

**THE IMPLEMENTATION OF INTELLECTUAL PROPERTY IN PUBLIC
UNIVERSITY FROM THE BRANDS OF INNOVATION**
A IMPLEMENTAÇÃO DA PROPRIEDADE INTELECTUAL NA UNIVERSIDADE
PÚBLICA A PARTIR DOS MARCOS DA INOVAÇÃO
LA IMPLEMENTACIÓN DE LA PROPIEDAD INTELECTUAL EN LA UNIVERSIDAD
PÚBLICA DE LAS MARCAS DE INNOVACIÓN

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ABSTRACT

This paper aims to demonstrate the implementation of intellectual property in the Brazilian public university, based on the commandments provided for in the Innovation Law, the Innovation Amendment and the Legal Framework for Innovation. This is because, these instruments, seeking to acclimate the national scenario, which holds the leading role of research activities in the public university and an imbalance between potentiality and effective innovation, besides encouraging innovative creations, impose the protection of the result of this work State-stimulated research, whose main instrument is industrial property. Thus, given the diplomas focused on innovation, the study indicates the relationship between these, intellectual property and the public university. In addition, it highlights the provisions of these three diplomas focused on intellectual property and creation, which demonstrate the implementation and enforcement of intellectual property protection in the public university. Compliance with these provisions becomes essential, not only for changing national performance, but also for the fulfillment of commandments and normative objectives.

KEYWORDS: Innovation. Intellectual Property. Public University

RESUMO

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O trabalho pretende demonstrar a implementação da propriedade intelectual na universidade pública brasileira, a partir dos mandamentos previstos na Lei da Inovação, na Emenda Constitucional da Inovação e no Marco Legal da Inovação. Isso porque, estes instrumentos, buscando aclimatar o cenário nacional, o qual detém o protagonismo das atividades de pesquisa na universidade pública e um desequilíbrio entre a potencialidade e a efetiva inovação, para além de incentivarem criações inovadoras, impõem a proteção do resultado deste trabalho de pesquisa estimulado pelo Estado, cujo principal instrumento consiste na propriedade industrial. Assim, diante dos diplomas voltados à inovação, o estudo indica o relacionamento entre esta, a propriedade intelectual e a universidade pública. Além disso, destaca os dispositivos destes três diplomas voltados à propriedade intelectual e a criação, os quais demonstram a implementação e a obrigatoriedade da proteção da propriedade intelectual na universidade pública. O atendimento destes dispositivos torna-se essencial, não apenas para a alteração do desempenho nacional, mas também para a concretização dos mandamentos e objetivos normativos.

PALAVRAS-CHAVE: Inovação. Propriedade Intelectual. Universidade Pública

RESUMEN

Este trabajo tiene como objetivo demostrar la implementación de la propiedad intelectual en la universidad pública brasileña, con base en los mandamientos previstos en la Ley de Innovación, la Enmienda de Innovación y el Marco Legal para la Innovación. Esto se debe a que estos instrumentos, que buscan aclimatar el escenario nacional, que tiene el papel principal de las actividades de investigación en la universidad pública y un desequilibrio entre la potencialidad y la innovación efectiva, además de alentar creaciones innovadoras, imponen la protección del resultado de este trabajo. Investigación estimulada por el estado, cuyo instrumento principal es la propiedad industrial. Por lo tanto, dados los diplomas enfocados en la innovación, el estudio indica la relación entre estos, la propiedad intelectual y la universidad pública. Además, destaca las disposiciones de estos tres diplomas centrados en la propiedad intelectual y la creación, que demuestran la implementación y aplicación de la protección de la propiedad intelectual en la universidad pública. El cumplimiento de estas disposiciones se vuelve esencial, no solo para cambiar el desempeño nacional, sino también para el cumplimiento de los mandamientos y objetivos normativos.

PALABRAS CLAVE: Innovación. Propiedad Intelectual. Universidad Pública

INTRODUCTION

In Brazil, public universities currently receive state priority treatment for the development of new technologies, with a predominance of research activity. As a result, the country has reached 13th place in international scientific publications. In addition, the public universities, at the National Institute of Intellectual Property (INPI), among the ten largest patent filers resident in the country in 2016 and 2017, held nine places. However, alongside this important performance, there is an imbalance in the international context between the potentiality and effective innovation in country.

In fact, while the country ranks 13th in research publications worldwide, it ranks 69th out of 127 countries in terms of innovation. Regarding patents, considering the deposits made at the INPI, 74% of 2017 applications were filed by foreigners. In addition, it is observed that the country, in 2017, using the Patent Cooperation Treaty (PCT), filed 593 applications, representing around 1% of deposits made by the leading country, which held 56.624 deposits.

Seeking to acclimate this scenario, the Innovation Law, Law n°. 10.973/04, the Constitutional Amendment of Innovation, EC N°. 85/2015, and the Legal Framework of Science, Technology and Innovation, Law n°. 13.243/2016, besides encouraging creations innovative, impose the protection of the result of this research work stimulated by the State, whose main instrument is industrial property. Given this context, is identified the importance of valuing the protection of intellectual property in the public university. Moreover, besides studies that encourage public and private partnerships, and the approximation of universities in the industrial sector, is verified the relevance of research that strengthens the protection of the results already developed in these institutions. Likewise, in addition to the central role of innovation policies for national development, is noted the actuality of normative diplomas, demanding reflection on how many consequences they have in public universities.

