

## Intellectual Capital Policy in Universities. Case study: "Lucian Blaga" University of Sibiu, Romania

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**Abstract.** *This paper concentrates on the problems about the current state of intellectual property and, especially, on the necessity of the implementation of an intellectual property policy in "Lucian Blaga" University which is a comprehensive University. A case study was carried out in which such a policy was proposed, following the in-depth study on the policies of four Universities from the entire world by making a comparative analysis with the policy that WIPO (Worlds Intellectual Property Organization) has elaborated on as an example. By the work in question, it was intended to reflect the most important aspects that need to be taken into consideration when elaborating on an intellectual property policy: the objectives, purpose, possession is use of intellectual property, the involvement of students and teachers in research and in the spin-out companies, the use of the University resources and facilities, the directorship, the conflicts of interest, the revenue distribution and the procedure for assigning the intellectual property rights.*

**Keywords:** *policy; intellectual property; researcher; innovation; spin-out; copyright and neighboring rights; patent; technology transfer; competitiveness.*

### Introduction

Leonard said that the knowledge is equivalent to the information which is relevant and useful based on a real experience (Leonard & Sensiper, 1998). To improve the knowledge, the scientific and the applied experiments are made in a complementary manner, involving also information technologies (Marglin, 1990; Nelson, 1959). Generally speaking, technology comes from the people need to overcome obstacles, such as lack of power, precision or knowledge (Zawislak, 1995).

To create high-quality products from the beginning, creating new knowledge can lead to the creation of new businesses, which are the base of the innovation process. This

process is completed only when the innovative product is marketed and is generating wealth (Jacobides & Winter, 2003).

Creating new innovative companies based on advanced scientific knowledge products represents the fundamental objective of the university-industry relations. This kind of relation is not limited to universities and industries. The university-industry process is related to the approach of entities responsible for creating scientific knowledge (universities, public and private research institutes, etc.) with entities responsible for the economic application of knowledge (industries, new businesses, etc.) (Dosi, 1988; Mowery & Rosenberg, 1989; Nelson, 1959).

Etzkowitz (2003) integrates science, technology, and economic development into government, industry, and university. Etzkowitz (2001) describes the new behavior of universities - the development of research closer to the needs of industry and the market - in order to reduce the gap between academia and business.

In view of the open innovation approach, the whole process is based primarily on knowledge relationships, including those between universities and industries, rather than on the government support. Companies involved in many partnerships and to receive and transmit knowledge to many actors such as research centers and other companies (Chesbrough, 2006; Chesbrough & Crowther, 2006; Perkmann & Walsh, 2007; Spithoven, Clarysse, & Knockaert, 2010).

Many of the world universities invest in science and intellectual property. Because research centers and universities are described as knowledge creators, efforts are being made to transfer the knowledge to businesses. To meet the scientific research needs of the companies, universities and research centers have created technology transfer offices.

Historically, universities represent the highest level of intelligent organizations which are responsible for generating and disseminating knowledge; teaching and research are therefore the main objectives of each university. Knowledge creation brings competitive advances and benefits through ownership of intellectual property rights, leading higher education institutions to a new position: the innovation maker.

Another aspect that must be mentioned is the *intellectual property*. Therefore the intellectual property includes all rights relating to literary, artistic and scientific works, to inventions in all fields of research, and to scientific discoveries, industrial marks, trademarks, emblems, but also to all rights resulting from intellectual activity in Industry, literary or even artistry. In fact, intellectual property is included in the intangible property category, although its external manifestation may be visible, or material. For example, although a painting is a tangible object, if we are talking about the object of intellectual property in question, we refer to the creativity of the author of the painting, which obviously is inalienable. In this context, we can say that intellectual property is nothing more than a result of different human activities, independent of the use of different devices or technologies that help discover new inventions.

A real and simplistic example is the computer itself - a tool that helps to create an innovative program or application. As a holder of the intellectual property right, an individual has the legally recognized right to authorize or prohibit access to information

related to his creation, as well as the possibility to decide whether other persons have the privilege to use or reproduce the creation (Tîtu & Oprean, 2015).

At present, intellectual creation is increasingly tolerant of all territorial constraints, as it naturally has an international vocation. As the product party is the primary resource in which value is created, and it has a very important status in the economic and social sphere, which leads to increased attention from both governments and universities that make major efforts to promote and protect intellectual property. In this context, universities gain a special value, as they have contributed to the development of society and the economy. In fact, a tradition has been created in which universities engage in these fields by training specialists and gaining performance, always meeting the demands of society (Al-Ali, 2003).

The motivation for choosing the theme is related to the interest of the academic researchers in this field, the importance of their visions regarding the knowledge, the operationalization and the evolution of the concepts related to the intellectual property policies developed at the university level, as well as the notification of the universities regarding their role in enhancing educational performance.

The purpose of this paper is to present the main ideas of the intellectual property domain and to relate this domain to academic life. The paper explores the experience of the Lucian Blaga University of Sibiu in developing a successful activity in the domain of intellectual property, proved by many national and international awards received in the last years, and to offer this experience to all the other universities where the creation of new knowledge is a core competence.

