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INTELLECTUAL PROPERTY POLICY AS A TOOL FOR PROMOTING AND ENHANCING INTELLECTUAL PROPERTY LITERACY

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Abstract

Introduction: The World Intellectual Property Organization (WIPO) Development Agenda is dedicated to the link between intellectual property (IP) and further development of the society and the global economy. WIPO Member Stated adopted 45 recommendations in total, grouped into 6 clusters – formally constituting the WIPO Development Agenda. Cluster C: Technology Transfer, Information and Communication Technologies (ICT) and Access to Knowledge (consisting of 9 recommendations) aims to distribute the benefits of innovation and information; to encourage research collaborations and scientific cooperation. Recommendation 25's main goal is "to explore intellectual property-related policies and initiatives". IP Policy promotes scientific research and technological development and this one of main results and activities of universities.

Presentation: Universities and research institutions could only benefit of the set rules in one IP policy. Without a formal policy regulating the ownership and use of IP rights, the different stakeholders in a university will have no guidance on how to make decisions concerning IP. IP policy disseminated to students can only increase their knowledge in the field and familiarize them with the foundations of IP and thus enhancing their Intellectual Property Literacy (IPL).

The goal of the paper is to make an overview of the IP policies, part of the WIPO database, and analyse them, based on the different search criteria – type of institution, accompanying document, focus, language, country/ territory. An overview of the European countries, included in the database, will be made. Data on the existence of a regulatory document of all Bulgarian universities will also be displayed and then compared to the international tendency. Results of the global and the Bulgarian data will be compared.

The methodology for achieving the main objective of the study and solving the set research tasks include the following specific methods: content analysis, comparative analysis, and synthesis of the obtained information, relevant to the topic of the paper.

Conclusion: IP Policy making is spread all over the world, progressively in Europe and gaining speed in Bulgaria. With the setting of certain rules and their introduction in the institution, whose main goal is to train students, turning them into the specialists of tomorrow, the foundations are laid for the promotion of IP as a tool to stimulate development. As a powerful tool, an IP strategy should be established systematically to identify, protect, evaluate, monitor, and exploit your IP assets to ensure that you are reaping maximum benefit out of them.

Keywords: intellectual property, university, research institution, policy, IP policy, WIPO, Bulgaria.

1 INTRODUCTION

A well-balanced system of granting and exploiting IP rights is one of the main factors in economic growth, as it encourages investment and trade, but if designed and mainly used in an appropriate way, it could also help cultural creativity to thrive, to educate a population or workforce, but also unleash new potential of technologies and innovations. Intellectual property by its core neither helps nor hinders development necessarily – it is how laws, policies and practices are created, shaped, and mainly used in the countries all around the world that determine whether IP is effective for development purposes. But it's not only countries that are able to take advantage of the flexible approaches toward IP protection – private companies and public institutions, but such also as universities can flexibly manage IP as well. Universities and all other public research institutions (PRIs) are the factors of the knowledge economy.

At the 2007 General Assembly, WIPO Member States adopted 45 recommendations (of the 111 original proposals) made by the Provisional Committee on Proposals Related to a WIPO Development Agenda (PCDA). The 45 adopted recommendations are grouped in the following clusters:

- Cluster A: Technical Assistance and Capacity Building.
- Cluster B: Norm-setting, flexibilities, public policy, and public domain.
- Cluster C: Technology Transfer, Information and Communication Technologies (ICT) and Access to Knowledge.
- Cluster D: Assessment, Evaluation, and Impact Studies.
- Cluster E: Institutional Matters including Mandate and Governance.
- Cluster F: Other Issues.

Cluster C, Recommendation 25 states: "To explore intellectual property -related policies and initiatives necessary to promote the transfer and dissemination of technology, to the benefit of developing countries and to take appropriate measures to enable developing countries to fully understand and benefit from different provisions, pertaining to flexibilities provided for in international agreements, as appropriate" [1].