Thus, the work, carried out in September 2019, aims to demonstrate the implementation of intellectual property in the Brazilian public university, based on the normative commandments provided for in the Innovation Law (LI), the Innovation Amendment (EC) and the Legal Framework for Innovation. (MLI). To this end, initially the relationship between innovation, intellectual property and public university will be addressed, as well as appreciating, in the national context, the proof of this relationship, highlighting the performance of public universities. In particular, the study aims to identify the intrinsic dialogue between these elements in the country, as well as the national innovative performance and the leading role of the public university.

Afterwards, the three national diplomas aimed at expressly promoting technological innovation in the country will be analyzed and, consequently, the obtaining of intellectual property titles by public universities, namely the Law of Innovation (Law No. 10.973 / 2004), the Constitutional Amendment of Innovation (EC No. 85/2015) and the Legal Framework for Science, Technology and Innovation (Law No. 13,243 / 16). At this point, is analized the legal provisions related to intellectual property and creation, seeking to prove the obligation and the implementation of intellectual property in the public university.

1. INNOVATION, INTELLECTUAL PROPERTY AND UNIVERSITY

In Brazil, the Federal Constitution, in addition to establishing national development as one of the objectives of the State in its art. 3, II, and to provide for sovereignty as a state foundation in its art. 1, I, it inaugurated in its articles 218 and 219 the concern with science and technology, increased by innovation by EC nº 85/2015, in order to achieve the constitutional purpose. Indeed, it is observed that, today, nations are focused on the adoption of innovation for its insertion in the competitive and globalized international market, either by the reflection on the country's development, or by the eventual foreign technological dependence and compromise of sovereignty.

Currently, in Brazil, Law nº 10.973/2004, in its art. 2, IV, defines innovation as the introduction of something new or improved in the productive and social environment, as well as the addition of new functions or characteristics to existing products, processes and services. In addition, it expressly highlights one of its species in its art. 2, II, namely, the creation, consisting of goods that are protected by intellectual property. Intellectual property, for Pimentel (2005, p. 19), represents the “set of principles and rules that regulate the acquisition, use, exercise and loss of rights and interests in differentiating intangible assets that are susceptible to use in the trade”. In beetwen your goods, is highlighted for this work the patents, which according to the World Intellectual Property Organization, represent an exclusive right granted on an invention, allowing its holder to decide if this invention can be used by third parties and, in this case , in what form (WIPO, 2018a).

In particular, in addition to the legal prevision for creation as a kind of innovation, it is noted that “the idea behind the patent system is to encourage investment in innovation” (BARBOSA, 2010, p. 1). Moreover, the economic scenario shows a close relationship of these elements, so that the patent represents the opportunity for return and “retribution of society to the innovative effort” (ALBUQUERQUE, 1998, p. 89).

In addition, ownership of title reflects the economic and social development of countries, which move from being exporters of raw materials and commodities to becoming technology producers and exporters, as well as being technologically self-sufficient. Furthermore, it is noted that the Oslo Manual establishes two key families for measuring innovation. On the one hand, resources directed to Research and Development, and on the other, patent statistics (OECD, 2006, p. 29), translating these assets into an important indicator of countries' innovative potential (CRUZ, 2004, p. 12)

Furthermore to this relationship between innovation and patents, the prominent role of the public university in technological innovation and, consequently, in intellectual property is identified in the national context. In particular, given the complexity of the definition of university by means of a single and comprehensive concept (CUNHA, 2001, p. 151), Law No. 9.394/96 is mentioned, which, in its art. 52, foresees universities as “multidisciplinary institutions of higher-level vocational training, research, extension and mastery and cultivation of human knowledge”, characterized by institutionalized intellectual production, the detention of one third of teachers with masters or doctorate degrees and on a full time.

It is emphasized that the Federal Constitution established in its article 207, caput, the inseparability of the research, teaching and extension activities, demanding the fulfillment of these tasks by the public universities, which according to art. 19, I, of Law No. 9,394 / 96, will be considered public when “created or incorporated, maintained and administered by the public power”, constituting autarchies in special regime, according to the administrativist doctrine (CARVALHO, 2016, p. 179).

Given this brief characterization, it is observed that the reception of research activities and extension of their purposes, essential for the development of new technologies, already demonstrate the connection of innovation and new knowledge with the university space in the national context. Also, it is mentioned that the innovative activities are carried out mainly by technological research, one of the central objectives promoted by the Innovation Law. In addition, the Innovation Law, influenced by foreign Laws (TEDESCHI, 2011, p. 27-28), embraces a triple helix model (ETKOVITZ, 2009, p. 1), inserting the public university as the central subject of the innovation model under the name of Science and Technology Institution - ICT, and fostering their participation in the innovative environment, denoting the relationship between the elements.

With regard to intellectual property, it can be observed that the Bayh-Dole Act, issued in December 1980 in the United States, it offered an international impulse to the subject within

the university, allowing the filing of patents by universities, coming from projects funded by government sources (CHAMAS; SCHOLZE, 2000, p. 86). In the country, the subject generated more debate at the university level following the revision of the intellectual property law in the nineties (UFRGS, 2003, p. 21), in consideration of the Agreement on Trade Aspects of Intellectual Property Rights - TRIPS, which led to the approval of Law No. 9,279 / 1996. And by regulating Articles 75 and 88 to 93 of Law nº 9.279/1996, Decree nº. 2.553/98 allowed the participation of the server in the advantages gained from the exploitation of the patent, inducing discussion at the university level.