### **Defining key concepts**

As the paper wishes to become an informative material not only for specialists in the field but also for anyone who wants to know or deepen their knowledge of the field in question, it is absolutely necessary to review all the concepts involved, such as competitiveness, innovation, technology transfer and intellectual capital (Andriessen, 2004; Bratianu, 2013; Bratianu & Bejinaru, 2017; Ricceri, 2008; Stewart, 1997). At the same time, it will analyze the patent concepts, utility model, trademark, model and industrial design, geographic indication.

*Competitiveness* defines the ability of individuals, firms, economies or regions to stay in competitive domestic and/or international competition with the aim of gaining competitive economic benefits in a particular economic context. *Innovation* illustrates the process of creation or the generation of new ideas, but also the effects of the changes they generate. One of the specific features of the SME sector, along with flexibility and market orientation, is the ability to innovate. Innovation is an industry-specific concept. Nelson and Rosenberg (1993, p.4) define innovation as "the means by which master and product design firms practice new manufacturing processes for them, if not for the universe or even for the nation". Many authors have identified innovation as an increasingly complex, integrated and socially built process (Dosi, 1988; Lundvall, 1988; Oinas & Malecki, 2002). Internal corporate resources are complemented by those in different environments, including universities and governmental laboratories, as well as other firms (Archibugi & Iammarino, 2002; Dosi, 1988). In this conceptualization,

innovation should be understood as a system rather than a series of isolated events (Bunnell & Coe, 2001; Shapira, 2004).

The resources offered by universities for many forms of industry innovation (Charles & Howells, 1992; Lawton, 2000; Patel, 2002) and their use vary from radical innovations to incremental innovations. Theoretical knowledge from research, transformed into collaborative research products, university patents, and licenses, provides information at the early or radical stages of innovation when looking for new ideas. More applied relationships increase incremental changes, especially in services, design, and engineering; testing services are often focused on problem-solving as well as on recent developments (Cohen, Nelson, & Walsh, 2002).

This broader characterization of the innovation process, in which the university is part of a series of network actors in which the boundaries between the activities of different institutions are unclear, is reflected in the distinction of Gibbons et al. (1994) between "Module 1" and "Module 2" of knowledge. Module 1 is homogeneous, disciplinary and hierarchical, and reflects how knowledge has traditionally been produced in independent and distinct academic disciplines. Module 2 of knowledge, on the other hand, is hierarchical, transient, transdisciplinary, socially responsible and reflective, and is considered in an application context. However, in a holistic view knowledge should be understood as a complex field composed of rational, emotional and spiritual knowledge (Bratianu, 2018a; Bratianu & Orzea, 2014).

Such defined innovation systems are accompanied by organizational and institutional innovation, i.e. a change in standards and practices in an organizational system (North, 1990). The position of universities in innovation systems revolves around a politically defined regulatory agenda, as well as a techno-economic relationship. The role of decision makers is to put in place "governance systems that allow for technological interactions and communications" (Antonelli & Quere, 2002, p.1051). Indeed, Rutten, Boekema, & Kuijpers (2003, p.247) state that universities must adopt module 2 to become part of the knowledge-producing sector, as it is "the only way in which higher education institutions can make a substantial contribution to regional economic development". The universality of this argument is limited by the evidence that the impact of universities varies considerably over time in space between sectors (Nelson, 1988; Pavitt, 1984), between firms of different sizes and their absorption capacity (Cohen & Levinthal, 1990).

Since the 1990s, the key role of universities in innovation in the UK is illustrated in the 1993 White Paper: *Realizing our potential*, which exposes the government's commitment to local excellence: A source of wealth creation and improvement of the quality of life (DTI, 1993). The White Paper "saw the achievement of this goal by creating partnerships between the scientific base, the government, companies, and other users". Only after the election of the Labor Government in 1997 was the commitment of universities to the economic development of their immediate geographic region, including participation in governance systems, the territorial policy role adopted by the Organization for the Cooperation and Development of Nations (OECD, 1999) and the Commission (CEC, 2004). Conceptually and politically, the argument for promoting localized links between universities or universities and industry was strengthened by applying Porter's (1998) cluster concept and the triple-helix model to competitiveness programs focused on innovation.

Technology can be defined in a very broad sense as being the information used to perform a task. The transfer is the movement of technology through a communication channel from one individual to another. A technological innovation is an idea, a practice or an object that is perceived as new by a person or other entity (Rogers, 1995). Therefore, the transfer of technology is the application of computer applications (technological innovation) (Gibson & Rogers, 1994). The process of technology transfer typically involves the transfer of technological innovation from a research and development organization to a receiving organization (such as a private company). A technological innovation is fully transferred when marketed in a product sold on the market. Technology transfer is, therefore, a particular type of communication process.

Technology transfer is defined by the introduction or purchase of specific technologies and equipment, as well as of research equipment and facilities, in the economic circuit, all with the aim of obtaining new or improved processes or products or products that have been requested on the market, or participate in adopting innovative behavior.

