of this process, is opportune by considering the importance of research for the socioeconomic development of society itself, and since industries play an important role in this context.

This cooperation also allows companies to obtain new knowledge and academic experiences. Companies are able to follow the rapid changes of new technologies and integrate new products into their portfolios (Malik et al. 2011; Philbin, 2008). Reciprocally, universities have access to different sources of funding and a better empirical understanding of current strategies and future ideas of companies (Veugelers & Cassiman, 2005; Malik et al., 2011).

Universities are a rich source of knowledge, innovation, and technology, and their research activities generate new ideas, methods, and technologies that can be used to solve a variety of problems. However, the commercialization of these ideas and technologies requires more than just scientific expertise; it requires a well-coordinated effort between universities and industry players.

The transfer of technology from universities to the industry is a process that enables the commercialization of research results, which can ultimately contribute to the development of new products and services, as well as the creation of new businesses. In Brazil, the importance of technology transfer is recognized, and the government has taken several steps to promote it.

One of the ways in which technology transfer is encouraged in Brazil is through the establishment of technology parks and incubators, which are designed to bring together researchers, entrepreneurs, and investors in a collaborative environment. These facilities provide a platform for the exchange of knowledge and ideas between universities and industry, facilitating the transfer of technology and fostering the development of new businesses.

Another important initiative is the creation of partnerships between universities and industry players. By collaborating on research projects, universities and companies can share resources, expertise, and technology, which can lead to the development of new products and services. These partnerships can also lead to the creation of spin-off companies, which are established to commercialize the technology developed by the university.

In addition to these initiatives, the Brazilian government has established several programs to promote technology transfer. For example, the Innovation Law, which was introduced in 2004, provides tax incentives for companies that invest in research and development. The Brazilian Agency for Industrial

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