Thus, to implement this regulation, universities began to establish institutional policies related to the theme. In addition, they sought to raise awareness among their researchers about the importance of patent protection, in addition to adjusting their administrative structures, implementing procedures for the protection and commercialization of research results, and defining mechanisms for the administration and protection of their industrial property. (UFRGS, 2003, p. 21).

Currently, the relationship and prominence of the public university with innovation and the protection of intellectual property is identified in the factual scope. Indeed, Brazil ranks 13th as the largest producer of research publications in the world, although the collaboration of industry co-authors accounts for only 1% of national research papers (CROSS et al., 2018, p. 6). The same document records that the 20 universities that publish the most, and reveal the tendency of research concentration, are all public universities, being 16 federal and 4 state universities (CROSS et al., 2018, p. 42).

Similarly, it is observed in the country that, in addition to the investment in research and development (R&D) predominantly state, the percentage of federal government spending was mainly invested in the Ministry of Education, to which universities are subject. In 2015, among all then 39 Ministries, MEC was the recipient of 60% of total research and development resources (MCTIC, 2017, p. 36) and 53.2% of Science and Technology resources (MCTIC, 2017, p. 34).

In addition, of the total R&D people in Brazil, according to the latest national science, technology and innovation indicators, 69.9% are allocated to higher education, 3.3% to government and 26.1% to companies in contrast, for example, with the Republic of Korea, where 79.5% of researchers work in companies, while 12.1% are in higher education (MCTIC, 2017, p. 146). As a result of the national arrangement and dialogue between innovation, intellectual property and public university in the country, according to INPI data (2017, p. 21;

2018, p. 16), among the top ten patent filers resident in the country in 2016 and 2017, the first nine are public universities.

However, on the side to protagonism of public universities, there is in the national arrangement an innovative potential of the country that does not translate in the same proportion into effective innovation, and therefore in patents. In fact, although Brazil is currently the 13th largest producer of research publications worldwide (CROSS et al, 2018, p. 6), it ranks 69th out of 127 countries in terms of Innovation, according to the Global Index of Innovation of 2017 (GII, 2017, p.17). Similarly, from the report produced by the World Intellectual Property Organization (WIPO, 2018b) on the analysis of the Patent Cooperation Treaty (PCT),

among the top five patent filing countries in the world, it is observed that the largest depositor in 2017 was the United States with 56,624 requests, followed by China with 48,882 requests, Japan with 48,208 requests, Germany with 18,982 requests and Republic of Korea with 15,763 requests. In contrast, it is noted that Brazil has deposited 593 applications, representing approximately 1% of deposits made by the lead country (WIPO, 2018b, p. 1).

Even considering the deposits made exclusively in Brazil, at the INPI, there is also a disharmony. In the point, based on the National Indicators of Science, Technology and Innovation (MCTIC, 2017, p. 113), it is observed that, in Brazil, 31,020 patent applications were filed in the INPI in 2017. Of this total, only 8,082 were deposited by residents of the country, while 22,938, or 74%, were deposited by foreigners. Thus, while it is identified that Brazil publishes in a relevant way, has a significant number of researchers, has one of the largest economies, populations and territory in the world, and invests significantly, although not yet desirable, in research, it is verified that the country does not translate this research into the same proportion in technological innovations and, consequently, in patents.

Seeking to soften this national scenario, the Law of Innovation, the Constitutional Amendment of Innovation, and the Legal Framework of Science, Technology and Innovation, besides encouraging innovative creations, the participation of private initiative and the approximation between Universities and Companies, impose the protection of the result of this research work stimulated by the State, whose main instrument is industrial property, with the outstanding performance of the public university. Thus, there is a new political treatment given to the pursuit of innovation and the protection of research results obtained within universities, imposing on these institutions the implementation of industrial property, how will it be exposed.

2. IMPLEMENTATION OF INTELLECTUAL PROPERTY IN PUBLIC UNIVERSITY FROM THE BRANDS OF INNOVATION

In the first item of this paper we briefly checked the relationship between innovation, intellectual property and public university. Moreover, it was observed that, in the country, public universities are the main innovative potential and the main patents applicant, denoting the need for university institutional treatment on the subject.

At this time, is intended to analyze the legal instruments that aim to promote technological innovation in the country, and therefore, the obtaining of intellectual property titles by public universities, which are the Innovation Law, the Innovation Constitutional Amendment and the Legal Framework of innovation. It is noted that the paper does not intend to discuss the mechanisms of cooperation aimed at universities and companies, seeking only to highlight the legal provisions regarding intellectual property and creation that prove the implementation of intellectual property in the public university.

Thus stand out the provisions that mention intellectual property, creation, object of protection of it, and the university, in order to prove the implementation, by the national legislator, of the intellectual property protection in the public university.

2.1. Implementation from the Innovation Law

As mentioned, the emergence of the Brazilian Innovation Law (LI) was influenced by foreign norms, highlighting the role of the United States and France. In fact, the United States, through the Bayh-Dole Act and the Stevenson-Wydler Technology Innovation Act, both launched in 1980, allowed US universities to file patents, share labs and technologies, and partnerships between universities and the industrial sector (TEDESCHI, 2011, p. 27-28).

