IPR Protection Benefits for Intellectual Property in a Higher Education to Improve the Competitiveness of the Higher Education as an Effort to Enhance the Acceleration of the Creative Economic Growth of Indonesia

Hafied Noor Bagja¹ -- Nina Nurani²

¹Faculty of Economy Widyatama University
²Faculty of Business and Management Widyatama University, Jl. Cikutra No. 204 A. Bandung, Indonesia

ABSTRACT

Intellectual property in Higher Education is a means of competitiveness of the Higher Education. Hence sufficient protection needs to be utilized to enhance the creative economic growth of Indonesia. This study examines the protection of intellectual property in universities as a means of competitiveness of the universities and examines the benefits of intellectual property protection in Higher Education through IPR as an effort to increase the creative economic growth of Indonesia. This study used an empirical-normative juridical approach. The normative juridical refers to the principles, norms of national and international laws by reviewing literature data or secondary data consisting of primary, secondary, tertiary legal materials and using descriptive analysis research specifications. The result showed that the protection of intellectual property in universities has not been implemented effectively causing a lower competitiveness of universities. The benefits of intellectual property protection in Higher Education through the IPR as an effort to increase the acceleration of creative economic growth have not been effectively implemented. The barriers include the lack of regulatory protection and management of IPR in universities in addition to the low level of knowledge about IPR of the academic society members and the lack of an effective monitoring system of intellectual property rights in higher education. Therefore we need a new framework programming of the "IPR Protection and Management Strategies in Higher Education" with regard to management policy, institutional and IPR culture which is "comprehensive" and "systemic" using "structural" and "functional" approach.

Keywords: Protection of intellectual property rights, Intellectual property, Higher education, Creative economy of Indonesia.

1. Introduction

Indonesia has high potential of creativity, but does not have the ability to integrate it. It is therefore a step to identify the nation's identity as well as the potential of natural resources and human resources. This is required by formulating constructive steps through the Creative Economy Blueprint of Indonesia involving all stakeholders, intensified initiatives (both private and government) to create places to develop the creative industry talent of local areas, and to create culture-based products based on its priority. It requires collaboration among the various actors that play a role in the creative industries, namely...

²Ibid.
Scholars (Intellectuals), Business and the Government referred to as the 'triple helix' system, who are the main actors driving the birth of creativity, ideas, science and technology vital for the growth of creative industries. Close relationships, mutual support and mutual symbiosis among the three actors in relation to the foundation and pillar of the creative industry model will generate strong and sustainable creative industries.

In the context of the creative industries, scholars include archeologists, artists, clown-servants, gurus, educators in educational institutions, the pioneers in community, hermitage, culture and art galleries, individual researchers, group researchers, authors, and another figure in fields of art, culture (values, philosophy) and science contribute greatly to the development of creative industries.

College which is a place of higher education plays a major role in building, developing, and improving the quality of human resources in Indonesia. Colleges provide education which is integral systemic, open, and multi-meaning in the process of empowering and developing alifelong nation. Colleges build a model, willingness, creativit y in the learning process, empower all components of society, enhance community participation, and create excellent public service with fast, precise, accurate services continuously fixed, non-discriminatory, sustainable, and affordable. Institutions of higher education are directed at improving the ability of research and development so that the results are disseminated and applied in society.

Globalization that runs very fast demands any university in order to be globally oriented, following the developments and changes that occur. University international conferences need to be attended as far as closely related to the educational programs. Indonesia Esa Unggul University, as an example, although they were not present at the international conference of universities in Barcelona in 2003, they have learned and followed the conference agreements as far as it is in line with the grand design or blueprint of Indonesia Esa Unggul University as an effort of improving their competitiveness.

High Education competitiveness is no longer determined by the abundance of natural resources and cheap labor, but rather is determined by technological innovation and the use of knowledge, or a combination of both. The ability to produce, to select, to adapt, to commercialize and to use knowledge is critical to the sustainability of the acceleration of creative economy growth of Indonesia.

University of Science Malaysia (USM) Penang built the University in a garden, the Rector of USM developed technological innovation, social, and USM value with 8 C (commitment, concentration, capabilities, capacity, collaboration, commercialization, culture, and community), innovation (regular, niche, structural, and revolutionary) up to-user market and production technology, build knowledge-based innovators, innovation with science principles, develops information and communication technology and techno-entrepreneurs, develops ak-economy (knowledge-driven economy), knowledge-based innovation, collaborative education and training. Government, universities, and industry must come together to unite their potentials in a single network, which is fair and equal to conduct research and development in an organized and systematic ways. Especially in the current era of globalization, Indonesia, like other developing countries, is faced with the challenge of the emergence of free competition in trade among nations. This free competition would need Indonesia “invaded” by a wide range of new products and technologies from other countries.

