ANALYSIS OF GOOD PRACTICES FOR PROTECTING INTELLECTUAL PROPERTY IN PUBLIC UNIVERSITIES

ANÁLISE DE BOAS PRÁTICAS PARA A PROTEÇÃO DA PROPRIEDADE INTELECTUAL NAS UNIVERSIDADES PÚBLICAS

ANÁLISIS DE BUENAS PRÁCTICAS PARA PROTEGER LA PROPIEDAD INTELECTUAL EN LAS UNIVERSIDADES PÚBLICAS

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ABSTRACT

The paper aims to identify some good practices adopted by public universities in the protection of intellectual property. In fact, by associating the emergence of important normative instruments with the leading role of public universities in the development of technologies and intellectual property titles in the country, it is noted the importance of research focused on the particularities of protection of research results through industrial property in these institutions. From the bibliographic research and the deductive method, is discussed the publication of scientific papers, the dissemination of monographs, dissertations and theses, as well as the correct use of patent banks as important sources of information. In addition, it is addressed the ownership of intellectual property, the assessment of the institution's interest in the innovation, the sharing of economic gains, the need for the forecast of the intellectual property in legal instruments, the professionalization of the NITs and the application of legal provisions in the formation of students and university staff. Thus stands out the importance of the measures already adopted by some institutions, in an attempt to acclimatize the national scenario, meet the normative purposes and strengthen the valuation of intellectual property in the public university.

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KEYWORDS: Intellectual Property. Public University. Good Practices

RESUMO

O trabalho pretende identificar algumas boas práticas adotadas pelas universidades públicas na proteção da propriedade intelectual. De fato, associando-se o surgimento de instrumentos normativos importantes, ao protagonismo das universidades públicas no desenvolvimento de tecnologias e títulos de propriedade intelectual no país, nota-se a importância da pesquisa voltada às particularidades da proteção dos resultados da pesquisa através da propriedade industrial nestas instituições. A partir da pesquisa bibliográfica e do método dedutivo, discute-se a publicação de trabalhos científicos, as divulgações de monografias, dissertações e teses, além da correta utilização dos bancos de patentes como importantes fontes de informação. Ademais, aborda-se a titularidade da propriedade intelectual, a avaliação do interesse da instituição na inovação, o compartilhamento dos ganhos econômicos, a necessidade da previsão da propriedade intelectual em instrumentos legais, a profissionalização dos Núcleos de Inovação Tecnológica e a aplicação dos dispositivos legais na formação de alunos e servidores das universidades. Assim, destaca-se a importância das medidas já adotadas por algumas instituições, na tentativa de aclimatar o cenário nacional, atender às finalidades normativas e fortalecer a valorização da propriedade intelectual na universidade pública.

PALAVRAS-CHAVE: Propriedade Intelectual. Universidade Pública. Boas Práticas.

RESUMEN

El documento tiene como objetivo identificar algunas buenas prácticas adoptadas por las universidades públicas en la protección de la propiedad intelectual. De hecho, al asociar la aparición de importantes instrumentos normativos con el papel principal de las universidades públicas en el desarrollo de tecnologías y títulos de propiedad intelectual en el país, notamos la importancia de la investigación centrada en las particularidades de proteger los resultados de la investigación a través de la propiedad industrial. en estas instituciones A partir de la investigación bibliográfica y el método deductivo, discutimos la publicación de artículos científicos, la difusión de monografías, disertaciones y tesis, así como el uso correcto de los bancos de patentes como fuentes importantes de información. Además, aborda la propiedad de la propiedad intelectual, la evaluación del interés de la institución en la innovación, el intercambio de ganancias económicas, la necesidad de proporcionar propiedad intelectual en

instrumentos legales, la profesionalización de los NIT y la aplicación de disposiciones legales en la formación de estudiantes y personal universitario. Así, se destaca la importancia de las medidas ya adoptadas por algunas instituciones, en un intento por aclimatar el escenario nacional, el cumplimiento de propósitos normativos y el fortalecimiento de la valoración de la propiedad intelectual en la universidad pública.

PALABRAS CLAVE: Propiedad Intelectual. Universidad Pública Buenas Practicas.

INTRODUCTION

In Brazil, the subject of intellectual property aroused a greater debate in the university sphere from the revision of its legal system in the nineties. This was due to the conclusion of the TRIPS agreement, which required the signatory countries to commit to minimum standards of intellectual property protection, resulting in Law nº 9.279/1996. Subsequently, Decree nº 2.553/98, in regulating articles 75 and 88 to 93 of Law nº 9.279/1996, established the economic participation of servants in the results of patent or registration exploitation, fostering discussion and regulation of the theme in public administration, giving rise to Ordinance nº 322/98 of the Ministry of Education. And based on these provisions, universities began to define mechanisms of administration and protection of intellectual property (UFRGS, 2003, p. 21).

Currently there is an incentive to develop innovations and, consequently, patents produced by the country, resulting in public policies aimed at this purpose, such as the Innovation Law, the Constitutional Amendment of Innovation and the Legal Framework of Science, Technology and Innovation. These diplomas, in addition to stimulating the development of technologies and, consequently, titles of property, establish a legal obligation, requiring careful and responsible treatment with the national intangible heritage, in order to enhance the protection of intellectual property and give effect to the commandments normative.

Moreover, it is noted that the public university, besides being an essential subject of the current normative diplomas that encourage the development of technologies, holds the leading role of research activity. As a result, according to the last two industrial property indicators of the National Institute of Industrial Property (INPI), launched in 2017 and 2018, public universities were among the ten largest patent filers among residents in the country, occupying, respectively, nine and eight places (INPI, 2017a, p. 21 and INPI, 2018a, p. 16), which, besides proving the university role, demands studies aimed at protecting the results of these activities in these institutions.

Therefore, the present work prepared in December 2019, as a result of the continuity of the research activity developed about intellectual property in the public university, intends to identify, reproduce and systematize some good practices adopted by public universities in the protection of intellectual property. To this end, the study is divided into two items.