The other inspiration of Law nº 10.973/2004, the French Research and Innovation Law, No. 99-587, of 07/12/1999, established “the legal procedures of the public-private relationship, besides creating mechanisms that stimulate the technological innovation in the university environment ”(MATIAS-PEREIRA; KRUGLIANSKAS; 2005, p. 9), with an emphasis on activity in universities (KRUGLIANSKAS; MATIAS-PEREIRA, 2005, p. 1018).

Considering the foreign influence, it is already noted the intention to foster and encourage university participation in the innovative environment. Added to this is the adoption of the theoretical triple-helix model by the Innovation Law, placing universities at the center of the innovative context, alongside companies and government (ETZKOVITZ, 2009, p. 1), which indicates the university participation in the context of innovation legislation in the country.

Briefly, Law nº 10.973/2004 established measures to encourage innovation and research in the productive environment, with a view to enabling and achieving technological autonomy and industrial development in the country, pursuant to Articles 218 and 219 of the Federal Constitution. The text was structured in three axes, which coincide with chapters II, III and IV of the diploma, namely, the creation of specialized and cooperative environments of innovation among several actors; stimulating innovation in ICTs, and therefore in universities; and fostering innovation in companies (VETTORATO, 2008, p. 66).

Among the mechanisms foreseen are the authorizations to incubators of companies in the public space, the possibility of sharing infrastructure, equipment and public and private resources for the creation of innovative products and processes, as well as rules that allow the public researcher, usually linked to universities, develop research focused on new technologies (MATIAS-PEREIRA, KRUGLIANSKAS, 2005, p. 11). However, alongside to promoting the creation of environments that are conducive to innovation, the law requires new attitudes from universities, especially in order to protect the technological knowledge developed there and to allow the eventual transfer of this knowledge, which highlights the role of industrial property (KRUGLIANSKAS; MATAS-PEREIRA, 2005, p. 1020).

Thus, is started by emphasizing that the Law of innovation established, in its article 17, the duty of the Universities to inform annually the Ministry of Science and Technology about the institution's intellectual property policy, the creations developed internally, the protections requested and granted, and licenses and technology transfer or licensing agreements entered into. It is noted that the legal text began to require universities to discuss and define their policies regarding the treatment and protection of intangible property, bringing the matter internally, as well as demanding from institutions information on the protections required and granted. In attention to the legal command, public universities gradually began to regulate the theme internally, as in the case of the Federal University of Rio Grande (FURG), which launched, on 04/04/2014, Resolution No. 003/2014, providing the institution's intellectual property policy (FURG, 2018).

With the same intention, it is identified art. 9, § 2, of the LI, established the duty of the public university to define, in advance, the ownership of intellectual property and participation in the results of this creation, when the result of activities carried out in partnerships. Thus, considering that the realization of partnerships is the focus of the Law, it is noted that the original legal provision, whose purpose was maintained by the Legal Framework to be further

analyzed, also brings to the internal scope of the university the need for knowledge and the debate about industrial property.

Furthermore, in order to foster the institutional debate on industrial property, the precept of art. 13 of Law nº 10.973/2004, reinforced the provision of Decree nº 2.553/98, ensuring the creator a minimum participation of 5% (five percent) and maximum of 1/3 (one third) in the economic gains, earned by the university, result of exploitation of the protected breeding. In the same provision, Law nº 10.973 / 2004 defined what is economic gain, recording, in summary, the obtaining of financial results arising from the exploitation of intellectual property.

On the other hand, it should be noted that LI, in its art. 18 original, defined the need for forecasting by universities, that expenses and revenues related to the protection and exploitation of industrial property, in addition to the amounts to be paid to creators and eventual collaborators. Thus, it is observed the duty of universities to define in their budgets revenues and expenses arising from intellectual property.

Another innovation of Law nº 10.973/04 was the forecast of the figure of the Technological Innovation Core (NIT). In fact, the diploma established in its article 16 the duty of universities to have an NIT in order to manage their innovation policy. Thus, universities, whether through creation or association, should have a structure capable of meeting the competences provided for by law, which are, among others: the zeal for maintaining the institutional policy of stimulating the protection of creations; promoting the protection of creations developed in the institution; the manifestation regarding the desirability of disclosing the creations developed in the institution, passible to intellectual protection; and the monitoring the processing of applications and maintaining the institution's intellectual property titles.

Accordingly, the NIT has a general obligation to monitor the production and dissemination of innovation-related research in universities, to identify assets that can be protected, to monitor and execute the procedures for obtaining protection, and to conduct the defense of ownership of such assets. Article 16, III, of Law nº 10.973/04 also establishes the legitimacy of the agency to evaluate the adoption of an independent invention by an individual researcher. Implicit is the obligation of the NIT with regard to the education and promotion of industrial property among leaders, researchers, students and servants of public universities, who will be the people directly involved in the treatment of the subject. Thus, in addition to the provisions that already deal with the obligatory discussion and definition of the theme within the university, it is verified that the Law expressly determined the creation of a structure that would lead this process, institutionally, indicating the implementation of the subject.

It is also noteworthy that article 26 of the Innovation Law established that “ICTs that include teaching among their main activities shall necessarily associate the application of the provisions of this Law to actions of formation of human resources under their responsibility”. As analyzed, the Law represents the fostering of innovative activities and, consequently, the appropriation of their results, denoting the implementation of intellectual property within the university, including the training of those involved.