Development in universities is an effort to strengthen the competitiveness through the Tridharma synergy of Higher Education, as well as to improve the benefits and impacts of the results of research and development. In such case, DP2M continues to develop strategic excellent research programs in the
development of science and technology which is one of the national interests.\textsuperscript{11} Tridharma underpins the activities undertaken by universities, namely teaching, research and community services. The activities using human intellectual will generate intellectual property products. Colleges with the three pillars of the activities will certainly result in various types of intellectual property.

IPR system which is a system that is "universal" has great potential to applied in the university environment. In line with the Higher Education Long Term Strategy (HE LTS) the universities in Indonesia are then obliged to implement new paradigms to improve the nation’s competitiveness based on science and technology. It is expected that the IPR system will be embedded in Tridharma college activities, in the areas of teaching, research, as well as community services in various stages of implementation, ranging from planning to evaluation stages.\textsuperscript{12} Thus, the college humans, in this cases: students, researchers, teaching staff/lecturers, technicians, laboratory assistants and other employees in the conduct of academic activities should gradually and systematically turn into sharper orientation and have the benefit prospects of a higher quality for their competitiveness improvement.

Based on the background of the problem, the authors are keen to examine the protection of intellectual property in universities as a means of competitiveness of universities and to examine the benefits of intellectual property protection in Higher Education through IPRs as an effort to increase the acceleration of the creative economic growth of Indonesia."

2. Theoretical Foundation

This study used the Grand Theory that is the flow of natural law\textsuperscript{13} Grotius argued that the law of nature generated through rational activity is a positive law that is a regulation to respect intellectual property rights\textsuperscript{13} of which are to be recognized. According to John Locke\textsuperscript{14} that property rights is inherent right in the individual's personality. Every person has the right to defend his/her life with his/her work. Therefore, countries in order to provide special protection in accordance with the concept of "modern welfare state" must be actively improve the society welfare\textsuperscript{15} as the foundation of the work of intellectual property protection of universities in an effort to realize the acceleration of the creative economy of Indonesia.

The foundation of IPR protection of intellectual property as an effort to increase college competitiveness contained in "Middle Theory" that is the theory of property rights, contract theory, as well as other supporting theories, among others\textsuperscript{16}; (1) Reward theory, namely the innovators or creators of intellectual property needs to be given awards and recognition and legal protection for the success of their efforts to bring forth creative and innovative products. (2) Recovery theory, namely the efforts of university intellectual property work needs to be protected for the benefits of the innovators or creators which is an attempt to improve university competitiveness, considering the innovators or creators have devoted their physical exertion, thoughts, time and cost. Therefore it is necessary to give them exclusive rights to exploit the IPR in order to gain what they have been devoted. (3) Incentive theory, saying that incentives should be given to stimulate creativity\textsuperscript{17}. According to Robert M. Sherwood in Public Benefit Theory\textsuperscript{18} that intellectual property owners should be respected and protected by law in order to encourage their creativity to be the basis of creative economic growth acceleration governed by the law that protect them for the creation of the three actor synergy consisting of academicians, businesses and governments - in Indonesia known as ABG concept - or intellectuals, business, and the government shorted as IBG\textsuperscript{20}. This is consistent with the opinion of Etzkowitz and Leyderrshoff in the Triple Helix Theory as a method of building an innovations-based policy shaping knowledge spaces, spaces where knowledge of the three actors already have an important role.
equivalent understanding and knowledge, which will direct the three actors to develop a consensus. This is also in line with the opinion of Joseph Schumpeter who explained the three modifying factors: Creative Destruction which means the emergence of new innovations in the industry will displace the old industries that are not creative and replace them with the creative ones.

3. Research Methods

Normative juridical and empirical research that is a study which refers to the legal norms contained in national and international legislations, as well as all law-related to intellectual property rights, the WTO-TRIPS Agreement, as well as Law Act. 18 year 2002 about the National System of Research, Development and Application of Science and Technology by searching, researching, and reviewing the object based on the literature data secondary data, the results of research and other literatures.