The first highlights elements for the proper treatment of the subject within the university, discussing the publication of scientific papers, monographs, dissertations and theses, as well as the correct use of patent banks as important sources of information, the professionalization of the Nuclei Technological Innovation (NIT) and the application of legal provisions in the training of students and servants of universities.

In the second item are grouped items related to the institutional treatment given to creations, notably about the assessment of the institution's interest in innovation, the ownership of intellectual property, the sharing of economic gains and the need for the provision of intellectual property in legal instruments.

Thus, the study intends to highlight measures already adopted by some institutions, valuing the debate on this intangible good, the result of research activities promoted by the State. In addition, it seeks to contribute to the discussion of the protection of industrial property in the Brazilian public university, encouraging the strengthening of the theme in these institutions.

1. TREATMENT OF RESEARCH AND DEVELOPMENT ACTIVITIES

Regarding the treatment dedicated to research and development activities in public universities, the study initially highlights the institute of scientific publication. This is because the publication of scientific papers is one of the main mechanisms used to evaluate the scientific production of universities, which consequently translates into the dissemination of new knowledge in books, periodicals and specialized magazines.

At this point, it is noted that Brazil currently ranks 13th among the largest producers of research publications worldwide (CROSS et al, 2018, p. 6). Of this total, only about 1% had at least one author affiliated with the industry, demonstrating the almost monopoly of publication by the Brazilian academy (CROSS et al., 2018, p. 18). Although this significant disproportion has several reasons, this paper highlights the possibility that a publication may affect the ownership of creations.

Indeed, Law nº 9.279/96 imposes in its article 8 the fulfillment of the requirements of novelty, inventive activity and industrial application for the granting of the patent. The novelty requirement as provided in art. 11, caput and paragraph 1st, of the same legal diploma, consists

of what is not understood in the state of the art, and therefore inaccessible to the public before the date of filing of the patent application, in Brazil or abroad, by any means.

Therefore, in theory, a conflict is identified. In spite of the encouragement of scientific publication within the University, including as a means of evaluating the intellectual production of these institutions, the same publication may make the protection of intellectual property at the time of publication unfeasible, thereby attacking the novelty requirement. In addition, the prestige to publication allows the interaction with the private agent to be removed, attracted by security and obtaining the title of property, which contradicts the intention of legislation focused on innovation and the articulation between public and private actors.

It should be noted that, exceptionally, Article 12 of Law Nº 9.279 / 96 does not consider as state of the art the disclosure of invention or utility model that occurred during the 12 (twelve) months prior to the filing date or the priority of the request for patent. It is the institute called the period of grace. However, it is observed that publication not only increases the risks of non-protection in the country due to the possibility of conflicts, but also indicates the possible unfeasibility of protection abroad by offending the novelty requirement (BARBOSA, 2003, p. 330), since most foreign countries do not contemplate the grace period in their legislation.

Moreover, it is mentioned that, contrary to the traditional free dissemination of consolidated knowledge in these institutions, there are in the national context several provisions that determine the confidentiality of those involved, enshrining the principle of confidentiality of the R&D activity, seeking to safeguard the novelty and guarantee the right to property (BOCCHINO et al, 2010, p. 193). In the point, cites art. 116, VIII, of Law nº 8.112/90, art. 325 of the Penal Code and, above all, art. 12 of Law nº 10.973/04, which established the duty of confidentiality to those involved in any aspect of the creation developed or under development at the university, requiring authorization from the institution for its disclosure.

Furthermore, within the university, the participation of funding agencies in the researches that are developed, which can regulate the publication in order to protect the industrial property of creation, is emphasized. As an example, cites CNPq RN-34/2014, which determines the beneficiary and the person responsible for the scholarship or financial aid to communicate the intention of publication to the NIT of the institution, 30 (thirty) days in advance (CNPq , 2014).

It is noteworthy that nothing prevents protected technology from being freely available, as, as addressed by Barbosa (2015, p. 21), “appropriation does not mean denying access”. Moreover, it is noted that there are no absolute principles, which should be applied with consideration when in conflict with other principles. What is observed is that, despite the

prestige of free disclosure, there are normative commands that enshrine confidentiality, essential to innovative activity and the protection of its results, which is also demanded by interactions with private initiative.

It should be noted that although publication and protection, which requires confidentiality, appear to be mutually exclusive, the respective stir is only apparent. In fact, the result of a research can be protected and subsequently disclosed, making the respective procedures complementary. In this sense, in a pedagogical way, art. 5, § 2, of CEPG Resolution nº 01/2011 of the Federal University of Rio de Janeiro states that protection and secrecy "do not make subsequent publication impossible" (UFRJ, 2011, p. 4). In particular, the importance of specialized university structures, such as the NITs, is important for sensitizing and supporting the researcher on the subject, as well as mapping and monitoring potentially innovative research for the adequate protection of information, in harmony with the practice of other countries, as in the case of apparent assistance and follow-up by the technology offices of US universities (UFRGS, 2003, p. 20).

Facing the issue, the important normative provision established by the Federal University of Pelotas is registered, which, in addition to reinforcing the researchers' duty of secrecy, regulates their duty to notify the NIT body, in this case the Deposit and Follow-up Section. Patents - SDAP, regarding the potentially appropriate research, establishing the process of notification of invention, as per caput of the transcribed articles 3 and 4 of Resolution nº 33/2018 (UFPEL, 2018, p. 2-3):

> Article 3. Pursuant to Article 12 of Law 10.973 / 04, it is forbidden to the leader, the student, the creator or any server, employee or service provider, to disclose, report or publish any aspect of Creation whose development has participated. directly or made aware by virtue of its activities without first obtaining express permission from the university.
> (...)
>
> **CHAPTER II**
> **OF THE INVENTION NOTIFICATION PROCESS**
>
> Article 4. Whenever research results in the Creation or development of any new form of knowledge or technology subject to legal protection, the Creator shall submit to the Patent Filing and Follow-Up Section - SDAP a Notice of Invention, for the purpose of communicating the University of its Creation and allow the analysis, by CIT, of the convenience or otherwise of its disclosure and the need to apply a procedure of protection, secrecy or filing or registration with the National Institute of Industrial Property - INPI, or body equivalent, which should be done through the opening of a specific Administrative Proceeding (Search: Intellectual Property Register and Patents), which shall include at least the following documents:

Given this scenario, it is up to researchers, prior to the publication of a potentially appropriate research result, the duty to seek and communicate the Technological Innovation

Center of their University, in order to use all the resources necessary for the adequate protection of the intangible asset.