Technological Innovation - Development is often described as a linear process, from basic research to applied research, including development, marketing, dissemination and the consequences of innovation. A linear model of the innovation development process may not fully take into account external environmental factors such as market demand or regulatory changes that could influence the process of technological innovation. The technology transfer process covers all stages, ranging from research and development to marketing, the interface between research and development (often through a university research center, an institutional unit or a government lab) and marketing (often carried out by a private company).

Intellectual property refers to all the creations of the mind, embodied in inventions, literary or artistic works, symbols, names or even commercially used images. In fact, intellectual property is divided into two categories:

- industrial property including inventions, trademarks, geographical indications, designs and industrial designs;
- the copyright of literary works such as novels, poems, plays, films, musical works, artworks, and architectural works. Related rights of copyright refer to the rights of performers to their work, but also to those of phonogram producers and broadcasters on their radio and television programs.

There is no widely accepted definition of *intellectual capital*. Nevertheless, the review of the literature indicates that intellectual capital is essentially related to "knowledge that can be transformed in value" (Edvinsson & Sullivan, 1996, p.361). In addition, at least three elements are common in almost all definitions: intangibility; knowledge that creates value; the effect of collective practice. This means that all irrelevant intangible assets that have no function on the future potential of the business are excluded and that the competitive advantage depends on the efficiency with which the company builds, shares, exploits and uses its knowledge.

Intellectual capital is a concept perceived as a set of knowledge from an organization, this definition being comprehensive, but suffering, however, multiple updates due to continuous accumulations of knowledge. Bratianu (2018b) demonstrated that many researchers have a limited understanding of the concept of intellectual capital due to

their metaphorical thinking in conceptualization of knowledge. Thus, many evaluation models of the intellectual capital use the linearity and tangibility properties which do not fit into the fundamental meaning of this new concept.

The most important challenge for researchers is to prove that intellectual capital creates value (MERITUM, 2001). The main focus is on the value factors of intellectual capital and how it interacts with its various components to generate value. The most valuable component may have different responses depending on internal and external organizational variables. Discussions about defining intellectual capital can be found in Ricceri (2008), and some interesting observations in Bratianu (2018b).

Definitions seem to agree that intellectual capital represents a stock of targeted and organized knowledge that the organization can use for productive purposes. But the existence of a stock of knowledge (intellectual capital) is not enough to explain the great value the market attributes to many knowledge organizations. Indeed, the ability of companies to capitalize on their intellectual capital is probably one of the keys to profitability. Swedish Skandia became aware of this early, when Leif Edvinsson, director of intellectual capital, originally described intellectual capital as the sum of human capital and structural capital, including the capital of the client.

*Intellectual capital management* is an emerging field. At the beginning of its evolution, two very different perspectives emerged as important areas of focus for management. The first focused on creating value. Value-creating organizations tend to focus their management energy on the company's human capital: organization, direction, knowledge creation and value creation for the company. The second perspective on intellectual capital management involved companies interested in extracting value. Companies whose expansion in value (or profits) is their target concentrate their energies on the intellectual assets of the company: intellectual property and marketable intangible assets.

The term "intellectual capital" was first introduced by John Kenneth Galbraith. Its meaning incorporates a degree of "intellectual action" rather than "intellect as purely intellectual". The implication of this conception is that intellectual capital could rather be a dynamic form of capital than a static one. We prefer to define intellectual capital as a knowledge that can be transformed into value. This definition is very broad and includes inventions, ideas, general knowledge, drawings, computer programs, data processes, and publications. It is not limited to technological innovations and the only forms of intellectual property identified by law (patents, trademarks, trade secrets, for example). For the manager, Intellectual Capital (IC) has three main components: human capital, structural capital and relational capital.

It is in the benefit of the knowledge organization to transform the innovations produced by its human resources into intellectual assets on which it can exercise its property rights. To facilitate this transformation, it is important to understand the differences between human and intellectual assets.

A *patent for invention* offers its owner an exclusive right over an invention, be it a product or a process, which aims at introducing a new technical solution to solve a problem. The utility model protects any type of technical invention, but taking into

account the fact that it is new, exceeds a limit of a simple professional skill, and it is susceptible of industrial application intellectual capital.

A *brand* is defined as a distinctive sign that highlights the idea that certain products and/or services are made or provided by a particular person or organization. In fact, the marks may consist of words, letters, figures, either alone or in combination, but may also consist of drawings, symbols, three-dimensional or sound signs, perfumes or colors, all of which are used for distinctive purposes.

Industrial designs refer to the either aesthetic or ornamental appearance that characterizes an animated object. In fact, they reside in three-dimensional features, such as the shape or texture of the object, on the one hand, and two-dimensional - motifs, lines, and color - on the other hand. The geographical indication is a sign that is used for products of a fixed geographical origin, showing certain qualities or notoriety due to this place of origin. For the most part, geographical indications are based on the place of origin of the product.

### **Intellectual property in universities**

The establishment of the action plan, agreed by universities, and by the research-development institutions, aiming at an evolution of the intellectual property culture (Hiroyuki & Roehl, 1987), as well as the creation of a national strategy, is absolutely necessary for the achievement of an economic development and a special innovative spirit. In our country, such an action plan was developed and adopted in the Workshop "Dissemination of Intellectual Property in Universities", Bucharest, March 23, 2007, as well as at the international meeting in The Hague, December 3, 2008.