While the empirical factors: the effective implementation of the provisions of the legislation effectively to achieve its objectives conducted at several universities in Indonesia and those in other countries.

The research specification used descriptive analysis to provide an overview of the facts with a more accurate analysis of the legislation in force, associated with legal theories and practices associated with the protection and benefits of intellectual property of universities through IPR. The competitiveness of the universities in efforts to accelerate economic growth. Research stage through library research and data announcement used document study. Data analysis used the data and drew conclusions from the findings. Both legal materials of primary and secondary data were analyzed using qualitative methods.

4. Discussion

4.1. Intellectual Property Protection through IPR in Higher Education as Competitiveness of Higher Education

Colleges are intellectual activity-based institutions, therefore the protection and management of intellectual property through IPR is an essential requirement that must be met. The three pillars of activity that is "Tridharma (Three responsibilities)" underlie these activities carried out by universities, namely teaching, research and community service that generate intellectual properties and producing various types of intellectual properties deserves adequate protection of IPR.

In line with the Higher Education Long Term Strategy (HELTS), Higher Education in Indonesia is then obligated to implement a new paradigm to improve their competitiveness which is based on their competencies. This is in line with global trade paradigm leading to competition based on intellectual properties. Intellectual properties are valued as the most important asset in the competition, and Indonesia has ratified various international conventions in the field of intellectual property. With the ratification of all parts of Indonesia are expected to have an obligation to do so, including elements of the college.

Thus the orientation of the college, in this case, students, researchers, teaching staff / lecturers, technicians, laboratory assistants and other employees in the conduct of their academic activities should gradually and systematically turn into sharper orientation and have the benefit of a higher quality prospect for the college's competitiveness. Therefore HELTS issued by the Directorate General of Higher Education, Ministry of Education are expected to gradually and systematically to solve national problems through the role of Higher Education.

Compared to universities in developed countries, universities in developing countries, including those in Indonesia are faced with various problems, including lack of education and research costs, less "harmonious" relationship between industries and universities, one of the human resources and science and technology creators and the lack of infrastructure and mechanisms to ensure the smooth flow of information and the production of science and technology to their usage and also the opposite, from the needs of the market/industry to colleges. The IPR protection, when viewed comprehensively, is not limited only

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21 Article 13 paragraph (2) of Law No.18 of 2002 on the National System of Research, Development and Application of Science and Technology.
22 Article 13 paragraph (2) of Law, N., 18 year 2002 on the national system of research. Development and Application of Science and Technology.
23 Djoko Kustono, Industrial design, definition, protection and protection application procedures, a paper, ivan_maurits.Staff.Gunadarma.Ac.Id.
24 Ibid.
25 Djoko Kustono, Industrial design, definition, protection and protection application procedures, a paper, ivan_maurits.Staff.Gunadarma.ac.Id.
26 Ibid.
28 Ibid.
in the processor application for certificate of IPR protection, but it can be used as a solution to solve the problems faced by higher education today, including competitiveness.

Various college privileges wherein associated with status as a producer of intellectual property or science and technology, a very special case of an institution of higher education compared to the departmental/non-departmental research and development institution, is the existence of student's inputs in the process of academic activities of college. Students must follow the education/teaching, both theory and practice, and research, even doing community service activities which will result in a wide variety of intellectual properties. For example, papers/articles, products of lab - work activities, design/tool design, concepts and so on, good, creative, inventive and innovative works. The emerging problem that the college can create a system that is conducive to the innovation of students involved in activities that produce high-quality work. It requires the protection of intellectual property through the IPR system. It requires the State's role in providing special protection in accordance with the modern concept of the welfare state. Marbun said that the "welfare state" government must be active to ensure the welfare of its society.

"The mindset of appreciation" (The Respectful)33, that is able to appreciate the work of others, is the main essence of the IPR system, in addition to "creative mindset" (The Creating Mind)32. The mindset can lead to motivation and encouragement to continue to create and innovate in the field of copyright products and production technology, as well as other intellectual property products.33 This is consistent with the opinion of Robert M. Sherwood in "Reward Theory"34 saying that the owner of the intellectual work should be given rewards, recognition, and legal protection as a key to success to encourage people to create. Therefore, the product of intellectual property needs to be registered to obtain legal certainty.