Related to the protection of the novelty requirement, it is also noted the indispensability of the attention given to some potentially patentable monographs, theses and dissertations, due to the need for public defense of the conclusion works, as a partial requirement to obtain the title. academic

In particular, without prejudice to the performance of the NIT in mapping and identifying any potentially innovative research, it is necessary that the researcher, mentor teacher or interested student who verifies the likelihood of technology appropriation, seeks and communicates the NIT of his / her Institution. that it may, without prejudice to the novelty requirement, take the necessary measures to protect the invention.

Indeed, in seeking to protect the legal requirement of novelty, there is an important context in which the identification and follow-up of all potentially innovative research within the University, especially by the NIT, from the beginning of the activity until its beginning. conclusion. At the point, an important legal mechanism to be used for research protection is the certificate of addition, which allows, in addition to the filing of the prior patent application, if its legal requirements are already present during the research, further refinement or development of the work. , without prejudice to the title deed.

In addition to the attribution of the NIT in the investigation of research carried out internally, the obligation of those involved in not publishing and communicating to that body the technological potential of the work developed is not addressed, as already highlighted. Even so, if this does not occur, and if the patent potential is verified only at the conclusion of the research and presentation of the work, it is observed that some institutions have established procedures for the defense of dissertations or theses in a confidential manner, restricted to the public and the adoption of confidentiality terms to the respective parties involved in the ceremony, thus preserving the novelty requirement. Note some of the obligations defined by the Federal University of Santa Maria (UFSM, 2018, p. 1):

> 3 . When forwarding the process to the secretariat, ask the advisor to direct to the members of the panel copies of the dissertations or theses and, with them, the annex 6 of the PG Rules: Confidentiality and Confidentiality, pursuant to Art. 63, paragraph eighth PG's Rules of Procedure. This makes it easier for members of the bank to fill out and notarize in advance. These Terms of Confidentiality and Confidentiality shall be attached to the proceedings upon defense;
> 4. Once the process for constitution of the bank is delivered to PRPGP, it will forward to the NIT for analysis and opinion, in compliance with Article 73, first paragraph of the PG's Rules of Procedure. If the opinion of the NIT is favorable, PRPGP will

> forward the process to DERCA for student release and then return to PRPGP for issuing the ordinance to the defense;
> 5. The defense must be closed to the public and obey the other usual and compatible procedures, defined in the general rules of PG;

On the other hand, from the valuation of intellectual property in the public university, the importance of using patent banks as sources of information consultation in the research and development activities performed by these institutions is registered. Therefore, the search for information by excellence in universities consists of searching for scientific publications in books and journals. However, most recent technological knowledge is exclusively disclosed by patent documents, considered the most complete of research sources.

In addition to access to current information, the use of patent banks avoids the investment of time and resources in research of already developed technologies, whose estimates in the European Community indicate the annual waste of £ 20 billion (UFRGS, 2003, p. 57). Moreover, the respective element increases the attractiveness of the eventual private partner, not only by reducing the risk of investing in something already protected, but also because of the information obtained and directed to demands that meet the market.

Thus, there is a need for awareness and qualification of actors directly involved in the university to use patent banks as a tool for the elaboration of their research. In this context, there is the importance of knowledge about specific search elements, such as the International Patent Classification (ICP), derived from the Strasbourg Agreement, which hierarchically separates branches of technology and allows the identification of documents. technology, as well as the logical, truncation and proximity operators, which are fundamental in the search for patent documents.

As well, it is noteed the existence of important free electronic patent banks, such as the INPI, which informs the applications made in Brazil, Latipat, which allows the search for patents filed in Spain and Latin American countries, Espacenet, which has patent information from more than 90 countries, and Patentscope, which also provides patent data from more than 40 countries. UFPel's prediction (2018, p. 3) for the researcher's forwarding of the NIT's prior search form is recorded, as well as UFSM's commitment (2016, p. 6) to make the search engine anteriority available.

In fact, given the particularities of systems and the possible difficulties and lack of culture in the use of patent banks, the importance of the NITs is emphasized, both in support of the researcher and in the dissemination of this tool within the institution for fulfillment of the intended purposes. Even NITs can, through CAPES, have access to the paid Derwent World

Patents Index, an important research tool that combines more than 40 patent workshops worldwide (CAPES, 2008, p. 1).

Actually, the NIT is the fundamental and obligatory structure for universities, according to art. 16 of Law nº 10.973/2004, to obtain the results intended by the legislator. Above all, regarding the approximation and interaction between universities and companies, as well as about education and promotion of innovation among leaders, researchers, students and servants of public universities, in order to foster in this environment the innovative culture and the protection of industrial property, object of significant appreciation by Law nº 12.243/2016.

The Law nº 10.973/2004 records the possibility of delegating the representation of the public university to the manager of the NIT (art. 16, § 2) and the possibility of constituting the NIT with its own private and non-profit legal personality (art. 16, § 3) or in the form of a support foundation, giving prestige to the nucleus as an essential organ for innovation policy and giving greater autonomy, flexibility and simplification to processes (RAUEN, 2016, p. 33). In addition to achieving innovative results, NIT qualification increases legal certainty and the attractiveness of private investment.

For the proper exercise of their duties, the importance of structuring the NITs should be mentioned. In particular, despite the possible difficulties in its composition, especially in the absence of specific staff for its performance, there are no obstacles to the activity of the employees already working within the universities, as they end up hosting innovation activities, although often not expressly, but related to teaching, research and extension activities.

In addition to the awareness of the importance of intellectual property, it is observed that the activities related to the management and protection of these assets in the public university can be performed by teachers and administrative staff of these institutions, places that contain diverse talents with different backgrounds. professionals and academics who can contribute to the proper formation of the NIT and the internal treatment of the subject. In particular, it is verified that the attributions of the professors of public universities are foreseen in article 2 of Law nº 12.772/2012:

> Art. 2 The activities of Careers and Individual Positions of the Federal Teaching Careers and Positions Plan are those related to teaching, research and extension and those inherent to the exercise of direction, counseling, leadership, coordination and assistance in the institution itself, in addition to those provided for in specific legislation.