The legal provision of art. 6º of the LI established the faculty of exploration of the developed creation, which would be due to the property right. It is emphasized that the "creation" refers to the goods appropriated by industrial property according to the definition of LI itself in its art. 2nd, II. In addition to the transfer or licensing of technology, it is noteworthy that art. 11 of LI also established the possibility of cession of creation by the university. Thus, it was noted the legal possibility of disposition of creation and it was noted the need for changes in the behavior of universities, "aiming to preserve the technological knowledge developed in these institutions, as well as its possible transfer to business in the industrial sector" (KRUGLIANSKAS; MATIAS (2005, p. 1020).

The text of LI, in its art. 22, also allowed the university to adopt the creation of an independent inventor for the development of new technologies, requiring the prior filing of the patent application. Therefore, for eventual adoption, there is a need for knowledge and qualification on the subject, not only for its precise protection, but also for its prudent evaluation, observing the need for the implementation of industrial property in the public university for the proper application of the provisions legal.

Analyzed the provisions originating from Law nº 10.973/04 related to intellectual property and creation, we verify the implementation of intellectual property in the public university. Even so, is started to approach the analysis of the second normative instrument edited in order to acclimatize the national factual scenario, consistent with EC No. 85/2015, highlighting the provisions that refer to the protection of industrial property in the university sphere.

2.2. Implementation from the Innovation Amendment

Despite the edition of the LI, it was found that the effort of the ordinary legislator did not achieve the desired results. The number of publications continued to grow, but the number of innovations and the interaction between universities and companies remained shy on the national scene. In addition, the theme raised doubts and fears among researchers and

institutions, influencing resistance and distrust in the application of legal provisions. (RAUEN, 2016, p. 22-23). Thus, in 2011, the Chamber of Deputies proposed Bill nº 2.177/2011, which provided for a National Code of Science, Technology and Innovation, which, after debate and in order to avoid discussions on its constitutionality, gave origin in 08/07/2013 the Proposed Amendment to the Constitution No. 290/2013 (Júnior et al., 2018, p. 180).

The PEC was approved with wide legitimacy through EC No. 85/2015, which included innovation among the themes of the social constitutional order, updating the treatment of Science, Technology and Innovation activities. According to Barbosa (2015, p. 29), the amendment “only altered the relationship of the correlative interests of science and technology, blurring the limits of science (which in 1988 should be in the public domain for the enjoyment of all) and the of technology”. From the justification of the PEC (BRASIL, 2013a, p. 32965) and the opinion of the Chamber's special CT&I activity committee (BRASIL, 2013b, p. 57864-57865), the following purposes of the instrument are taken: a) broaden the constitutional norm to achieve innovation, and to justify the articulation between the productive sector and the academy; b) depart from the exclusive priority of basic scientific research; c) harmonize the norms and actions of the federative entities, by means of concurrent competence; d) reduce bureaucracy processes and provide the activity with greater effectiveness; e) share infrastructure and knowledge for the research activity; g) create a national ST&I system; h) assign to the State: the duty to promote the articulation between public and private agents for innovation; the encouragement and strengthening of innovative companies; encouraging the creation and transfer of technology.

Briefly approached the context and the purposes of the instrument, it is observed that §2, art. 213, of the CF, was modified, allowing the public power to stimulate research, extension and innovation activities in universities and professional and technological education institutions (MARRAFON, 2016). In particular, the constitutional text refers to the incentive for research, extension and innovation activities carried out in universities, underlining the financial support of the Government, which precludes any questioning about the state incentive of these activities at the university level.

Besides that, innovation was expressly added to the themes of Title VIII of the Constitution, changing Chapter IV of this title, which was renamed “Science, Technology and Innovation”. This forecast indicates the strengthening of the Social State, as it deals with a markedly economic theme within the constitutional social order, highlighting the importance of the State in stimulating the technology of excellence, the to be properly protected.

Similarly, in the caput of art. 218 the Amendment modifies the text to include innovation among the themes of promotion and stimulation of the State, as well as includes scientific capacitation, absent in the previous text, strengthening the importance of the protection of intellectual property within the university, the result of those activities. Already Paragraph 6 of art. 218, of the CF, defined the State stimulus in the articulation between public and private entities for innovation, perhaps the main purpose of the Amendment (JR, 2018, p. 184), in prestige to the triple helix (MINGHELLI, 2018, p. 150), which highlights the role of the university as a central element and the focus on protecting the results of this activity, especially represented by industrial property.

In the same vein, the new article 219-A, from the CF, consolidated the interaction and cooperation model for obtaining new technologies, which holds the leading role of universities. Furthermore, it is stressed the requirement of the partners counterpart, even if not financial, in order to serve newly created companies in typical environments of technological innovations, such as startups and incubators within the university, which may provide other forms of collaboration as knowledge and skilled labor.

Consolidating the arrangement between public and private, it is noted that EC n° 85/2015 established, in article 219-B, the creation of the National System of ST&I (SNCTIC), which should be organized cooperatively between public and private actors. This is a contained effectiveness norm, which depends on a general regulatory law. Although the regulation does not exist yet, the MCTIC indicates the actors that compose it, as well as its form of organization, and alongside the political actors and the funding agencies, highlights the universities as the main actor among the operational agents (MCTIC, 2016, p. 18).

