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# CENTERS TECHNOLOGY TRANSFER-ACTIVE FACTOR AN THE REGIONAL DEVELOPMENT

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**Abstract:** The purpose of this paper is to investigate mechanisms of knowledge transfer between firms and universities. Universities have become increasingly involved in technology transfer by establishing offices of technology transfer, business incubators, and technology parks. This paper presents some aspects of technology transfer centers, specific activities in these entities, with a real example, UCB-Pitt, an entity founded the University Constantin Brancusi of Targu Jiu.

## 1.INTRODUCTION

In a knowledge economy, knowledge becomes the most important resource, traditional factors as: land, capital and work do not disappear but become secondary factors. The knowledge becomes the only really relevant intangible asset. The innovations' diffusion and the high technologies' convergence will play a key role in the knowledge importance acceleration in the globalization context.

The most developed countries from the world invest an important part of their GDP into research. For example, the United States invests 2.5% in research, and Japan more than 3%. The EU wants to invest 3% of GDP in research ( Lisabona obiectiv). For example, the 7th Research Framework Programme 2007-2013 developed by the EU has the biggest budget an amount of 67.8 billion EUR and four specific programmes: Cooperation, Ideas, People and Capacities.

In the United States, overall, the government, universities, and non-profit institutions fund roughly \$95 billion of research and industry funds approximately \$181 billion. This is 34% public and 66% business.

Through technology transfer the universities provide commercial sector companies with access to new discoveries and innovation resulting from research. Industrial partners develop these inventions and manufacture products.

Universities seek to facilitate the transfer of technological innovations to private companies, in order to create jobs and contributions to local economic development, trying also to attract additional funding sources for scientific research university.

Therefore, the relationship between teaching and research is positively correlated. Research helps teachers lead the way in their fields, and an active interest in research contributes to teaching effectiveness. Education and training are considered to be some of the main.

Research, technological innovation and technology transfer are strategic elements of the entities of type Center of Innovation and Technology Transfer. Need to make new

technologies known in Romania and Europe as a key factor in ensuring the competitiveness and independence of such entities.

We find that education and training and R&D – transfer are, among others, some of the main factors of the business creation process. Universities are being required to operate in a more entrepreneurial way, commercialising the results of their research and spinning out knowledge-based enterprises.

## **2.INOVATION AND THE TECHNOLOGY TRANSFER**

Currently, a company is perceived as the main carrier of innovation, innovative capacity, as determined by various factors such as [1]:

- the material;
- financial resources;
- market information;
- Staff trained and competent management;
- creative potential of human resources;
- the expertise of the company.

Pe lângă potențialul deținut de acestea, un aport însemnat în domeniul inovării, al caracterului inovativ, îl asigură realizările colectivelor din universități, institute de cercetare, doctoranzi, studenți.

Large companies, have resources, but are conservative to take risks the rapid development of innovative sphere. For their universities, research institutions, doctoral students or students lack the resources necessary to promote the ideals of innovative financing, which can be achieved by these centers develop innovation and technology transfer.

The SMEs are generally more flexible, are more interested in supporting innovative activities, but often do not possess the human, material and financial resources, vital to ignite the innovative process.

The IMI sites may provide more rapid acquisition of literacy generated from research and translate them into practice.

Sustainable economic development was always determined by innovation and technology transfer. To be successfully implemented, technology transfer must be targeted at meeting the market need for products, technologies and new or upgraded services. Innovation and Technology Transfer Center provides technical advice to small technology or seeking technical know-how.

Universities research results are extensively, freely, and publicly disseminated through publications, conferences, consulting contracts, joint ventures, and patents. Access to such extensive sources of advanced information is vital for industry research. The process of introducing a technology into the marketplace is called *technology commercialization*. *Knowledge transfer* is the practical problem of transferring knowledge from universities to firms. [2]

The capability of firms to significantly develop or improve their products and manufacturing processes depends primarily upon the capacity of identification, acquisition, integration and application of knowledge by individuals in the firm. *Technology* refers to tools for changing the environment, while *knowledge* embodies theories and principles helping us to understand the relationships between causes and effects.

Technology transfer is a construct referring to the instrumentality of knowledge, to sets of tangible tools stored in blueprints, data bases, manuals, and other forms of

documents such as patents. This attributes transform technology into products that are easily amenable to commercial transactions.

The Universities have tended to focus on their traditional roles, teaching and research to support business needs, rather than the capitalization of knowledge.

Tensions in which researchers operate, on the one hand, the traditional universities, which encourage researchers to publish concureză universities with entrepreneurial vision, which încurajează researchers to consider their publications as knowledge assets that can be transferred to outside the scientific community. In Romania, only a few universities have adopted an entrepreneurial orientation.

Since the beginning of the 1990s, the Romanian university system has been changing significantly through the several reforms. These reforms gave new opportunities to universities in defining and pursuing their strategies. Nevertheless, the research and the education are treated, yet, like being services that funds consume and not like being the main ways for the added value realization.