Therefore, it is observed that the tasks focused on innovation, either because they are linked to research, or even to the management of assets and the institution itself, end up allowing

the activity of teachers in these activities. In the same vein, it is observed the attributions of administrative technicians in education, as for example in the case of administrative assistants, whose activities, in summary form, are provided for in Circular Letter nº 015/2015/CGGP/SAA/SE/MEC:

> Provide administrative and technical support in the areas of human resources, administration, finance and logistics; serve users by providing and receiving information; handle varied documents, fulfilling all the necessary procedure regarding them; prepare reports and spreadsheets; perform office areas services. To assist in teaching, research and extension.

Once again, it is possible to observe the participation of the employees in the tasks related to innovation, especially related to their advice. In addition to the inclusion among the tasks already foreseen, one remembers the current remarkable presence of public administration, focused on the efficiency and control of the results of activities according to their complexity, rather than the precise and exhaustive definition of each assignment.

Still, it should be noted that some of the activities of the NITs end up being outsourced, as in the case of services of protection offices and patent drafting, due to the absence of trained professionals (GARNICA; TORKOMIAN, 2009, p. 631). In particular, some of these activities, in theory, may be performed by the university staff themselves. Therefore, the professionals selected for these tasks should be properly trained and qualified, encouraging debate and qualification on the subject in the internal environment..

In the case of drafting patents, for example, eventual servers specializing in the same area of developed technology can contribute to meeting legal requirements. In particular, the difficulty of the activity is not ignored, which has several normative requirements, provided, above all, in Normative Act nº 127 and Normative Instruction nº 031/2013, both of INPI. The different recipients of the wording are added, such as the examiner for convincing patentability, the courts in any disputes and possible interested parties in the industrial production of technology (UFRGS, 2003, p. 58). However, what is observed is a new activity, which denotes natural difficulties and initial resistances, which suggest the appreciation of the possibility, or not, of care in the institutional context.

In addition to the technical and administrative performance of the civil servants, regarding the legal aspects, although it is possible to analyze the use of protection offices, it is noted that the representation and orientation of public universities is performed through their Attorneys. At the federal level, the judicial and extrajudicial representation of the federal public universities and of the INPI itself is performed by Federal Attorneys, belonging to the same

agency, the Federal Attorney General linked to the Federal Attorney General, pursuant to art. 10 of Law nº 10.480/2002.

Such institution, besides having a qualified technical staff, since as mentioned above, it even represents the National Institute of Industrial Property itself, with the emergence of new themes, it will naturally seek updating and training, as well as the standardization of understandings on contemporary issues, generating a healthy cycle about the debate and learning of the theme within the entire federal administration. Accordingly, the NITs should use the available and qualified legal framework within the public university, whether in consultancy or advising, to enforce intellectual property protection.

A possible alternative to the lack of staff and other resources is the association of NITs between different Universities, adding physical, structural and financial efforts. In the point, Querido's analysis (2011, p. 86 and 87), pointed out that, in Brazil, "only one Technological Innovation Center concentrated 52.40% of deposits, 56,41% of concessions and 65,47% of deposits patent licensing in Brazil (1997-2008) ", while" 79,4% of NITs have a small number of filings ".

Besides, the same survey indicates that "56,04% of NITs have up to 3 employees on their staff" (QUERIDO, 2011, p. 71-72). In addition, the study reports that from 1997 to 2008, 59% of NITs filed up to 3 patent applications with INPI (QUERIDO, 2011, p. 73), which demonstrates the possibility of intellectual property-related idleness with training. servers at each university. And in contrast to this demand, there is a significant creation of NITs in the country, with a "309% expansion between 2006 and 2011, from 43 to 176" (BORTOLINI et al., 2014, p. 6). Thus, these numbers indicate the importance of using NITs in an articulated, networked or associated manner, in order to optimize resources.

In particular, there are important networks, such as the National Forum of Innovation and Technology Transfer Managers (FORTEC), in collaboration with the improvement of the system and structuring of the ITNs (QUERIDO, 2011, p. 84), the Intellectual Property, Cooperation, Negotiation and Commercialization of Technology (REPICT), the Mining Network of Intellectual Property (RMPI), and the Gaucho Network of Intellectual Property (RGPI), which has 14 associated institutions, being four public universities (ALVES et al (2015, p. 633). With regard to the latter network, for example, there is, besides the small participation of public universities, the apparently focused focus on awareness-raising and training activities on intellectual property.

Although networking training is appropriate and relevant, it is not to be confused with the formation of an NIT that associates more than one university, a faculty provided for in the caput of art. 16 of the Law of Innovation. In the point, it is observed that the former MCTI regulated in 2014, through Ordinance nº 251, of 12/12/2014, the arrangements of Technological Innovation Centers, determining that, within the scope of MCTIC, the ICTs to associate. As a result of this regulation, it is mentioned the constitution of NITRio, Technological Innovation Center of Research Units of the Ministry of Science, Technology, Innovations and Communications in Rio de Janeiro, which serves 8 (eight) different research units.

Therefore, instead of establishing an NIT at each public university and networking from the independent structure of each institution and with more capacity-building activities, one could consider forming an NIT that links more than one university. , reducing costs, optimizing and sharing resources, allowing to honor any technological vocations and local and historical characteristics of the nearest institutions and related research.

Finally, it is noteworthy that article 26 of the Innovation Law started to require from universities the mandatory association of legal provisions with training of students and staff under their responsibility. As seen, measures to stimulate innovation in the public and private spheres, in a simplified and effective way, and institutionalize patents in the public university, which represents a further challenge to the leading institutions of the innovation system, in an attempt to acclimate the national scenario and compliance with normative purposes.