Recognizing and designing IP and bringing research results to the next stage of development have long ago become institutional goals in numerous universities and PRIs. In this regard, an institutional IP policy is a prerequisite for successful collaboration between the academic environment and the commercialization partners. In the university information environment students have to master the important IP related matter and its application in their upcoming career development. Students and universities have to know how to utilize and benefit from the unparalleled richness of the technical and commercial information, found in IP-related documentation. It is necessary for universities to make efforts to raise awareness of IP issues in the academic community, to research IP right, by engaging in a transfer of technology to industrial partners to create value and benefit for society. Last but not least, students and universities have to be aware with the consequences of the lack of knowledge and the inability to protect their intangible assets under the form of IP, including from risks such as misuse of foreign intangible assets, industrial espionage, etc. [2].

Universities need to be well acquainted with the best digital technological advantages and continue to uphold the genuine educational values and above all in this context, the value of IP rights. Rethinking the paradigm of IP educational system will assimilate the existing traditions and will outline new priorities as: information literacy and expanding distance learning opportunities, open access to knowledge and reworked teaching kits, underlining the importance of value and management of IP rights in the digital world [3].

A central part of IP policy at any organization concerns the ownership of intellectual property. The approach differs somewhat between corporate and university contexts. In the university, employment contracts or IP agreements are likewise binding with regard to the issue of IP ownership. University policy covers all personnel, including faculty, postdoctoral fellows, technical staff, graduate students, and visiting scholars. The employee contracts usually assign property rights in all IP to the university, but the inventor(s) typically are given a significant share in any revenues that are earned, typically in the range of 25% to 50% of royalties. One major exception to the policy of assigning IP rights to the university involves copyrighted materials (with some exclusions). In addition, the IP agreement covers inventions and creations in the individual's area of employment. Thus, if a molecular biologist invents a better lawn mower at home in his or her free time without use of university resources, that invention would not be included under the employment agreement [4].

2 METHODOLOGY

The goal of the paper is to make an overview of the IP policies, which are included in the WIPO database of policies, and analyse them, based on the different search criteria – type of institution, accompanying document, focus, language, country/ territory. An overview of the European countries, included in the database, is made. Data on the existence of a regulatory document of all Bulgarian universities will also be displayed and then compared to the international tendency. Then results of the global and the Bulgarian data is compared. The method of research and content analysis is applied in the identification, systematization, summarization, and analysis of the selected information.

3 RESULTS

IP policies provide structure, predictability and an enabling environment in which companies and researchers can acquire and share knowledge, technology, and IP. A university will have a policy covering intellectual property that will be available to all university personnel. All personnel are required to operate according to this policy [4].

3.1 IP Policy on international level – WIPO data

WIPO maintains a database of policies, containing IP policies, manuals and model agreements from universities and research institutions worldwide. The database contains 584 records, but it should be noted that it does not contain all existing policies of a country [5]. The search could be based on different criteria:

- **type of institution** – private research institution (4), private university (89), public research institution (40), public research support agency (9), public university (447).

- **accompanying documents** – guidelines and other resources (282), IP policy (517), national model IP policies (6), template forms and agreements (139).

- **focus** – appeal (5), collaboration (28), commercialization (162), confidentiality (30), conflict of interest (89), contract research (33), copyright (91), course materials (1), definitions (28), disclosure (9), dispute resolution (2), general (542), IP ownership (1), incentives (25), licensing (7), open access (27), patents (98), plant varieties/ plant breeders' rights (2), revenue sharing (66), scholarly works (2), software (16), spin-off (48), students (41), technology transfer office/ knowledge management office (1), trademarks (15), traditional knowledge (14), utility models (4), visiting researchers (15).

- **language** – Arabic (14), Catalan (3), Croatian (4), Czech (6), Danish (3), Dutch (8), English (397), Finnish (1), French (22), German (18), Greek (6), Hebrew (3), Hungarian (18), Icelandic (1), Italian (17), Japanese (2), Korean (1), Latvian (2), Lithuanian (1), Norwegian (4), Persian (1), Polish (22), Portuguese (4), Romanian (2), Russian (67), Serbian (2), Slovak (5), Slovenian (1), Spanish (62), Swedish (3), Turkish (1), Welsh (2).