The Universities as facilitators of knowledge transfer are the fundamental catalysts for regional economic and social development. Therefore, raising the potential role of universities in society becomes relevant, technology transfer has become a valuable mechanism that can accelerate industry innovation activities may obtain a competitive advantage through cooperation

The means of technology transfer are not simple. There are various channels of technology transfer including trade of goods and services, licensing contracts, and movements of engineers as well as the supply of technology from a parent company, university, or other research units and firms. In the first stage, technology flows from the university to firms, and in the second stage, the technology held by the firm, is diffused to the other companies. However, the second stage of technological diffusion occurs through various routs and is extremely difficult to be specified by statistical data.

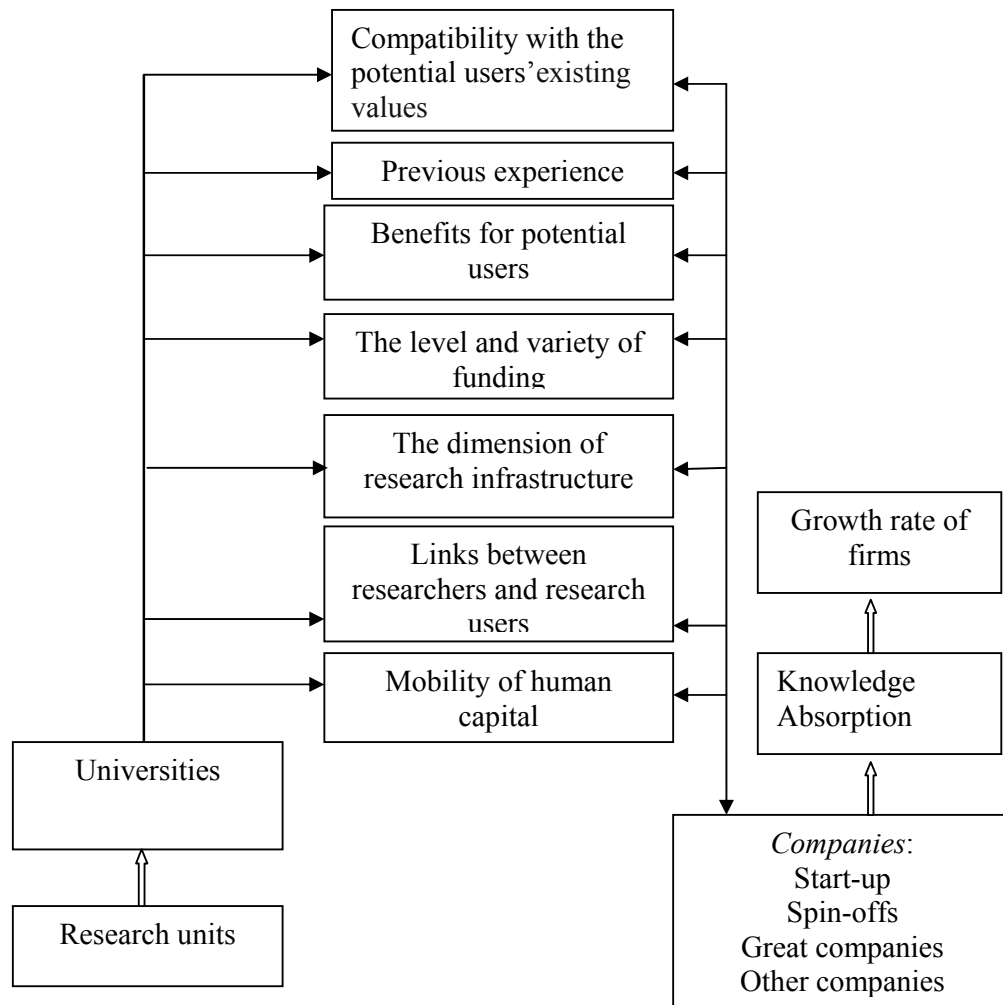
More recently, attention has focused on technology transfer channels between universities and industry.

Figure 1 provides the conceptual framework that guides our analysis of determinants of knowledge and technology transfer activities between universities and firms. Universities' relationships with companies are formed through a series of sequential transactions such as sponsored research, licenses, spin-off firms and labour mobility.

Universities are involved in a two-phase process that involves first the production of knowledge and then its application and diffusion. Linkages between academic and industrial research appear to be powerfully influenced by the degree of centralization of the funding system. There is a belief that competition for funding, diversity of funding sources, and, in general, a decentralized funding system would be more conducive to university-industry relationships. In addition, decentralized systems tend to be responsive to local industries.

Knowledge production increasingly is trans-disciplinary and depends on the ability of researchers to work with other across a broad spectrum of disciplines. A system that adheres to rigid disciplinary boundaries in funding research projects will inhibit these interactions and thus may limit technology-transfer opportunities.

As illustrated in Figure 1, a conceptual model is in line with the importance of knowledge as a major source of innovation. This model offers a clearly defined process for identifying the determinants of knowledge and technology transfer activities between firms and universities that leads to competitive advantage for companies and additional funds for universities.[3].