Also in order to rule out debates in the university sphere, in §1º, of art. 218, of the CF, the amendment established the change in the treatment of research in the constitutional text, which no longer provides for the priority care of basic research and establishes equality with technological research. In fact, it was argued about the difference between that one, focused on the understanding of nature and its laws, and applied research, synonymous with technology, directed to a improvement practical economic or productive, starting to recognize the complementary character between both activities (MARQUES, 2018, p. 3671). Likewise, the debate on the possibility of appropriation of the research results, which divided the public domain of basic science, which had the priority of treatment, and the appropriation of technology, which would be the object of applied science, moves away (BARBOSA, 2015, p. 22). Thus, the hierarchy and focus on conceptualization are abandoned and the complementarity

of these activities for national development is prestigious, demanding the appropriation of developed technologies, whose essential element consists of patents, especially within the public university, the main agent in development of new research in the Brazilian scenario.

Seeking to ensure the national development provided for in art. 3 of the Constitution, the §1 of art. 218, of the CF, in addition to including technological research, included the progress of technology and innovation among the objectives of the state, expanding the state-owned priorities that rely on the natural participation of public universities to achieve the desired results.

The emendation also established the new wording of §3 of art. 218, according to which innovation will be supported by the State in relation to human resources, this is the main input for the production of ST&I, both in the areas of science, research, technology, innovation and extension activities. In addition to the mentioned activities that would already impact on the tasks performed by the universities, is noted the inclusion of the extension activity, foreseen among the university attributions in art. 207 of the CF, which demonstrates the constituent's apparent intention to treat directly of that universities and extends its innovative activities to society's participation (ABRÃO, 2018, p. 1119).

It is also mentioned that §7 of art. 218, provides for the incentive to the international acting of public institutions, related to ST&I activities, clearly encouraging the participation of state-owned universities in the globalized environment and technological innovation, which requires the protection of the results of their activities. In article 219, the wording of the caput was maintained and a paragraph single containing several purposes was included. In fact, it begins by determining the State to stimulate the creation and promotion of innovation in companies and other entities, as well as the formation and maintenance of parks and technological centers, besides other environments in which innovative ideas can be developed. Interaction between companies and universities is clearly sought for the development of technologies through the sharing of infrastructure, knowledge and human resources. At the university level, these environments allow coexistence among entrepreneurs, researchers and students, as well as stimulate entrepreneurship and generate internship programs, providing companies with access to laboratories and highly qualified professionals, whose costs would not be economically viable if they were to be borne exclusive. At the end of art. 219, sole paragraph, the amendment established the duty of the State to stimulate the creation, absorption, diffusion and transfer of technology, denoting the relationship between innovation and industrial property resulting from that activity, in clear concern with obtaining technologies for national development.

It is emphasized that although the national normative and factual arrangement could already denote the need to protect patents that are the result of innovative work, this constitutional command is now the basis for the implementation of intellectual property in the university sphere, compromising the institution to encourage the creation, absorption, diffusion and transfer of technology. After analyzing these elements, which indicate the importance of the institutional treatment of intellectual property by the public university, we proceed to analyze the immediate result of the Amendment, representing by the Legal Framework of Innovation.

2.3. Implementation from the Legal Framework of Innovation

In pragmatic terms, is observed the Innovation Amendment's objective in “give the necessary bases for the full applicability of what is intended to be altered in the Brazilian legal norms of this sector” (BRASIL, 2013b, p. 57865). And in light of the new constitutional text, the legislator gave up on the original proposal for a code, opting to amend existing rules on the subject, issuing Law n° 13.243/16, called the Legal Framework of Science, Technology and Innovation (JUNIOR, 2018, pp. 181-180). Besides modifying the LI, aiming to regulate the analyzed emendation and following the guidelines of the triple helix (ETKOVITZ, 2009, p. 1), the measure had impact on other 8 (eight) norms, namely, Law n° 6.815/80, Law n° 8.666/93, Law n° 12.462/11, Law n° 8.745/93, Law n° 8.958/94, Law n° 8.010/90, Law n° 8.032/90 and Law n° 12.772/12, seeking reduce legal and bureaucratic obstacles, give greater flexibility to institutions operating in this system, and stimulate innovation in the country.

In the specie, it is noted that Law n° 13.243/2016 aims to promote cooperation and interaction between the public and private sectors, already highlighted by LI and EC n° 85/2015. Besides that, it is noted that the three bases of the diploma consist of integrating private companies into the public research system, simplifying processes in public research institutions, and decentralizing the development of ST&I in states and municipalities, reflecting three objectives reproduced by the doctrine, namely, integration, simplification and decentralization (NAZARENO, 2015, p. 7). These changes seek to facilitate “joint actions between public and private authorities in the country's science, technology and innovation system” (DINIZ; NEVES, 2017, p. 10), defining fourteen principles for the measures to encourage innovation and scientific research and technological, through the sole paragraph of art. 1st of LI.

In addition, the diploma revised concepts provided for in the Innovation Law, it is highlightined in this paper the definition of innovation and ICT. It begins with the analysis

of the two modifications of the new legal concept of innovation, provided for in art. 2, IV, of Law nº 10.973/2004. The first in the exchange of the alternative conjunction 'or' for the additive 'and' between productive and social, adopting social innovation as productive. And the second in the continuation of the text of the original article, allowing the search for the utility model, resulting from an improvement of something already existing, which was harmed in the original wording that indicated only the invention patent as innovative. Regarding the definition of ICT, provided for in art. 2, V, of Law nº 13.243/16, although the same acronym remains, it is renamed Scientific, Technological and Innovation Institution. In addition, it is recognized, in addition to public administration bodies or entities, legal entities of private law, not for profit, as in the case of the National Center for Research in Energy and Materials (CNPEM) and the National Institute of Applied Mathematics (Impa) (RAUEN, 2016, p. 25).