- **country/territory** – Argentina (3), Australia (45), Belarus (1), Belgium (9), Bosnia and Herzegovina (2), Botswana (3), Brazil (1), Brunei Darussalam (1), Canada (28), Chile (9), China (2), Colombia (10), Costa Rica (1), Croatia (4), Cyprus (3), Czech Republic (6), Denmark (4), Dominican Republic (2), Ecuador (2), Egypt (8), Estonia (1), Fiji (1), Finland (2), France (3), Georgia (1), Germany (14), Greece (4), Guatemala (1), Hungary (18), Iceland (3), India (9), Iran (Islamic Republic of) (1), Ireland (9), Israel (5), Italy (17), Japan (3), Jordan (3), Kenya (2), Latvia (2), Lebanon (3), Lithuania (1), Luxembourg (1), Malta (1), Mexico (2), Netherlands (5), New Zealand (7), Nigeria (1), Norway (5), Oman (2), Pakistan (2), Panama (2), Peru (2), Poland (22), Portugal (3), Qatar (1), Republic of Korea (1), Republic of Moldova (2), Russian Federation (70), Saudi Arabia (2), Serbia (2), Singapore (3), Slovakia (5), Slovenia (3), South Africa (12), Spain (27), Sri Lanka (1), Sweden (3), Switzerland (12), Trinidad and Tobago (1), Turkey (2), Uganda (1), United Arab Emirates (3), United Kingdom (35), United Republic of Tanzania (3), United States of America (85), Uruguay (1), Uzbekistan (1), Viet Nam (1).

The university as a main research institution has most records in the database – the tendency shows that there are more public universities (447) than private universities (89) with documents in the field of IP – total of 536 universities *(Fig. 1)*.
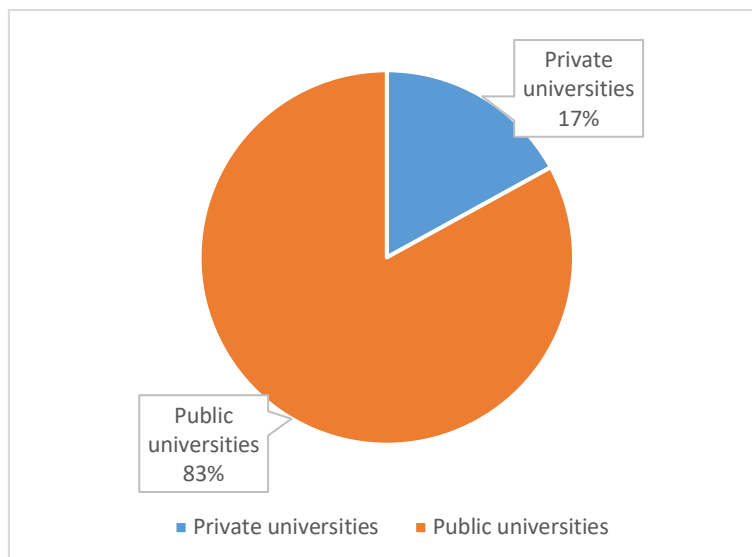
Fig. 1 Universities with records in the WIPO database.

Most of the records consist of IP policies (517), guidelines and other resources (282) is the second most popular record in the "Accompanying documents", third place – template forms and agreements (139), and the fourth and last place is for national IP policies (6).