The solution for developing the culture of intellectual property in universities comes out of understanding the need for developing adequate knowledge strategies (Bratianu & Bejinaru, 2017). The sensitivity to intrusions, as well as the high qualifications of universities in the techniques, procedures, methods, and methodologies of intellectual property, prove their efficiency as entrepreneurs, which must be taken into account and generalized at the national level. The totality of behavioral and professional reactions related to the remarking of intellectual property rights, which are supported not only by the legislative system but also by other unwritten rules; compose the culture of intellectual property.

The establishment of international bodies such as the World Intellectual Property Organization (WIPO or World Intellectual Property Organization, founded in 1893 and having its headquarters in Geneva) or the World Trade Organization (WTO), established only in 1995, after many years in Geneva) was determined by the need to provide effective protection for intellectual property rights. In our country, there are only two main bodies harmonized according to the European legislation in force, namely the State Office for Inventions and Trademarks (OSIM, 1997), and the Romanian Copyright Office (ORDA, 2017). Ownership of intellectual property depends largely on the legislative and contractual situation between the donor body, the inventor of intellectual property, the employee and the nature of the intellectual property.

### **The role of intellectual policies in the university**

Intellectual property policies have several roles with the following effects (Țîțu, 2016; Țîțu, Oprean, Stan, & Țîțu, 2017):

- Accountability of all parties involved in the innovation process.
- Educating future specialists in the field.
- Raising awareness of the public not only in the field of intellectual property but also the importance of its rights and its protection.
- Create a regulation that will be respected by all involved, avoiding any errors.
- Economic, social and cultural development of the country.
- Creating relationships with enterprises interested in new creations that can facilitate production processes.
- Compatibility and harmonization of the intellectual property system in Romania with the existing mechanisms at the level of the European Union.
- Attaining a level of performance demanded by the evolution of a knowledge-based society.
- Transparent cooperation between organizations involved in the protection of intellectual property.
- Building an appropriate administrative infrastructure in the field.

*British Columbia University.* At the University of British Columbia, in accordance with its desire to stimulate community-based research, university staff are encouraged to discuss and make public the results of research, including university research, as soon and as complete as reasonably possible, provided that this does not violate any agreement that has supported or is related to the research in question. Public disclosure of university research products may make it impossible to apply for patent protection for such products.

*The City University of London.* Within the University of London, the University will hold all intellectual property designed and or created by individuals employed by the University by graduate or non-graduate students involved in research, and where intellectual property has been created under an agreement or contract which the ownership of the new intellectual property has accepted, in whole or in part, of the University, but also in the conditions in which the person holding the intellectual property has assigned his rights in writing to the University. Moreover, the University does not claim ownership of intellectual property created by students or graduates, before, during, or after the completion of studies.

*Harvard University.* Harvard University has a long history of "work" for the benefit of the public through its research programs. Growing demand and the use of media communication, educational technology, computer programs and other approaches to conducting papers in the University often give rise to complex and ongoing challenges in terms of proper and fair use, as well as the obligations and redress associated with innovation.

*Determining Property.* After examining the information document, the OTD will determine whether the invention is an accepted invention or accidental invention and, in the case of an accepted invention, it is further determined with the assistance of a patent consultant who is the inventor in accordance with patent law From the United States. Harvard will have the right of ownership, and every inventor, at Harvard's

request, will grant the University all of his rights and title. Ownership of an accidental invention remains with its inventor, subject to any rights that may be granted to Harvard University as required by their policy in the field.

*Submission of patent applications.* The OTD is solely responsible for determining whether a patent application is filed for an accepted invention. The completion of determinations may be made on the basis of commercial potential, third-party rights obligations, or other reasons the OTD of its choice deems appropriate. The creator of an accepted invention for which patent applications are filed cooperate, without the inventor's expense, in the patenting process in all manner required by the University, the agent or its representative.

*Massachusetts Institute of Technology (MIT).* When Intellectual Property is developed by faculty, students, staff, visitors or other people participating in MIT programs, using significant MIT funds or facilities, MIT will own intellectual property. If the material is not subject to a sponsored study or other agreement conferring rights on third parties, the question of whether or not significant use is made of MIT funds or facilities will be reviewed by the laboratory director or inventor's central department / Author, with a recommendation sent to the Technology Licensing Office (TLO). The Vice President for Research will make the final decision on this issue and on any litigation or interpretation of the intellectual property policy. When the invention is described, it is assigned an internal case number and a copy of the communication is sent to the Intellectual Property Coordinator in the sponsored Program Office, examining the patents and copyrights, the terms of the applicable research agreements, and notifying sponsors in Presentations of information. In TLO, the disclosure is attributed to a technology licensing officer who will contact the inventor to discuss the invention. A decision is then made to determine whether the transfer of technology will be most efficiently achieved by a patent application or by other legal protection. Industrial sponsors are usually granted the right to choose a technology license for which other legal protection patents are required; Specific terms are then negotiated with TLO.