The inclusion of art. 26-A of the Innovation Law, which strengthens the imposition of the application of legal provisions to universities, as it softens the incidence of provisions for Scientific, Technological and Innovation Institutions (ICT) that carry out activities of production and supply of goods and services. such as EMBRAPA and FIOCRUZ (NAZARENO, 2016, p. 13), further denoting the relevance of industrial property at the university level.

The interesting example of the CAPES Evaluation Board in the area of Biotechnology is noted, which, in the last evaluation report of the Brazilian Graduate Programs, considered, in a prominent way, the presence of Patent and Intellectual Property disciplines. as a criterion of excellence of the courses. Note the excerpt of the quantitative program evaluation criterion (CAPES, 2017, p. 7):

> The existence of disciplines of importance to Biotechnology was also observed (Business Management, Patent and Intellectual Property, Entrepreneurship and Innovation, among others), as well as updating the curriculum and references of program subjects.

Thus, the mechanisms for the fulfillment of the legal purpose should be adequately discussed within the institutions, considering the teaching related to industrial property in an interdisciplinary way, and not only in legal units, in order to provide a broad knowledge of human resources. about the legal devices.

Analyzing elements that aim to contribute to the proper treatment of research and development activities in the university scope, it is begined to analyze experiences of institutional care with the creations developed in public universities.

2. FROM INSTITUTIONAL TREATMENT TO CREATIONS

With regard to the institutional treatment of creations, the need for a careful verification of the institution's interest in guaranteeing creation is initially addressed, especially due to the difficulty of protecting any invention or innovation obtained by these Institutions, which deserves rigorous analysis.

In fact, in addition to the effective impact of technology, especially in order to achieve state-promoted interests, the protection of industrial property requires the disbursement of significant resources and resources, not only to obtain but also to maintain this privilege, demanding responsible treatment in the protection of intellectual property. In addition, there is an overload of activity of the INPI, whose average term for patent analysis and granting is around ten years (INPI, 2018b, p. 4), which indicates the inconvenience of the mere formal registration in the face of reality. of protection system.

In addition, the intention is to seek that technologies are effectively transferred to society. And in particular, it is observed in a doctoral research that analyzed several NITs of universities in the country, that only 8.96% of patents were licensed (QUERIDO, 2011, p. 76), indicating the need for concern with the deposit that allows the effective transfer of technology to the community. Consequently, not every invention and innovation developed at the University should be protected and the technological and social development should be privileged.

And so, Universities should make a careful assessment of the institutional interest in the protection of the invention that, theoretically, would be their ownership, under penalty of responsibility. This assessment task, under the terms of article 16, IV, of Law nº 10.973/2004, is among the NIT's attributions, which may be used by professionals of the Institution itself or by any external consultants to define the effective interest of the Company. university in protection.

In this sense, the regulation of the Federal University of Santa Maria is observed, which, through Resolution nº 022/2016, defined the internal policy for the protection of intellectual property internally, establishing a specific chapter on economic viability, namely the Chapter X. In this section, the wording of paragraphs 1, 2, 3 and 4 of art. 33 of Resolution nº 022/2016, which states that "the analysis of UFSM's interest in the protection of intellectual property, carried out by AGITTEC, shall take into account the technical and economic viability of the commercial exploitation of Creation", demanding detailed technical advice. , which may have external consultants (UFSM, 2016, p. 12).

In the same vein, there is Resolution 49, of September 27, 2012, from the Federal University of Pampa, which establishes in its article 13 that the analysis of the institutional interest in the protection of creation "must take into account the feasibility of commercial exploitation of the product or process developed by the creator, through the opinion of the NIT "(UNIPAMPA, 2012, p. 3-4).

It should be noted that, if the Institution's interest in protection does not exist, using Article 11 of the Innovation Law and Article 13 of Decree nº 9.283/2018, the University may assign its rights to creation through express and motivated expression. , for non-consideration, in the cases and conditions defined in the regulations, so that the respective creator may exercise them in his own name and under his full responsibility. It is only emphasized that, pursuant to the sole paragraph of article 11 of Law nº 10.973/2018 and paragraph 1 of Article 13 of Decree nº 9.283/2018, the respective decision shall be taken by the institution's senior officer, after hearing the NIT, and shall be adopted expressly within a maximum period of up to six months, as provided for in §2, art. 13 of Decree nº 9.283/2018.

Beyond the institutional treatment given to the evaluation of creation, it is necessary to analyze and clear knowledge about the ownership of the invention within the universities. And in particular, art. 88 of Law nº 9.279/96 establishes that the patent belongs exclusively to the employer when it results from an employment contract whose execution occurs in Brazil and has as its object the research or inventive activity. Thus, either because of public researchers, mostly university professors, or because of the public resources used, or the public activity performed at the university level, it can be seen that, almost all, the patent developed within the University has to treat yourself as the public university.

In this logic and using this legal provision, some universities have expressly established in their internal sphere, what would be their ownership. The case of the Federal University of Santa Catarina (UFSC) is mentioned, for whom it belongs to the intellectual creation developed within its scope, resulting from the work of human resources, the application of budget

appropriations with or without the use of data, means, information and equipment, regardless of the nature of the existing relationship with the creator (PIMENTEL, 2005, p. 31).

In the same vein, the Federal University of Rio Grande do Sul (UFRGS) defined as being the exclusive property of the Institution the industrial property rights developed within its scope, as long as it results from the application of human, budgetary and / or resource use data. means information and equipment of the university or performed during working hours, regardless of the nature of the bond between the institution and the inventor (UFRGS, 2003, p. 31).

Similarly, the Federal University of Rio Grande (FURG), through Resolution nº 003/2014 of the University Council, considers itself to be the "holder of the intellectual property rights of the creation generated on its premises or through the use of its resources. financial or infrastructure "(FURG, 2014, p.1).

It is highlighted the different treatment given to copyright, which belongs solely to the author, in spite of being allowed to assign the patrimonial rights on the work, allowing its exploitation by the university, free or for free. In this sense, Pimentel (2005, p. 37) notes, supported by the treatment given by UFSC, that copyright, whether property or moral, on the publication will belong entirely to its authors. The property rights may be assigned to the University, through assignment agreement or copyright license.