The most popular language in the database is English – it should be noted that one document could be in one or more languages. The category "Other" includes languages that have under 10 records – Catalan, Croatian, Czech, Danish, Dutch, Finnish, Greek, Hebrew, Icelandic, Japanese, Korean, Latvian, Lithuanian, Norwegian, Persian, Portuguese, Romanian, Serbian, Slovak, Slovenian, Swedish, Turkish, Welsh – or 23 languages and 9 main ones – total of 32 languages in the database *(Fig. 2)*.
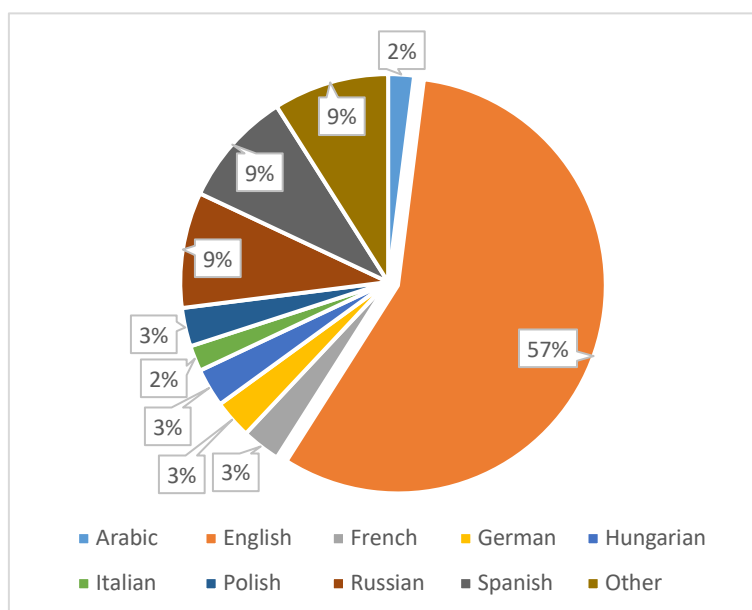

Fig. 2 Language of the records in the WIPO database.

The most records in the WIPO database are from Europe (229), second place – Asia (117), third place – North America (122), fourth place – Oceania/Australia (53), fifth place – Africa (30) and sixth place – South America (28); 5 records have no indication of a country or territory. The countries with most records, referring to the first places of each continent, are as follows: from Europe – United Kingdom (35), from Asia – Russian Federation (70), from North America – United States of America (85), from Oceania/Australia – Australia (45), from Africa – South Africa (12), from South America – Colombia (10) *(Fig. 3)*.
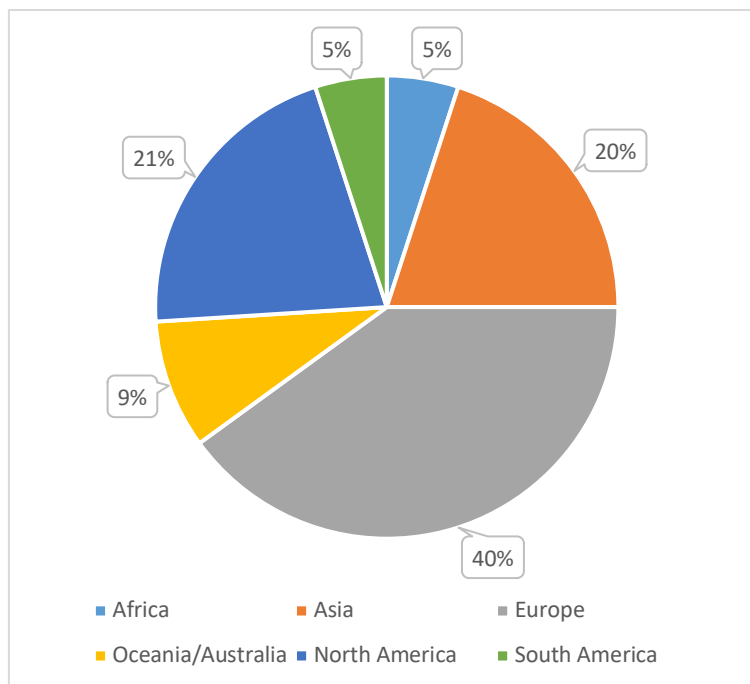
Fig. 3 Country/territory of origin of the records in the WIPO database.

As a specialized agency of the United Nations dealing with IP issues, WIPO also helps universities in designing and shaping an IP policy, such as The IP Toolkit that helps universities and PRIs deal with key issues such as ownership of IP and rights of use, IP disclosure, IP management, commercialization of IP, incentives for researchers, recording and accounting, and conflicts of interest. The IP Toolkit covers all stages of the process in creating and IP Policy:

– IP Policy Template for Academic and Research Institutions.