Basic concept of intellectual property rights (IPR) derived from the proposition postulated by John Locke35. The core idea of the proposition is to put property rights as inherent rights in the personality of the individual,36 every has the right to defend his work.

At this time, Indonesia has legislation in the field of IPR for the protection of intellectual property owners and, not contrary to the provisions as required under the TRIPS Agreement. Legislation related to IPR includes: physical, ideas, creativity and its derivatives.

If one combines the work of his humanity, thenatural objects and adds something of himself, then automatically the result is part of his/her work, and cannot be removed from him/her without his/her consent. This is consistent with the theory of property rights and contract theory. Therefore, all human beings have certain natural rights and enjoy the rights do not require permission from the government.38 Intellectual property as a natural right should be protected as part of the natural right bestowed by God to man. This is in line with the flow of "natural law".39 Grotius argued that the law of nature is generated through rational activity that is a positive law meaning that respecting intellectual property rights is to recognize its ownership.

Thus intellectual property rights can be categorized into universal values that must be respected by humans as subjects of the law. Based on the description above, the results of substitutional research are property rights inherent to their inventors that have to be protected with something included:

1. The Law No. 19 Year 2002 about Copyright
2. The Law No. 29 Year 2000 about the Protection of Plant Varieties
3. The Law No. 30 Year 2000 about the Trade Secrets
4. The Law No. 31 Year 2000 about Industrial Design
5. The Law No. 32 Year 2000 about Layout Design of Integrated Circuits;

29 ibid
32 Ibid.
35 Djoko Kustono, Industrial design, definition, protection and protection application procedures, a paper, ivan_mauritis.Staff.Gunadarma.Acad.Ed.
36 Ibid.
38 Ibid
42 Nina Nurani, 2006. Protection and utilization of intellectual property right through university as a strategy to create business opportunities. National Seminar on Knowledge Management, Knowledge Management and Competitive Value Key Success Factors in Business, Universitas Widyatama, Bandung repository.widyatama.ac.id/xmlui/handle/123456789/3086.
By implementing IPR protection systems in accordance with the comprehensive reference and correctly, there are enormous opportunities for student orin this case colleges where they study to produceworks of high quality and highly competitive, as expected by all stakeholders.\textsuperscript{43} The number of intellectual properties generated by colleges are not only associated with the academic activities of the students, but also their lecturers/teaching staff/researchers. Tridharma activities with various attached to each individual lecturer in the college as a producer of intellectual property among other works: modules/handouts/lab-guidebooks/textbooks, model software/simulations, policy patterns/plans/strategies, equipment prototype, increase in the value-added of free counseling and services, visual aids for public, models/simulations, business tips for small and medium businesses, development of communication media and the works of other intellectual properties.\textsuperscript{44}

Thus the college as an educational institution and the development of science and technology (IPTEK) as well as art and literature must be able to produce various kinds of works that have the potential for IPR. Moreover, the university has a target of becoming a "Research University".\textsuperscript{45} One of the efforts is by registering the intellectual property rights registered so that the ownership and management are protected by law, the potential to improve the performance indicators\textsuperscript{46} of competitiveness of the university in the world. Intellectual work that has innovation and creativity produced by a university has a very large benefit to the advancement of the university and the wider community and has the potential to realize creative industries that have global competitiveness.

The current condition of the intellectual works produced by the academic society, especially the works of the students registered in the Directorate General of Intellectual Property Rights (Ministry of Justice and Human Rights) are still very minimal. Similarly, the types of IPR registered are still limited to "patent" and "copyright"\textsuperscript{48} and at UII are copyrights and brands\textsuperscript{49}. According to the data on IPR application at the IPR Center of Law Faculty of UII during four years from 2010 to 2013, the number of IPR applications was as follows: Copyrights\textsuperscript{9} (nine), brands\textsuperscript{35} (thirty five), patent rights\textsuperscript{2} (two), trade secrets\textsuperscript{3} (three), industrial designs\textsuperscript{2} (two), geographical indications\textsuperscript{2} (two). The total of all rights handled was 73 rights.\textsuperscript{50} It was not comparable to the number of university graduates each year.\textsuperscript{5} This is an obstacle in efforts to achieve increased competitiveness of Higher Education.

These constraints can be identified as follows:\textsuperscript{51}: first, the low level of knowledge of intellectual property rights among members about IPR. IPRs are a concept born from the understanding of individualistic, while the condition of Indonesian society which is understood isthe concept of communitarian. The second, the understanding of IPRs for some colleges is only synonymous with registration. The IPR management context is poorly understood that it actually must be followed by utilizing the right benefits. The third is the weak regulation of intellectual property rights in the development of science and technology (IPTEK).