In particular, the exception derives from the treatment of computer programs that, although belonging to the copyright group, identify with industrial property with respect to ownership. In fact, according to article 4 of Law nº 9.609/98, it is observed that the rights arising from computer programs must belong exclusively to the employer, service contractor or public agency.

At the point, however, it should be noted that there may be specific regulations differently. The example of the Federal University of Pelotas is mentioned, which excepted the ownership of computer programs, by means of Resolution nº 33/2018, in its art. 2, Paragraph 1, which will only belong to "UFPel when, under the terms of the law, they are developed upon demand or bond with an express purpose and to meet its interest, through a specific project for this purpose" (UFPEL, 2018, p . 2).

In the case of Campinas State University, computer programs are, as a rule, from the University. However, according to item 2.1.4 of Annex I of Resolution CONSU-A-016/2010 of November 30, 2010, the programs are equivalent to other copyright creations if "the source codes of these programs are previously made available to the general public free of charge via the Internet, accompanied by a license guaranteeing their free use "(UNICAMP, 2010, p. 2).

In addition to ownership and assessment of creation, it is considered relevant to address the sharing of economic gains at the institutional level. This therefore, from the provisions of art. 93 of Law nº 9.279/96, Decree nº 2.553/98, Ordinance nº 322/98 of MEC and Article 13 of the Innovation Law, the creator is guaranteed a minimum of 5% (five percent) and a maximum of 1/3 (one third) in the economic gains earned by the university as a result of technology transfer and licensing agreements for the granting of rights of use or exploitation of protected creation of which the inventor, obtainer or author was the author. As can be seen, the purpose of the forecast is to stimulate researcher participation in the development of new technologies through remuneration.

And in the species, it should be noted that, although the legislation establishes a minimum of 5% and a maximum of 1/3, that is 33.33%, to be destined to breeders, it is observed that there is an apparent preference of the institutions in question. establish, in advance, the maximum remuneration of the breeder. In this sense, for example, it is can seed the position of UNICAMP (2010, p. 4), UFSM (2016, p. 13) and UNIPAMPA (2012, p. 4), citing the normative provision of the latter, provided for in Resolution nº 49 of September 27, 2012:

> Article 15 The economic gains resulting from the exploitation of scientific and technological creation or production protected by intellectual property rights, embodied in the net income actually earned by UNIPAMPA, are divided into equal portions between:
> I. the Technological Innovation Center;
> II. the Academic Units or agencies where the activities were carried out which resulted in the creation or protected scientific and technological production;
> III. the author or authors of the creation or protected scientific and technological production, indicated in the sections of Article 4.

It is noteworthy that, under the terms of art. 13, paragraph 2, of the Innovation Law, the economic gain is calculated from the deduction of costs, expenses, charges and legal obligations arising from the protection of intellectual property and the costs of the creation of the university's creation, in the case of direct exploitation. Regarding expenses with the filing of creation, it should be emphasized that INPI, through Resolution/INPI/PR nº 190, of May 2, 2017, eliminated the filing of paper patents, now providing for it only through electronic, and defined the values of the Institute's services.

Based on that Resolution, it is noted that public universities enjoy a discount of up to 60% of services, indicating that the values practiced, although representing costs and should be properly applied, as already highlighted in the need for evaluation of the invention, are not manifestly Excessive. In fact, from that document, it is cited as an example the amount for electronic filing of a national patent application that is R$ 70.00. The request for an examination

of invention, to be made after 18 months of the deposit, costs R$ 236,00 up to 10 claims. The annuity of the patent application within the ordinary term is set at R$ 118.00. The issuance of patent letters in the ordinary term is set at R$ 94.00, and patent annuities in the ordinary term start at R$ 312.00 for public universities.

As for international patents, the costs will presumably be higher. In this case, an interesting solution regulated by UFPEL (2018, p. 8) should be highlighted, which stated that in the case of the internationalization of the patent protection of the University, it will depend on the existence of an interested partner or the demonstration of the economic viability of the University. internationalization and the maintenance of the order and registration abroad. Observe the art. 17 and 18 of UFPEL Resolution nº 33/2018:

> Art. 17. The process of internationalization of the protection of technologies owned by UFPel, via the CUP (Paris Union Convention) or through the PCT (Patent Cooperation Treaty), will depend on the existence of a partner, co-owner or licensee, interested in the economic exploitation of the technology, and shall be provided for and regulated by the Results Division Agreement, License Agreement or the like, as the case may be.
> Art. 18. The Creator (s) or co-holder (s) may, within a maximum period of up to 9 (nine) months from the date of the execution of the national protocol, request from the CIT the beginning of the process of internationalization of protection, via the CUP (Paris Union Convention), the PCT (Patent Cooperation Treaty) or another way to which Brazil is or will be a signatory, to which commercial use of technology that demonstrates the economic viability of internationalization and the maintenance of foreign application or registration.

Besides the remuneration mechanism destined to the creators, it is observed that another form of incentive to the researcher consists in the valorization of the patent as intellectual production in the university scope. As mentioned in this paper, the prestigious way to disseminate research activities among researchers is to publish papers in scientific journals. However, given the current factual and normative context, there is a need to institutionalize the production of patents among the research and development activities of the servers involved.

In this regard, it is important to highlight the important role of the CAPES Biotechnology Evaluation Committee, which defines the criteria and ways of evaluating the Graduate Programs of that area in the country, since not all areas of knowledge established by CAPES adopt parameters for patent valuation (VEIGA; FERREIRA, 2015, p. 37). To this end, an effort has been observed more recently to enhance the value of patents between the activities of teachers and the quality of graduate programs. The first guideline consisted of equating patents with scientific publications, producing, through Communiqué 01/2012, the following proportion (CAPES, 2012, p. 7):

> **PRESS RELEASE Nº 001/2012 - BIOTECHNOLOGY AREA**
> **AREA WEBQUALIS UPDATE**
> (...)
> **Patents (National, International), Processes / Products**
> • Patent filed in partnership with company = 1x A2
> • Patent filed with registration = 1x B1
> • Patent granted / granted = 1x A1
> • Patent licensed and producing = 5x A1
> • Product registered with the competent agency = 1x B1
> Note: In case of student involvement, a point is added, keeping the same level Qualis.