– Guidelines for Customization of the IP Policy Template.

– IP Policy Writer's Checklist.

3.2   IP policy in Bulgaria

The Higher Education Act in Art. 17, para. 2 states that "A university is a higher school which: item 9 (new – SG 48/04, in force from 01.03.2016) has a system for protection of the intellectual property, which includes regulations and structure for realization of the results of the scientific research and of the other objects of the intellectual property, as well as for training on protection of the intellectual property". In the table is presented the distribution of all accredited higher education institutions with the relevant document in the field of intellectual property, if any. Each higher education institution has adopted a different approach to the interpretation of Art. 17, para. 2 of the Higher Education Act, as for some the internal normative act in the field of intellectual property is entitled "Policy", and for others – "Ordinance" or "Regulations". An exception is the European Polytechnic University – Pernik, which has created Rules for research activities of the European Polytechnic University, but in it has devoted Chapter Eight to the problems of intellectual property, without producing separate rules.

The Register of Higher Education Institutions indicates that there is a total of 52 higher education institutions in Bulgaria [6]. The same number of universities is listed in the list of the National Evaluation and Accreditation Agency.

Table 1. IP documents in Bulgarian universities.

No.	Higher Education Institution	IP document
1	Academy of Economics "D. A. Tsenov" – Svishtov	Regulations for the intellectual property of the Academy of Economics "D. A. Tsenov"
2	Academy of Ministry of Interior – Sofia	-
3	Academy of Music, Dance and Fine Arts – Plovdiv	-
4	Agricultural University – Plovdiv	Regulations for creation, registration, protection, and management of intellectual property in the Agricultural University – Plovdiv
5	American University in Bulgaria – Blagoevgrad	-
6	Burgas Free University – Burgas	Regulations for intellectual property, use and commercialization of research results at Burgas Free University
7	Bulgarian Air Force Academy "Georgi Benkovski" – Dolna Mitropolia	-
8	College of Management, Trade and Marketing – Sofia	-
9	College of theatre "Luben Groys" – Sofia	-
10	College of Tourism – Blagoevgrad	-
11	European Higher School of Economics and Management – Plovdiv	-
12	European Polytechnic University – Pernik	Regulations for research activities of the European Polytechnic University (Chapter Eight. Intellectual Property)
13	Higher School of Civil Engineering (VSU) "Lyuben Karavelov" – Sofia	-
14	Higher School of Security and Economics – Plovdiv	-
15	International Business School – Botevgrad	-
16	Medical University – Sofia	Regulations for management of intellectual and industrial property and for dissemination of knowledge at the Medical University – Sofia
17	Medical University – Plovdiv	Regulations for creation, registration, protection, and management of intellectual property objects at the Medical University – Plovdiv
18	Medical University – Pleven	Regulations for intellectual property management at the Medical University – Pleven
19	Medical University "Prof. Dr. Paraskev Stoyanov" – Varna	Regulations for intellectual property management at the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna
20	Military Academy "Georgi Rakovski" – Sofia	-
21	Naval Academy "N.Y.Vaptsarov" – Varna	-
22	National Academy for Theatre and Films Arts (NATFA) "Krastyo Sarafov" – Sofia	-
23	National Academy of Arts – Sofia	-
24	National Academy of Music "Professor Pancho Vladigerov" – Sofia	Regulations for protection of intellectual property at the National Academy of Music "Professor Pancho Vladigerov"
25	National Sports Academy "Vassil Levski" – Sofia	Regulations for registration, protection and use of intellectual property in the National Sports Academy "Vassil Levski"