*The University of Tokyo.* When manipulating the intellectual property created at the University of Tokyo, it is important to consider various issues such as contributing to the international public in the context of rising globalization and international Japanese consolidation, competitiveness as well as that of the University of Tokyo itself. Taking into account these various objectives, University members are required to pursue the most effective means of intellectual property derived from their application and to work for the greatest possible benefit of the public. Both faculty members and the institution itself have an obligation to return to the benefits of public intellectual property derived from publicly funded work at the University of Tokyo. As a matter of principle, the University believes that providing the appropriate means to manage and enforce such intellectual property requires the University's property right. Based on this framework, the University of Tokyo will establish a system for the management and use of intellectual property derived from its intramural activities as well as for litigation involving such intellectual property.

*WIPO.* The Institute encourages researchers to identify the results of research with potential marketing value and to increase the reputation of the institute by bringing it to public benefit and use. The person or department designated by the institute is responsible for the protection and commercialization of the intellectual property of the

institute. The inventor will be consulted at each stage of the procedure. Researchers will be required to submit in writing the publication projects containing scientific results to the head of the department before publishing them and must put in writing that, to the best of his knowledge, these papers do not contain results for which protection can be obtained, or which can be exploited in any way. Researchers, including hired students, students, and visiting researchers, are required to disclose all intellectual property to the person or department designated by the institute. Copyrights will be excluded from disclosure obligations, except for those that have been developed through the performance of sponsored research or any agreement with third parties. Since the protection and success of the commercialization of intellectual property may depend on timely and effective administration, inventors are required to disclose all intellectual property with exploitation potential as soon as they become aware of them. The disclosure must be made in writing by completing an Intellectual Property Disclosure Form, available to the person or department designated by the Institute.

### **Case study: Intellectual property policies implemented in the University "Lucian Blaga" of Sibiu**

As it was mentioned in the introduction, this research is based on a study conducted in Lucian Blaga University - a comprehensive university from Romania. We performed a SWOT analysis first to identify the strengths and weaknesses of the university and to understand which are possible opportunities and trends coming from the external environment. The main conclusions of this analysis are as follows:

#### *Strengths:*

- Annual organization of the "Night of Researchers" project.
- The existence of an organizational culture in the field of IP focused on the recognition of its own values.
- The comprehensive university efficiently uses IP created within it, which it treats as the primary resource that creates value.
- The main purpose of the comprehensive university is to provide IP protection.
- The existence of a department dedicated to the field of IP.
- Participations in the world and national exhibitions leading to the continuous development of the studied comprehensive university.
- The comprehensive university is based on procedures that manage the analysis of the files of the persons requesting the registration of IP products and objects.

#### *Weaknesses:*

- Insufficient development of a computerized database that highlights and organizes didactic and research activities.
- Insufficiency of international research programs and transversal programs.
- Insufficient number of specialized teachers.
- Inability to support specific IP courses.
- Lack of motivation for students to participate in various research activities in order to develop creativity.

#### *Opportunities:*

- Harmonization with EU normative acts and international treaties in the field.
- The existence of complex IP legislation, which our country and, implicitly, the comprehensive university has to follow.

- The comprehensive university is a common ground between academia and business, facilitating the transfer of technology.
- Possibility to adopt the policies that the World Intellectual Property Organization has formulated for the academic environment.

*Threats:*

- Frequent legislative changes that may lead to a major reorientation of the scientific research activity.
- Low student participation in research activities.
- The danger of migrating specialized teachers to other sectors of activity in the country and/or abroad where they are offered other material, and more substantial advantages.
- The decrease in the interest of graduates for a teaching career.

***The role of intellectual property***

Research institutes, whether public or private, are commissioned to carry out research. The primary function of universities has traditionally been to learn. However, universities are research institutes that carry out technology transfer activities (Anderson, Daim, & Lovoie, 2007; Chapple, Lockett, Siegel, & Wright, 2005; Debackere & Veugelers, 2005). Thus, intellectual property is inherent in many research and learning functions at the studied comprehensive university. A successful research program can generate inventions that can be patented, as well as other forms of intellectual property. Decisions must be made taking into account the protection of these inventions and bringing them to the next level of development.

***The need for a PI policy***

An institutional PI policy applied at the comprehensive university serves three tasks:

- Recognition of intellectual property owners created.
- Provide a framework in which the institution can identify, assess, protect and monitor exactly the IP for further development and usual marketing of a certain kind.
- Define the responsibilities, rights, and privileges of those involved.

On the other hand, without an official document regulating the ownership and use of IP rights, the involved parties would not benefit from any guidance that would guide them to make their decisions on intellectual property properly. In addition, a PI policy also contributes to:

- Promotion of scientific investigations and research.
- Encourage researchers to consider the global value and possible opportunities for any new inventions and increase the potential flow of society benefits.
- Providing legal certainty.
- Balancing various conflicts of interest.
- Providing an environment where the innovative spirit is present and those who participate can be rewarded correctly for contributions to successful development.
- Provide practical guidance and specific procedures for identifying, evaluating, protecting, managing and licensing or transferring IP.