The management of IPRs already registered which is to be protected and utilized by universities as an aim to provide services over

\begin{itemize}
\item 6. The Law No. 14 Year 2001 about Patents (Patents Act); and 
\item 7. The Law No. 15 Year 2001 about Brand
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the promotion and commercialization of university assets of the results of research and development activities which are the creation of new entrepreneurs, in addition to a framework of research quality improvement and competitiveness in terms of "tirtha" of the college that can be a strategy and framework and the university performance, among others, to contribute greatly towards Accreditation Standards.

Hence, IPR management includes not only the application process/registration of intellectual property generated to the Directorate General of Intellectual Property Rights, Ministry of Justice and Human Rights to obtain a certificate, but also includes the process of socialization in order to foster the motivation to be creative, inventive, and innovate, as well as the process of determining the IPR management strategies in the plan of Collegenirdharm activities.

Therefore, it is necessary to improve the knowledge of the university academic community onmoresystemic IPR. Currently, in practice, it still relies on the role played by government agencies and private which is less systemic, to begin the preparation of work plan together on a research-assessment process towards the results of college Tridharma activities, the process of preparing database of intellectual property as the results of Tridharma activities, the process of protection which is based on IPR systems, the process of utilization, including the determination of the amount of remuneration and distribution as well as the regulatory process. Socialization activities are intended to foster awareness of the faculty/researchers and students.

Socialization still must be done, but with the increase in substance within the scope of IPR management. Related parties should start thinking of ways or mechanisms that can effectively reach the target accurately. The assessment process needs to be done to assess the feasibility of the intellectual property produced, especially those that will be used commercially. Intellectual property management / IPR requires significant investment, so it needs to be assessed the eligibility to be protected, commercialized, and applied before entering the stage of application for protection. IPR protection can only benefit the college as the college competitive success is comprehensively since the determination of the strategy. For example, one of the Tridharma college activities, namely research, in determining the research strategy is no longer based on the tastes of the individual or group, but based on targeted specific benchmarks. The number of patent or other intellectual property rights has become a kind of benchmark in assessing the success of college competitiveness if implemented comprehensively since the determination of the strategy.

4.2. The Benefits of Intellectual Property Protection in Higher Education through IPR as an Effort to Increase the Acceleration of Creative Economic Growth of Indonesia

Creative economy is believed to answer the challenge of the basic problems of short and medium-term economic growth (an average of only 4.5% per year; (2) the still high unemployment (9-10%), high levels of poverty (16-17%), and (4) the low competitiveness of the industry in Indonesia. In Indonesia, the role of creative industries in Indonesia's economic growth is significant with a contribution to GDP of average 2002-2006 was 6.3%, equivalent to 104.6 trillion rupiah (nominal value) and 152.5 trillion rupiah (nominal value). The industry has been able to absorb the labor force in average 2002-2006 was 5.4 million with participation rate of 5.8%.

It requires Indonesia human resource to have a disciplined mindset (The Disciplinary Mind), the mindset which is less systemic, more systemic IPR. Currently, in practice, it still relies on the role played by government agencies and private. Socialization still must be done, but with the increase in substance within the scope of IPR management. Related parties should start thinking of ways or mechanisms that can effectively reach the target accurately. The assessment process needs to be done to assess the feasibility of the intellectual property produced, especially those that will be used commercially. Intellectual property management / IPR requires significant investment, so it needs to be assessed the eligibility to be protected, commercialized, and applied before entering the stage of application for protection. IPR protection can only benefit the college as the college competitive success is comprehensively since the determination of the strategy.

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Regarding the fact, the university as an educational institution should lead to a system of education that is able to create (1) competitive competence which requires practice, experimentation, research and development, and multidisciplinary collaboration projects consisting of a variety of knowledge of science, technology, and art; (2) Multi-Dimensional intelligence which includes rational intelligence (IQ), emotional intelligence (EQ), and spiritual intelligence (SQ). Thus, formal education is expected to generate human resources with high-rational intelligence and have high-creative ability.