Following a general analysis of the instrument, its focus is on changes to the Innovation Act and provisions that mention the terms intellectual property and creation. And, in particular, the framework modified the LI to separate the patent policy implementation measures, with the inclusion of art. 15-A, of the obligation of the university to provide information to the MCTIC, maintaining in art. 17 of LI the reference to its regulation to infralegal provision. It is noted that art. 15-A established guidelines and objectives for the definition of innovation policy, which ends up reflecting in the protection of industrial property. It is mentioned items V and VII of the sole paragraph of art. 15-A, which provides as a guideline of the innovation policy to be observed by public universities the management of industrial property and the orientation of institutional actions of human resources training in intellectual property, imposing at university the management and training of qualified personnel in the theme.

Law nº 13.243/2016 maintained the obligation of universities to previously establish patent ownership in a specific instrument, due to partnership agreements involving institutions. Perhaps the most significant innovation establishes the possibility that the university, by means of specific instrument, “assigns to the private partner all intellectual property rights through financial or non-financial compensation, provided that it is economically measurable” (PEDROSA, 2018, p. 28). Thus, it is noted that the obligation of prior deliberation on the ownership of industrial property was maintained and improved, once again indicating the implementation of the institute in the university scope.

In parallel, the guarantee to the creator was ensured in the text of article 13 of the Innovation Law. It is noted that the end of the caput of art. 13 refers the device to the sole paragraph of art. 93 of Law nº 9.279/96, which highlights the possibility of ownership of industrial property by the university, as well as the inventor's participation in economic gains.

However, we highlight the occurrence of two modifications promoted by Marco. The first is the more precise definition of economic gains (PEDROSA, 2018, p. 29), especially through the new item I of art. 13, §2º, which expressly provides for the need to deduct expenses arising from the protection of intellectual property. The second is represented by the provision of §4, included in art. 13 of LI, which now establishes a maximum period of one year for the transfer of the economic gains obtained from the exploitation of the patent to the creators.

Subsequently, the legal framework reproduced the obligation to forecast the university's income and expenses under the headings relating to intellectual property and the payment of creators and collaborators. The modification in the caput of art. 18 clarified that this obligation applies to public rather than private ICTs, otherwise it would unduly interfere in the free initiative. On the other hand, the sole paragraph of article 18 made it possible for supporting foundations manage revenue from innovative activities, including exploitation of industrial property (NAZARENO, 2016, p. 12), which maintain relationships with the public universities of the country, based on art. 1º of Law nº 8.958/94. In addition to seeking speed and simplification in the process, the change is seen as an advance “in reducing legal uncertainty about procedures for fundraising, as well as a great incentive for the involvement of ICTs in innovative activities” (RAUEN, 2016, p. 26).

It is registered the alteration promoted in art. 16 of the LI regarding NITs, especially by increasing the minimum competences of these bodies (MARINHO; CORRÊA, 2016, p. 48), where it is observed that the attributions, directly or indirectly, refer to industrial property. In addition to the items that mention intellectual property, invention and creation, is note that item II determines the evaluation of the results of activities, which are appropriated through industrial property laws. In addition, items VIII and X deal with technology transfer, and one of the traditional forms of its formalization is through the patent agreement, to be endorsed at the INPI. And also item IX mentions the promotion and monitoring of activities especially provided for in arts. 6 to 9 of the LI, which deal with the exploitation of university creation, the right of exploitation of protected creation and the previous parameters of intellectual property in partnership agreements between university and companies. Thus, it is observed that NIT's competences are directly related to intellectual property, “highlighting the management of intellectual property policy, aiming at the protection of creations, and the transfer of technologies produced by ICTs” (RAUEN, 2016, p. 23).

It is mentioned that the Marco included art. 15-A, VI to LI, defining as a guideline of the university's innovation policy the effective institutionalization and management of the NIT,

clearly concerned with the creation of an appropriate structure for the treatment of the theme internally. In addition to the provisions directly aimed at industrial property, stands out the possibility of delegating the representation of the public university to the NIT manager (art. 16, paragraph 2) and the possibility of constituting the NIT with legal personality own and private, nonprofit (art. 16, § 3) or in the form of a supporting foundation. These elements seek, in addition to giving prestige to the NIT as an essential organ for innovation and intellectual property, to give greater independence, autonomy, flexibility and simplification of processes (RAUEN, 2016, p. 33).

The legal marco kept the wording of LI in art. 26, requiring the universities to associate the application of the provisions of the law in the training of human resources under their responsibility. Innovation consists in the inclusion of art. 26-A, applying the legal provisions to other public ICTs that perform the activities of production and supply of goods and services. As noted, the legislator strengthens the enforcement of legal provisions on universities, softening the incidence of the provisions for other ICTs, such as EMBRAPA and FIOCRUZ (NAZARENO, 2016, p. 13). Regarding the possibility of the disposition of the creation by the university,

although it has been reformulated the art. 6 of the Innovation Law, both in the existing wording, and in the inclusion of several paragraphs in the same article, it is observed that the milestone maintained the possibility. There is an attempt to facilitate the disposition, especially by regulating the concession exclusive, which previously required prior notice, allowing the technology to be offered through the university's official website, as well as allowing the exclusive concession, without public offer, to the partner who developed the technology.