26	National Military University "Vasil Levski" – Veliko Tarnovo	-
27	New Bulgarian University – Sofia	Ordinance on the protection of intellectual property at NBU
28	Plovdiv University "Paisii Hilendarski" – Plovdiv	Regulations of "Paisii Hilendarski" for management of the created intellectual property for exploitation and commercialization of the results of the scientific research within the Plovdiv University "Paisii Hilendarski"
29	Sofia University "St. Kliment Ohridski" – Sofia	Rules for management of intellectual property rights at Sofia University "St. Kliment Ohridski"
30	South-West University "Neofit Rilski" – Blagoevgrad	-
31	Technical University – Sofia	Policy of TU – Sofia on intellectual property // Regulations for registration, protection and use of intellectual property at the Technical University – Sofia
32	Technical University – Varna	-
33	Technical University – Gabrovo	Regulations for intellectual property management of the Technical University – Gabrovo
34	Trakia University (TrU) – Stara Zagora	Regulations and policies for application and protection of intellectual property rights and commercialization of the results of research activities at the Trakia University
35	University "Prof. D-r Asen Zlatarov" – Burgas	Regulations for protection and use of intellectual property at the University "Prof. Dr. Asen Zlatarov"
36	University of Agribusiness and Rural Development – Plovdiv	Regulations for organizing and implementing the protection of intellectual property in UARD
37	University of Architecture, Civil Engineering and Geodesy – Sofia	-
38	University of Chemical Technology and Metallurgy – Sofia	-
39	University of Economics – Varna	-
40	University of Food Technologies – Plovdiv	-
41	University of Forestry – Sofia	Regulations for intellectual property at the University of Forestry
42	University of Library Studies and Information Technologies – Sofia	-
43	University of Mining and Geology "St. Ivan Rilski" – Sofia	-
44	University of National and World Economy – Sofia	-
45	University of Ruse "Angel Kanchev" – Ruse	-
46	University of Shumen "Konstantin Preslavsky" – Shumen	-
47	University of Telecommunications and Post – Sofia	-
48	University of Transport "Todor Kableshkov" – Sofia	-
49	University of Veliko Tarnovo "St. Cyril and St. Methodius" – Veliko Tarnovo	Regulations for protection of intellectual property at the University of Veliko Tarnovo "St. St. Cyril and Methodius"
50	VUZF University (Higher School of Insurance and Finance) – Sofia	-
51	Varna University of Management – Varna	-
52	Varna Free University "Chernorizec Hrabar" – Varna	-

Although not all universities have adopted a separate internal document dedicated to IP, some of them have regulated these activities in general regulations for their activities, while others are in the process of creating separate such regulations. In others, no IP information was found. All references have been made on the official institutional sites.

Out of 52 accredited higher education institutions in the Republic of Bulgaria, 20 offer access to regulations, ordinance, policy, or rules in the field of intellectual property, i.e., 38% propose such an internal normative act, and 32 higher education institutions or 62% do not offer such. Technical University – Sofia, Sofia University "St. Kliment Ohridski" and New Bulgarian University have an internal normative act in this field, but it is not entitled "regulations", while the European Polytechnic University has Rules for research activities of the European Polytechnic University, with a dedicated chapter eight on intellectual property, i.e., four higher schools have fulfilled the requirement cited in Art. 17, para. 2 of the Public Health Act for regulations *(Fig. 4)*.
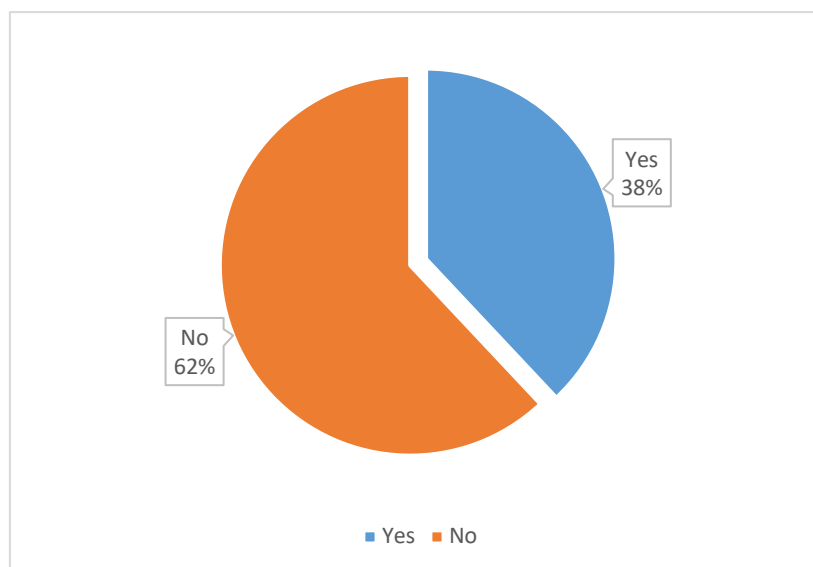