Related to innovation-based economic development, Etzkowitz & Leydersorff in the Triple Helix theory revealed the importance of creating the synergy of three poles, namely academicians, businesses, and government in Indonesia is known as the concept of ABG. In line with this theory, the sustainable economic development must be based on science with synergy -download into the innovation (knowledge capital). Triple Helixs themselves should form a consensus space, which can be packed into IPR-based creative products with economic values, as efforts to accelerate the creative economic growth of Indonesia. This is in line with the opinion of Robert M. Sherwood on "Public Benefit Theory" explaining that the creators deserve legal protection of their creations as a mean to support economic development.

Currently the problems in the use of IPR in universities as academic institutions in efforts to achieve the creative economic growth acceleration are, the first, the "mind set" of the academic community about the understanding of IPR concepts is considered something new; the second, in general universities do not have a strategy to protect and manage the intellectual property rights. Meanwhile the benefits of managing IP/IPR for higher education include among others: creating advantages and competitiveness with other universities; in addition to adding value for the improvement of the economic benefits of research activities of IP/IPR and enhancing the competence and professionalism of the academic society in the field of science. In line with this, the implementation of TRIPS-WTO in the protection of IPR over fashion trademark of creative industry as an effort to improve global competitiveness. International Journal of Trade, Economics and Finance (IJTEF), 5(3). Available from www.ijtef.org/papers/385-F620.pdf.

Therefore, it is necessary to develop "Strategic Intellectual Property Rights Protection and Management in Higher Education" by considering three aspects include: (1) the management of Intellectual Property Policy (IP)/Intellectual Property Rights (IPR), namely the availability of various internal policies that support the management of IP/IPR, among others, the use of strategies to protect the rights of IP/IPR in universities can be a strategy and framework for college performance; (2) institutional IP/IPR, namely the availability of a strong institution supported by competent and professional human resources, as well as an adequate budget, among others; and (3) IP/IPR culture, the familiarity of the campus community to manage IP/IPR through the available system, including documentation and registration processes which are operating effectively.

This is consistent with the provisions of Article 13, paragraph 2 in conjunction with paragraph 3 of Law no. 18 of 2002 on the National System of Research, Development and Application of Science and Technology. Article 13, paragraph 2 has been arranged to state that: "Higher educational and R & D institutions are required to commercialize the result dissemination of research and development activities as well as intellectual property owned as far as not reducing the interest of intellectual property protection".

And Article 13 paragraph (3) provides that: "To improve the management of intellectual property, universities and R & D institutions shall make efforts to establish IPR centers according with their capacity and capability".

Each of intellectual property and the results of research, development, engineering, and innovation funded by the government and/or local governments shall be managed and utilized by universities, R & D institutions, and enterprises that implement them. This can be done by identifying a number of problems associated with it, among others:

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60 ibid
61 ibid
62 ibid
63 ibid
64 ibid
67 ibid
68 Article 13 paragraph (2) of Law No.18 Year 2002 on the National System of Research, Development and Application of Science and Technology.
69 Intellectual Property Rights Center of the Law Faculty, UII-startegic-Plan, hki.uii.ac.id/Center.
a. The lack of information and data relating to the ownership of IPR in Higher Education. This is due to universities which do not have a good plan of database systems for IPR assets. The usefulness of the information and data is means to realize the protection and management of Intellectual Property Rights in Higher Education.

b. There is no effective monitoring system in Higher Education. Currently universities do not have a systematic pattern of IPR supervision. As a result, holders of intellectual property rights are very weak and limited in their intellectual property rights supervision. It is time for the Higher Education to proactively prepare the IPR system monitoring to provide benefits to the owners/holders of the rights, academic community, and the public at large.

c. The low level of utilization of IPR in universities in order to improve learning and increase university revenues. It is inseparable from the university's attention.

Considering these problems, it is necessary to arrange a programming done in a "comprehensive" and "systemic" approach using two approaches that are "structural" and "functional" as follows:

a. Structural Approach with emphasis on the establishment of an institutional system through the university's institutional structure (top down), namely Rector, Deans, and other leaders with a number of powers that can be used to strengthen IPR protection and management systems.

b. Functional Approach by focusing on IPR awareness efforts by community members in the academic university environment. It became an effective instrument in improving "generate income" learning of universities (bottom up). It needs to be accompanied by a high awareness of intellectual property rights. It has significance in an effort to make the protection and management, and utilization of intellectual property rights as a supporting power to realize the increase of creative industry works.