Currently, however, the respective committee has changed the form of evaluation, adjusting it to the points system and giving it autonomy in the area of intellectual production, as observed in the last quarterly evaluation available on the CAPES website (2017, p. 6-7):

> **Technology Production Assessment**
> The technological production considered relevant to the Biotechnology area (Patents or registered products) was adjusted by the points system, adopting the following values:
> • Patent licensed and producing = P1 = 500 points (up to 2 per program)
> • Patent granted / granted = P2 = 100 points
> • Patent filed in partnership with company, or international filing = P3 = 85 points
> • Patent filed OR product registered with the competent agency = P4 = 70 Points

It is noted in the same document that the evaluation of technological production is within the item of evaluation of intellectual production, along with qualified publications and the distribution of publications among the faculty of the Programs, indicating the valorization of patents as a way of individual and collective performance of the Program to which the researcher is linked in the scope of his activities. Likewise, it is cited an excerpt from the evaluation of the questions related to professional masters, which highlights the importance attached to patents, in harmony with the normative purposes (CAPES, 2017, p. 14):

> Intellectual Production (scientific and technological) was the most important item in the evaluation of programs, including the number of scientific publications qualified by NP, the number of patents and technological products by NP and the distribution of this production.

Thus, the importance of the valuation of obtaining patents among the activities of researchers at the university level is observed, as well as in the evaluation of Graduate Programs, the main granaries of new researchers, which has an impact on the encouragement and even greater incentive for the adequate one. intellectual property treatment at the public

university. Such circumstance becomes relevant, since, being the university of a public institution, it will not, as a rule, seek to obtain profits, being able to dispose of the protected creation for free. Thus, there is a need for other forms of incentive to actors, such as adequate intellectual recognition of innovative activity regardless of the resources obtained within the university.

On the other hand, regarding the remaining financial resources perceived by universities as a result of the exploitation of intellectual property, according to the previous provision of article 18, sole paragraph of Law nº 10.973/2004 and article 19, paragraph 1, of the repealed Decree nº 5.563/05, the values should be applied exclusively to institutional research, development and innovation objectives.

In the point, although Decree nº 9.283/2018 did not regulate the subject and Law nº 13.243/2016 modified the wording of article 18 of Law nº 10.973/2004, in this last provision there is already indication in its sole paragraph of funding, management and applying the university's own recipes to institutional research, development and innovation goals. Thus, both on the basis of the current article 18, sole paragraph, of Law nº 10.973/2004, as well as the historical wording of the same provision and the repealed Article 19, Paragraph 1 of Decree nº 5.563/05, the application of the resources linked to research, development and innovation activities in order to further stimulate the development of new technologies.

In the species, it appears that UFSM, under the terms of art. 37 of Resolution nº 22/2016, establishes the allocation of one third to the NIT and one third to the organ to which the creator belongs, without specifying, in advance, the destination of the institutional resource (UFSM, 2016, p. 13). In the same vein the guideline of UNICAMP (2010, p. 4) and UNIPAMPA (2012, p. 4). The FURG, on the other hand, indicates that the remaining 1/3 after the allocation of 1/3 of the creators and 1/3 of the unit should be applied to the development of Institutional Programs, not limited to the activity focused on innovation (FURG, 2014, p. 2). Still, as mentioned, it is suggested that any redundant resources of these activities should be earmarked for innovation, and consequently, for obtaining new intellectual property titles.

It should be noted that the administration of financial resources obtained within the University, in addition to sharing the participation due to the researcher, based on a systematic analysis of the Innovation Law, should be done by the Institution itself through its NIT. However, as already indicated, it is noted that Law nº 13.243/2016, modifying Article 18, sole paragraph, of the Innovation Law, established the possibility that the management of the University's own revenues arising from the economic gains provided for in Article 4. 8, 11 and

13 of the Innovation Law, as long as provided in a contract or agreement and applied exclusively to institutional research, development and innovation objectives, including the institutional project portfolio and innovation policy management, are delegated to foundations of which maintain relationships with the public universities of the country, based on art. 1 of Law nº 8.958/94. In addition to seeking simplification and speed in management processes, the change is seen as a breakthrough "in reducing legal uncertainty about procedures for fundraising, as well as greatly encouraging the involvement of ICTs in innovative activities" (RAUEN, 2016, p. 26).

Still regarding the institutional treatment given to the creations, it is recalled that the universities carry out research projects and activities in partnerships with public and private institutions, regulated by Decree nº 9.283/18 and properly stimulated by the Innovation Law. Therefore, seeking to avoid future conflicts and litigation, it is mandatory in the contracts, agreements, agreements and adjustments in which the university participates with the objective of research and development the inclusion of provisions and clauses regulating intellectual property rights for each of the involved.

In particular, it is important to highlight the important practical achievement of the universities, consisting in the negotiation of intellectual property ownership with one of the largest investor companies in technological research at the national level, namely, Petrobras. This is because, until 2013, everything that was developed in partnership with universities was entirely from Petrobras. However, after an agreement between Petrobras and the National Association of Directors of Federal Higher Education Institutions, ANDIFES, three ownership options became possible: "80% (PETROBRAS) and 20% (universities); 50% (PETROBRAS) and 50% (universities); and 20% (PETROBRAS) and 80% (universities) "(BUENO et al., 2017, p. 75).

It is not forgotten that the need for provision regarding the ownership of intellectual property in the university scope is not new, since 1998 has been provided for by Article 9 of Ordinance nº 322/98 of the Ministry of Education. Indeed, this provision already stressed that in the execution of contractual instruments related to activities that may result in protected intellectual creation, the organs and entities linked to the MEC, such as universities, should stipulate confidentiality clauses, ownership and participation of each creator. in protected intellectual creation. And such obligation was reproduced in art. 9, § 2, of the Innovation Law and in art. 3, § 4, of Decree nº 9.283/18, requiring not only the development of technology research networks in partnerships, but the provision, in a specific legal instrument, of the

ownership of intellectual property and participation in the results of the exploitation of creations arising from the activity. in partnerships.