### ***The objectives of IP policy***

The studied comprehensive university is committed to ensuring that intellectual property is used for the benefit of individuals and societies. At the same time, it also engages in the widespread promotion and use of research results through appropriate means, including publications and marketing. The policy establishes the comprehensive university stance on the possession and use of intellectual property, the recognition and rewarding of IP creators, and the obligations, roles, and responsibilities of all involved.

### ***Purpose of IP policy***

This policy should be applied to all properties created within the comprehensive university, as well as associated rights. At the same time, this policy can be applied to all researchers who have established relationships with the comprehensive university.

### ***Mastery and use of intellectual property***

Mastering intellectual property depends largely on the current legislative context, the contractual situation between the sponsor and the creator of intellectual property, as well as its nature. Therefore, the person designated to exercise authority on behalf of the university must ensure that the contract includes provisions that place the researcher under the sign of the policy. In this respect, students are required to sign an agreement to regulate their relationship with the university, but to link them to this policy before starting any research activity. It is the responsibility of the researcher to ensure that an agreement (hereinafter referred to as the "Research Agreement"), whose terms and conditions of cooperation are appropriate for both Contracting Parties, has been concluded with the cooperation of third parties. Taking into account the financial and intellectual contributions made available by the comprehensive university, third party involvement may become a good choice when it comes to the creation of intellectual property, as each cooperating party will have access to intellectual property rights, as well as to the distribution in the form of revenue generated by their marketing. The use of resources and facilities of the University, the Company can access all facilities and staff of the University only if the University approves this fact. At the same time, the University holds absolute control over its own resources of any kind, for which it can charge for these services preferential tariffs as part of the University's investment in the company.

### ***Directorate and conflicts of interest***

The right to appoint remove or replace a director falls entirely on the University and the Board of Directors of the Company. Thus, the director of the university will normally be selected by the members of the Intellectual Property Trading Council. If the university director decides to leave the university, he will have to resign from the university. However, the position of director of the company may also fall on an inventor who will necessarily act in the company's interest; therefore individuals in charge of this job must recognize potential conflicts of interest.

### ***Sharing revenue***

The comprehensive university policy provides for the distribution of any income generated by the commercial exploitation of intellectual property, depending on the contributions that each individual involved in research brings to the creation of intellectual property. Within the comprehensive university, the rector of the university is the one who has the authority to endorse all documents that have in their content elements related to the strategy, development and organization of the activity undertaken by DPPI - the comprehensive university, i.e. all those documents that will be submitted to OSIM in order to obtain protection in the field of industrial property.

All the comprehensive university structures wishing to officially register a product or object belonging to the intellectual property right have to initially address DPPI- the comprehensive university to file this file that will be submitted to OSIM for related documentary research, approval and release Of IP certification documents. Therefore, when a file is filed and documents are recorded, the DPPI- the comprehensive university Secretariat has the obligation to verify that the dossier contains all the necessary documentation for sending it to the OSIM Center for verification and subsequent registration. Under Law 544/2004, the terms of settlement and communication for the applications, requests or addresses of the case are 30 days from the date of registration with the DPPI- the comprehensive university Secretariat. All these operations carried out in respect of the registration and management of documents and files of those requesting the registration of the property and the objects of ownership are strictly confidential.

### **Conclusions**

Intellectual property is native to every nation and marks an evolution of that world that, from a historical point of view, contributes to the progress of society. Intellectual property rights are outlined as any other kind of property rights that allow patent holders or other certificates to benefit from their own creations, all of which are enshrined in the *Universal Declaration of Human Rights*.

The efficiency with which a university uses intellectual property is an important factor that influences the evolution of the university's notoriety, for intellectual property is considered to be the main reward that creates value. The government, research, and education institutes, as well as the Courts of Justice, are the institutions that manage intellectual property rights and those that connect with society, with the main objectives of ensuring and guaranteeing the protection of intellectual property rights; this raises the possible barriers to development, encouraging creativity and innovation.

Harmonization with EU normative acts and international treaties in the field is due to the complexity of the intellectual property legislation of our country and covering all related fields. Thus, it can be said that the legislation of the Euclid Union is based not only on the founding treaties, but also on the binding legal acts, and it succeeds in providing protection to all categories of rights. The main objective for the European Union is to ensure the protection of intellectual property, being a priority, because there is no progress without new ideas and knowledge.

Intellectual property rights are important for stimulating innovation and creativity, leading to a continuous evolution, both socially and economically. The economic sectors in which intellectual property rights are widely used give rise to about 39% of all economic activities in the European Union, which means that they account for up to 26% of the total number of jobs in the European Union. The comprehensive university underwent a national strategy in the field of intellectual property approved by the Romanian Government through Decision no. 1424/2003, as amended and supplemented by the Decision no. 1174 / 29.09.2005, which involve the promotion of an active, performance-oriented society based on values of work, social cohesion, solidarity, and responsibility.

Our country has a legislative framework in the field of complete and complex intellectual property, legislation compatible with all EU normative acts while respecting all the treaties and conventions of the field. All activities and documentation to the DPPI- the comprehensive university department must be authorized in advance by the Rector of the University, while the department secretariat records them, being responsible for transmitting to OSIM all the documents that are subject to the recognition and certification of intellectual property rights. The time limits for the settlement of the files filed with the DPPI- the comprehensive university secretariat are subject to the legislation in force, i.e. Law 544/2004, according to which the applications are settled within 30 days from the date of their registration at the DPPI- the comprehensive university Secretariat.