As a follow-up of programming using the two approaches mentioned above, it is necessary to plan efforts to establish a system of protection and management of Intellectual Property Rights in Higher Education. This can be done through the implementation of several programs based on the three main "domains," namely:


b. Formation of IPR protection system for strong universities, accessible, and guarantees legal protection through the regulations of development and management of IPR protection. In addition, it requires the formation of an alternative system of IPR protection through a system of "data base" as well as the establishment of surveillance systems of IPR in universities with a system of "networking".

c. Establishment of IPR utilization system in universities within the framework of "income generate" by using "innovative and creative learning models."

Related to the "generate income" as an effort of university's competitiveness in its implementation in order to improve the acceleration of the creative economy in line with the Recovery theory, protection should be given by registering to obtain a certificate or granted so that the exclusive rights can be utilized, both the economic rights and moral rights for the duration of effective protection in order to regain what has been expensed regarding the innovators or creators have given their physical effort, thoughts, time, and cost. Thus the students and researchers/teaching staff are motivated to creatively result in inventive and innovative works. Therefore the use of IPR can be done commercially and non-commercially.

Utilization of IPR which is non-commercial is the usage aimed at the development of technology, community development, or other activities. As for the commercial activities it can be done through licensing, sales, new ventures, joint ventures, acquisitions, and strategic alliances. It will be a financial benefit which is the main goal. IPR provides a limited monopoly for IPR holders that IPRs is a business instrument over the intellectual properties that it protects, therefore what need to be embedded in the

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70 ibid
71 ibid
72 Nina Nurani, 2006. Protection and utilization of intellectual property right through university as a strategy to create business opportunities. National Seminar on Knowledge Management, Knowledge Management and Competitive Value Key Success Factors in Business, Universitas Widyatama, Bandung. repository.widyatama.ac.id/xmlui/handle/123456789/3086.
74 ibid
academic community are no longer limited to the spirit of entrepreneurship, but also technology entrepreneurship. This is also in line with the incentive theory.

According to the data in developed countries, where the IPR system is well established and conducive to implementing IPR systems correctly, of about 100 research results only about 7-10% are successfully commercialized. In Indonesia, there are almost close to one hundred IPR centers that are documented by the Ministry of Research and Technology. This number includes the IPR Center in the department of research and development institutions/non-departmental. But those that really actively perform their function are still minimal. IPR Centers are indispensable, especially if we consider the lack of knowledge, understanding, and public awareness of IPR systems, in addition to the knowledge of the Technology Licensing Office/Technology Transfer Office/Innovation Center located abroad.

Thus, the challenge for the IPR system to always consistently insert the IPR system into one of the three responsibilities (tridharma) requires serious efforts, given the general level of awareness and understanding of the IPR systems in Indonesia is low. To date, the number of intellectual works produced by academic communities, particularly by students, is still very minimal. Similarly, the types of IPR that are registered are still limited to the rights of brands, copyrights, and patents.

5. Conclusions and Recommendations

5.1. Conclusions

a. Intellectual Property in Universities has the benefit of a more qualified prospect in order to improve the competitiveness of universities. It requires the existence of IPR protection through IPR systems as a form of respect that grows the motivation to create and to innovate. Therefore, it is necessary to do registration that can potentially improve the performance indicators of Higher Education. Currently, the number of intellectual works produced by academic communities, particularly by students, is still very minimal. Similarly, the types of IPR that are registered are still limited to the right brands, copyrights, and patents.

b. The utilization of the academic community through intellectual property protection of IPR systems in universities is efforts to achieve the acceleration of creative economic growth with a "triple helix" system (Business-Government and Intellectuals) faces some problems, such as the "mind set" of the academic community on understanding the IPR concept other than higher education in general does not yet have a strategy for the proper and comprehensive protection and management of IPR.

5.2. Recommendations

a. In addition to registration, the IPR systems in colleges should be used as a solution to the problem of lack of education and research funding, lack of harmonious relationships between universities and industries, and the lack of infrastructure and management information up to its utilization.

b. "IPR Protection and Management Strategies in Higher Education" should be arranged with regard to IPR management policies, IPR institutions, among others, the establishment of IPR centers in the university environment and IPR culture. It is with regard to the identification of a good databasesystem planning for IPR assets, effective monitoring of IPR in higher education and increased IPR usage in order to improve learning and increased university revenue. The approach should be structural and functional with the program implementation at the domain's developing IPR awareness, IPR protection formation, and IPR utilization systems.

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