**Figure 1.** The conceptual model

### **3. THE INNOVATION AND TRANSFER TECHNOLOGY PARK AT THE CONSTANTIN BRANCUSI UNIVERSITY OF TARGU JIU (UCB-PITT)**

The Innovation and transfer technology Park (UCB-PITT) is organized as a department with financial autonomy, without legal personality, the University Constantin Brancusi of Targu Jiu, based on provisions of the Government Decision nr.406/2.04.2003 and which by law, can be used not only what rights are necessary to achieve its purpose and destination. UCB-Pitt not only touch obligations towards this goal and the destination. Park will be subject to audit by experts ANCS entity to accredit it as innovation and technology transfer. The main objectives of the Innovation and Transfer Technology Park (UCB-PITT) are:

- Facilitating cooperation in research between the profile of CD units, universities and industrial partners (especially SMEs);
- Training and development of innovative culture of SMEs through seminars, courses, scholarships contact;
- Setting up a database with research programs development and innovation;
- Providing advice and assistance (technical audits, diagnostic innovation, creation of departments of research and development and innovation in firms)

- Technology brokering;
- Implementation of strategic business options through marketing-mix policies and their systemic approach;
- Implementation of modern methods of increasing performance organizations (Benchmarking, Total Performance Score, Six Sigma)
- Attract SMEs in programs financed by the Romanian Government and the bodies international information and consultancy;
- Promotion of promotional activities specific to the field of science and technology through scientific meetings, publishing promotional materials, trade fairs and exhibitions.
- Organize events to promote companies that invest in research development and innovation (RDI) (eg "Top Companies in Gorj, investing in CD", "Top Companies in south-west region who work for CD ");
- Integration UCB-Pitt in the national information and communication technology transfer supply and demand;
  - Development of international partnerships between European organizations, units of CD and profile of Romanian SMEs;
  - Advice on intellectual and industrial property;
  - Dissemination of regional legislation on intellectual property rights;
  - Investigating the needs of research and innovation (questionnaire construction and implementation of marketing)
  - Develop projects and business plans;
  - Creating a database of experts in research and development and innovation in various fields;
  - Active participation in the activities of dissemination of research programs and funding developed by the European Union and / or the institution in Romania.
  - kept informed of business representatives on the drafting and submission of competitive proposals for funding their projects through European Union programs;
  - Advice for setting up / development (business plan, grant application, monitoring project implementation);
  - Support approaches and programs to adapt curriculum to regional needs;
  - Promoting schemes entering students for practice and / or after graduation;
- Identify funding mechanisms of the activity of Innovation and Technology Transfer Park (UCB-Pitt);
- Promotion offer their services;
- Promote among its members and business in South-West region of commercial and industrial standards of the European Union, fair competition, fair trade practices, business ethics through symposia, seminars and other events own.
- Ensure cooperation relations with the University Constantin Brancusi of Targu Jiu, the National Authority for Scientific Research (ANCS) and the direction of university research .

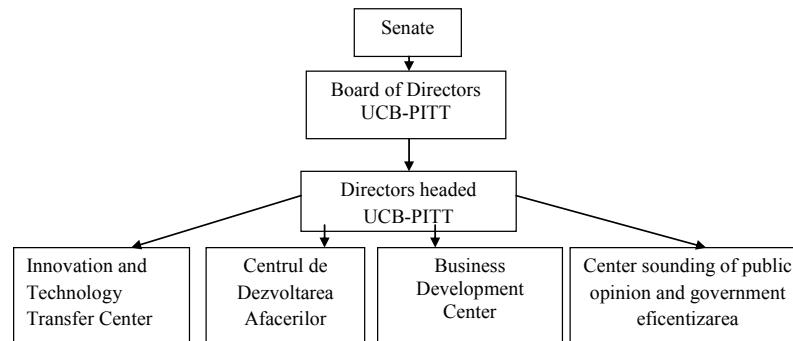
It will make all necessary steps to joining Park of Innovation and Technology Transfer (UCB-PITT) to similar organizations in countries such as ARoTT-Romanian Association for Technology Transfer; RENITT-National Network of Innovation and Technology Transfer, but participation Active in international consortia.

## 5. THE ORGANIZATIONAL STRUCTURE OF UCB-PITT

The governing body of Parculul of Innovation and Technology Transfer is the Board of Directors, University Senate subordinate Constantin Brancusi of Targu Jiu.

Leadership is provided by a board of directors headed by a CEO appointed by decision of the Rector of Constantin Brancusi of Targu Jiu and confirmed by the Senate Office. Board of Directors is composed of the heads of the four centers components, a vice-rector and a director of a research center of excellence in the UCB appointed by the Senate Office. The mandate of board members is 4 years. The Director General will present Senate Constantin Brancusi University of Targu Jiu, annual reports, of The Innovation and Transfer Technology Park (UCB-PITT).

Management structure is shown in Figure 2



*Fig. 2. Management structure*

## 6. CONCLUZIONS

One can appreciate that the creation of these entities in addition to universities, research institutes, CDI platform, can instil a boom in regional technological development, innovation development among teachers, students, researchers, Master and PhD students. It is a good opportunity to achieve technology transfer to the great economy, stimulate growth and innovation activities - patent.

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