The comprehensive university is subject to a confidential policy which requires all operations and acts used in file registration and management activities to be confidential, all involved being required to maintain the confidentiality of data and information on intellectual property and related rights. Thus, through this policy, all parties involved will agree on the impossibility of transmitting the data and information they are aware of during the duration of the collaboration relationship. Failure to comply with these Confidentiality Policy clauses results in an obligation on the guilty party to pay a number of damages.

## References

- Al-Ali, N. (2003). *Comprehensive intellectual capital management*. New York: John Wiley & Sons.
- Anderson, T.R., Daim, T.U., and Lovoie, F.F. (2007). Measuring the efficiency of university technology transfer. *Technovation*, 27, 306–318.
- Andriessen, D. (2004). *Making sense of intellectual capital: designing a method for the valuation of intangibles*. Amsterdam: Elsevier.
- Antonelli, C., and Quere, M. (2002). The governance of interactive learning within innovation systems. *Urban Studies*, 39, 1051-1063.
- Archibugi, D., and Iammarino, S. (2002). The globalisation of technological innovation: definition and evidence. *Review of International Political Economy*, 9, 98-122.
- Bratianu, C. (2013). Nonlinear integrators of the organizational intellectual capital. In Fathi, M. (Ed.), *Integration of practice-oriented knowledge technology: Trends and perspectives* (pp.3-17). Heidelberg: Springer.

- Bratianu, C. (2018a). A holistic view of the organizational knowledge dynamics. *HOLISTICA Journal of Business and Public Administration*, 9(2), 7-22.
- Bratianu, C. (2018b). Intellectual capital research and practice: 7 myths and one golden rule. *Management & Marketing. Challenges for the Knowledge Society*, 13(2), 859-879.
- Bratianu, C., and Bejinaru, R. (2017). Knowledge strategies for increasing IC of universities. In Lopez, I.T. and Serrasqueiro, R. (Eds.), *Proceedings of the 9<sup>th</sup> European Conference on Intellectual Capital* (pp.34-42). Reading: Academic Conferences and Publishing International.
- Bratianu, C., and Orzea, I. (2014). Emotional knowledge: The hidden part of the knowledge iceberg. *Management Dynamics in the Knowledge Economy*, 2(1), 41-56.
- Bunnell, T.G., and Coe, N.M. (2001). Spaces and scales of innovation. *Progress in Human Geography*, 25, 569-589.
- CEC (2004). *Innovation in Europe, Iceland and Norway: overview of the third Community Innovation Survey*. Luxembourg: Commission of the European Community.
- Chapple, W., Lockett, A., Siegel, D.S., and Wright, M. (2005). Assessing the relative performance of U.K. university technology transfer offices: Parametric and non-parametric evidence. *Research Policy*, 34, 369-384.
- Charles, D., and Howells, J. (1992). *Technology Transfer in Europe: Public and Private Networks*. London: Belhaven Press.
- Chesbrough, H., and Crowther, A.K. (2006). Beyond high tech: early adopters of open innovation in other industries. *R&D Management*, 36(3), 229-236.
- Chesbrough, H.W. (2006). Open innovation: a new paradigm for understanding industrial innovation. In Chesbrough, H., Vanhaverbeke, W., and West, J. (Eds.), *Open innovation: Researching a new paradigm* (pp.1-14). Oxford: Oxford University Press.
- Cohen, W.M., and Levinthal, D.A. (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly*, 35, 128-152.
- Cohen, W.M., Nelson, R. R., and Walsh, J. P. (2002). Links and impacts: the influence of public research on industrial R&D. *Management Science*, 48, 1-23.
- Debackere, K., and Veugelers, R. (2005). The role of academic technology transfer organizations in improving science industry links. *Research Policy*, 34, 321-342.
- Dosi, G. (1988). The nature of the innovative process. In Dosi, G., Freeman, C., Nelson, R., and Soete, L. (Eds.), *Technical change and economic theory* (pp.221-238). London: Pinter.
- DTI (1993). *Realising Our Potential: A Strategy for Science, Technology and Engineering*. London: Department of Trade and Industry.
- Edvinsson, L., and Sullivan, P. (1996). Developing a model for managing intellectual capital. *European Management Journal*, 14(4), 356-364.
- Etzkowitz, H. (2001). The Second Academic Revolution and the Rise of Entrepreneurial Science. *IEEE Technology and Society Magazine*, 20(2), 18-29.
- Etzkowitz, H. (2003). Innovation in Innovation: The triple Helix of University-Industry-Government Relations. *Social Science Information*, 42(3), 293-337.

- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., and Trow, M. (1994). *The Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: Sage Publications.
- Gibson, D. V., and Rogers, E. M. (1994). *R&D Collaboration on trial: The microelectronics and computer technology consortium*. Boston: Harvard Business School Press.
- Hiroyuki, I., and Roehl, T.W. (1987). *Mobilizing invisible assets*. Boston: Harvard University Press.
- Jacobides, M.G., and Winter, S.G. (2003). Capabilities, transaction costs, and evolution: Understanding the institutional structure of production. WP 2003-04, Working Paper of the Reginald H. Jones Center. The Wharton School, University of Pennsylvania.
- Lawton, H. (2000). *Technology Transfer and Industrial Change in Europe*. Basingstoke: Macmillan.
- Leonard, D., and Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California Management Review*, 40(3), 112-132.
- Lundvall, B.-A. (1988). Innovation as an interactive process from user producer interaction to national system of innovation. In Dosi, G., Freeman, C., Nelson, R., Silverberg, G., and Soete, L. (Eds.), *Technical change and economic theory* (pp.349-369). London: Pinter.
- Malecki, E. (1997). *Technology and economic development: The dynamics of local, regional and national competitiveness*. Essex: Longman.
- Marglin, S.A. (1990). *Loosing touch: the cultural conditions of worker accommodation and resistance*. In Marglin, F.A., and Marglin, D. (Eds.), *Dominating knowledge: development, culture, and resistance* (pp.217-282). Oxford: Oxford University Press.
- Mowery, D.C., and Rosenberg, N. (1989). *Technology and the pursuit of economic Growth*. Cambridge: Cambridge University Press.
- Nelson, R. (1988). Institutions supporting technical change in the US. In Dosi, G., Freeman, C., Nelson, R., Silverberg, G., and Soete, L. (Eds.), *Technical change and economic theory* (pp.312-329). London: Pinter.
- Nelson, R., and Rosenberg, N. (1993). Technical innovations and national systems. In Nelson, R. (Ed.). *National innovation systems: A comparative analysis* (pp.3-27). Oxford: Oxford University Press.
- Nelson, R.R. (1959). The simple economics of basic scientific research. *The Journal of Political Economy*, 67(3), 297-306.
- North, D.C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
- OECD (1999). *The Response of Higher Education Institutions to Regional Needs*. Paris: OECD.
- Office for Harmonization in the Internal Market (2013). European Citizens and Intellectual Property: Perceptions, Awareness and Behaviour. Retrieved from <https://oami.europa.eu/ohimportal/documents/11370/80606/IP+perception+study>.
- Oinas, P., and Malecki, E.J. (2002). The evolution of technologies in time and space: from national and regional to spatial innovation systems. *International Science Review*, 25, 102-131.

- ORDA (2017). Romanian Copyright Office. Retrieved from <https://www.orda.ro>.
- OSIM (2017). Convention of Paris 1883. Retrieved from <http://www.osim.ro/legis/legislatie/marci/conprotin.htm>.
- Patel, P. (2002). Measuring third stream activities. Final report to the Russell Group of Universities. Retrieved from [http://www.clo.cam.ac.uk/final\\_russell\\_report.pdf](http://www.clo.cam.ac.uk/final_russell_report.pdf).
- Pavitt, K. (1984). Sectorial patterns of technical change: Towards a taxonomy and a theory. *Research Policy*, 13, 343-373.
- Perkmann, M., and Walsh, K. (2007). University-industry relationships and open innovation: Towards a research agenda. *International Journal of Management Reviews*, 9(4), 259-280.
- Porter, M. (1998). Clusters and the new economics of competitiveness. *Harvard Business Review*, 77, 1-10.
- Ricceri, F. (2008). *Intellectual capital and knowledge management: Strategic management of knowledge resources*. London: Routledge.
- Rogers, E.M. (1995). *Diffusion of innovations*. New York: Free Press.
- Rutten, R.P.J.H., Boekema, F.W.M., and Kuijpers, E. (2003). HEIs, regions and the knowledge-based economy. In Rutten, R.P.J.H., Boekema, F.W.M., and Kuijpers, E. (Eds.), *Economic geography of higher education* (pp.244-252). London: Routledge.
- Shapira, P. (2004). US national innovation system. Science, Technology and Innovation Policy Developments. Retrieved from <http://cherry.iac.gatech.edu/beta/xoutline/html>.
- Spithoven, A., Clarysse, B., and Knockaert, M. (2010). Building absorptive capacity to organise inbound open innovation in traditional industries. *Technovation*, 30(2), 130-141.
- Stewart, T.A. (1997). *Intellectual Capital*. New York: Doubleday.
- Țițu, M. (2016). Intellectual property policy at "Lucian Blaga" University of Sibiu. *Journal of Electrical Engineering, Electronics, Control and Computer Science – JEECCS*, 2(5), 25-30.
- Țițu, M., and Oprean, C. (2015). *Management of intangible assets in the context of knowledge based economy*. Karlsruhe: LAP Lambert.
- Țițu, M., Oprean, C., Stan, S., and Țițu, Ș. (2017). The place and role of intellectual property policies in an advanced scientific research and education university. *International Conference Knowledge-Based Organization*, 23(1), 479-488.
- Zawislak, P.A. (1995). RelacSo entre Conhecimento e Desenvolvimento: essência do progresso técnico. *Análise*, 6(1), 125-149.

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