In the same sense, it is identified that the new wording of art. 11 of LI allows the cession to the creator for

non-cost title, and also to third parties, upon remuneration (NAZARENO, 2016, p. 11). And in particular, it is noted that the wording excluded the regulation, to which the text made reference, giving autonomy to the university that can establish its own norms to dispose of the creation. In addition, the text allows the cession to the inventor for free, as well as allows the patent negotiation with other people not only the creator, but also to third parties (PEDROSA, 2018, p. 29), demonstrating the indispensability of the discussion and definition of the theme in the public universities.

In the art. 22 of LI the legal marco maintained the possibility of adoption by universities of the creation coming from an independent inventor. In a symbolic way, it changed the forecast of the “productive sector” by the “market insertion”. In addition, it established the competence

of the NIT to evaluate and decide on adoption, as well as the need for a specific instrument on sharing the gains eventually gained from exploiting the protected invention. In the sequence, the legal text changed the LI to include art. 22-A, allowing the public university to assist the inventor in analysis and guidance in order to turn patents into market products (NAZARENO, 2016, p.13). Thus, analyzing the provisions of Law n° 13.243/16 that modified the LI related to intellectual property and creation, once again demonstrates the institutionalization of intellectual property in the public university, requiring the professionalization of the theme within the university.

CONCLUSIONS

In the present work, sought to demonstrate the implementation of intellectual property in the Brazilian public university, from the normative commandments of the Innovation Law, the Innovation Amendment and the Legal Framework of Innovation. To this end, initially described characteristics of the elements innovation, intellectual property and public university and verified the dialogue between these elements. Afterwards, this relationship was identified in the national innovative context, showing that the arrangement indicates the predominance of research and development activities of new technologies by public universities, becoming the main innovative potential and patent holder in the country.

Indeed, it was found that both state investment and the number of people involved are allocated primarily in to public universities. As a result, in addition to being ranked 13th in publications worldwide, among the top ten patent filers in the country, in 2016 and 2017, the top nine are public universities. However, in contrast to the increase in the national innovative potential, it was found that this potential does not translate in the same proportion to effective innovation, and therefore in patents. Indeed, while the country ranks 13th in scientific publications, it ranks only 69th out of 127 countries in terms of innovation. In addition, internationally, in 2017 it made approximately 1% of patent filings made by the leading country. Verifying the deposits made at the INPI, it was found that 74% of requests are from foreigners.

Seeking to modify this scenario and contribute to the achievement of constitutional objectives, this research focused in the legal commandments of innovation milestones that determine the treatment of intellectual property in the public university. Analyzing the provisions of Law n° 10.973/04 related to intellectual property and creation, it verified the implementation of intellectual property in the public university, especially highlighting the institutional duty in the establishment of industrial property policy at home; the providing

information on these policies and on domestic creations; the definition prior of patent ownership in partnership agreements; the regulation about the participation of the server in the gains obtained from the exploitation of the creation; the forecast in the institution's budget of expenses and revenues arising from industrial property; the creation of a specific structure for patent protection, exploitation and promotion in the university sphere; the need to associate the provisions of the Law, which bring aspects related to patents, in the formation of its human resources; and the possibility of an independent inventor patent being adopted by the university.

From the analysis of the Constitutional Amendment of Innovation stands out, for purposes of proving the implementation of intellectual property in the public university the express prevision of the duty to stimulate innovation by the state. Likewise, it establishes the possibility of state financial incentive for innovation in universities, removing any questioning of activities in these institutions. Furthermore, the difference between scientific and technological research is excluded, replacing the free diffusion of knowledge with the appropriation of technology. In addition, the amendment expressly states the duty of the state to encourage in the creation, absorption, diffusion and transfer of technology, which ends up imposing their respective purposes on public universities as a state entity.

The analysis of the provisions of Law nº 13.243/16 that modified the LI related to intellectual property and creation, demonstrates the implementation of intellectual property in the public university, especially highlighting, once again, the need to define industrial property policy. at the institutional level; providing information on these policies and on domestic creations; the requirement of prior definition of patent ownership in partnership agreements; the regulation about the participation of the server in the gains obtained from the exploitation of the creation; the forecast in the institution's budget of expenses and revenues arising from industrial property; the creation of a structure aimed at patent protection, exploitation and promotion within the university sphere containing competences related to industrial property; the need to associate the provisions of the Law, which bring aspects related to patents, in the formation of its human resources; and the possibility of patent adoption and support of the independent inventor by the university, requiring discussion, definition and qualification on the subject in the university sphere.

Given these elements, it is can see the importance of advancing public policies in this regard, such as the Law of Innovation, the Constitutional Amendment of Innovation and the New Legal Framework of Science, Technology and Innovation analyzed here. These diplomas, in addition to encouraging the development of technologies and, consequently, titles of ownership, end up establishing a legal obligation on public universities, requiring careful, PIDCC, Aracaju/Se, Ano VIII, Volume 13 nº 03, p.106 a 129 Out/2019 | www.pidcc.com.br

professional and responsible treatment with the national intangible heritage, in order to value the protection of intellectual property within the university, modify the current scenario and fulfill the commandments and normative objectives.

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