In order to fulfill the commandment, one can observe the example of the Federal University of Rio Grande - FURG, through Resolution nº 03/2014, which determines the mandatory regulation of intellectual property in all its adjustments (FURG, 2014, p. 01):

> Article 3. The covenants, cooperation agreements and contracts signed by the Federal University of Rio Grande with its partners, with the purpose of developing research that may result in creation to be protected, shall obligatorily contain a regulatory clause of intellectual property, confidentiality and benefit-sharing.

It should be noted that although the provisions indicate, as a rule, the need for the prior definition of industrial property in the face of research whose contribution from each party is difficult to prospect, the new §3 of art. 9 of the Law of Innovation softens the commandment in an exceptional situation, allowing the subsequent assignment of industrial property rights of the university to the private partner, in the face of compensation, which may be financial or non-financial, as long as economically measurable.

Finally, it is important to note that prior adjustments regarding intellectual property ownership include the financial constraints of universities in the protection and maintenance of such titles, suggesting, for example, that "international protection expenses should be responsibility of the private sector partner, always respecting the regularity" (CARVALHO, 2015, p. 137).

CONCLUSION

The work aimed to identify, address and systematize some good practices of public universities for the protection of intellectual property, in order to contribute to the strengthening of the protection of intangible assets in these institutions, starting with the treatment given to research and development activities.

Regarding the publication of works, in spite of the scientific publication being one of the main mechanisms of evaluation of the scientific production of the Universities, it was found that the dissemination of these works can affect the legal protection, besides hindering the interaction with private agents, attracted by security and obtaining the title deed. Furthermore, unlike the traditional free dissemination of consolidated knowledge in these institutions, it was found that there are provisions in the national context that determine the confidentiality of those involved, enshrining the principle of confidentiality, in order to safeguard the novelty. Aiming

to face this circumstance, it was mentioned the action of UFPel, which established the process of notification of invention, reinforcing the duty of confidentiality of its researchers, to whom the duty to report to the NIT the potentially appropriate activities.

Concerning the monographs, dissertations and theses, it was verified again the necessary concern with the novelty requirement, which results, besides the sensitization and effective participation of the researchers, since in face of commandments that now require the confidentiality of the information, the indispensability of the NIT to ensure the right to protection, without offending the legal requirement. In addition, the possibility of harmonic coexistence between confidentiality and effective protection was verified, with subsequent publication, recording the regulation performed by UFSM, which established the procedure for the defense of dissertations or theses confidentially.

Moreover, it was emphasized that although there is the prestige in the university for the search for information in magazines and periodicals, there is a need to value the patent banks. It was found that in this case, besides access to current information, the use of patent banks avoids the investment of time and resources in research of already developed technologies. Moreover, the respective element increases the attractiveness of any private partner, not only by reducing the risk of investing in something already protected, but also because of the information obtained and directed to demands that meet the market. The existence of important free patent banks and the relevance of the NIT in monitoring and advising on this activity were highlighted.

Regarding to the NITs, it was found the importance of training and qualifying the nuclei to obtain the innovative results intended by the legislator, as well as the attractiveness of investment by the private sector. The importance of its structuring was mentioned, which could count on teachers and administrative staff of the institutions, as well as the legal support of their own Attorneys. As an alternative to the lack of staff and financial resources, based on a doctoral research that indicates the possibility of idleness of individual structures in each university, in contrast to the growing number of nuclei in the country, it was suggested to structure the NIT in networks or jointly between universities for resource optimization.

In addition, it was found the obligation of associating the legal provisions to training actions of students and servants under the responsibility of universities, without distinction of scientific area. Thus, the relevance of teaching related to industrial property in an interdisciplinary way was identified, and not only in legal units, providing the knowledge of those involved about the legal provisions. In this regard, it is highlighted the initiative of the CAPES Evaluation Department in the area of Biotechnology, which, in the last evaluation

report of the Brazilian Graduate Programs, considered, in a prominent way, the presence of Patent and Property disciplines Intellectual as a criterion of excellence of the courses.

In addressing the institutional treatment of creations, is was found a need for careful evaluation of the institution's effective interest in protection, under penalty of the institutions' responsibility, allowing for the assignment of ownership rights to the inventor himself, mentioning UFSM and UNIPAMPA regulations, which require the feasibility analysis of the protection. Moreover, it was noted that, as a rule, the ownership of the work developed through research belongs to the University itself, either because of the public researchers, mostly university professors, of the public resources used, or even of the public activity performed in the University. In addition to the predictions given by UFSC, UFRGS and FURG about your ownership, the exception of the computer program was noted, indicating the predictions of UFSC, UFPEL and UNICAMP.

Besides, it was observed that, although the ownership belongs to the public institution, the normative texts assure the collaborator the sharing in the economic gains, from the provisions of art. 93 of Law nº 9.279/96, Decree nº 2.553/98, MEC Ordinance nº 322/98 and Article 13 of the Innovation Law. In addition, it was found that while the legislation establishes a minimum of 5% and a maximum of 1/3 of the earnings to be earmarked for breeders, there is an apparent preference of the institutions to establish, in advance, the maximum remuneration to the breeder, citing the position of UNICAMP, UFSM and UNIPAMPA.

In addition, it was found that the economic stimulus should not be exclusive, especially due to the lack of lucrative purpose of the universities, suggesting measures of valorization of the intellectual and academic production of patents in the activities of public university servants. And in this point, the valorization of the patents between the activities of the teachers and the quality of the Graduate programs given by the CAPES Biotechnology Evaluation Committee was identified.

In conclusion, it was noted the need for clauses in specific instruments dealing with intellectual property in any contract, agreement or adjustment with public and private entities, either to meet legal requirements or to avoid future disputes, citing the regulation of the FURG. It was also highlighted the exceptional possibility of later assignment of industrial property rights to the private partner, through compensation, as well as the concern about universities' restrictions on title maintenance costs, suggesting the negotiation with the private partner.

Thus, highlighting the importance of the measures already adopted by some institutions, in prestige to the new normative scenario, it is observed the importance of measures that aim

not only to acclimatize the national scenario, but also the fulfillment of the normative purposes and the strengthening of appreciation of intellectual property in the public university.

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