Fig. 4 Existence of an internal normative act dedicated to IP.

With a result of 20 IP policies in Bulgaria, although not included in the WIPO Database, Bulgaria could be ranked in fourth place, after the United Kingdom (35), Spain (27), Poland (22). The tendency from the WIPO database for the type of university with an available document in the field of IP is preserved – of the examined universities in Bulgaria 17 are public and 3 are private, i.e., 85% are public and 15% are private *(Fig. 5)*.
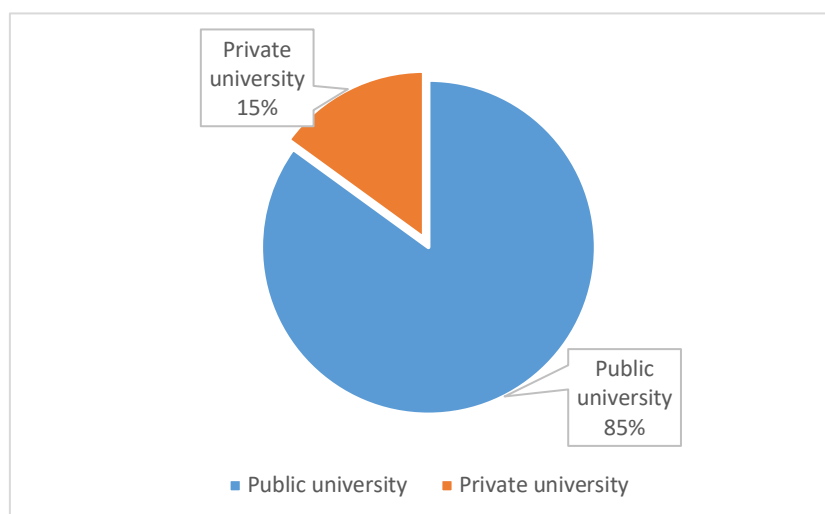

Fig. 5 Type of universities in Bulgaria with IP document.

The University of Library Studies and Information Technologies – Sofia is currently developing their own IP policy and strategy, based on the international and national experience.

4 CONCLUSIONS

Each time we buy a "protected" item, a part of what we have paid goes back to the owner/ creator/ inventor as recompense for the time, money, and effort that they have already put into the creation of the item. Over the years this has resulted in the development of industries and many businesses and stimulating creators to produce more and more original ideas and then implemented into real objects.

The competitiveness of a knowledge-based economy increasingly depends on the availability of qualified, enterprising, and well-informed professionals who are formed in modern higher education institutions. The students' competence in the main aspects of IP, in particular the protection of copyright, related rights and industrial property, is an essential part of their complex information literacy, especially in regard to using IP objects on the Internet and the lawful use of digital content. It is here where the actuality of the researched problem is determined as the main goal of IP integration as part of the information literacy in the university information environment is to create a culture of respect towards IP among the academic fields and to increase the competitiveness of future specialists [7].

Normative documents provide rights that encourage authors to create works and content that enrich society and contribute to the growth of science, education, and the arts by building the knowledge triangle. Universities should ensure that all the ones, part of the institution, whether employees, visiting researchers, outside collaborators or students, are aware of the confidentiality issues related to their activities, along with the opportunities that arise from their own and the institution's IP. An IP policy should provide clear rules for them regarding disclosure and confidentiality, as well as model non-disclosure agreements [8], [9]. Thus, could only stimulate IPL of students [10].

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