
Low Number of Patent Applications in Indonesia: Patents in the Knowledge-Based Economy

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ABSTRACT

In Indonesia, currently, public awareness on patent rights is very low. This can be seen from the low number of patent applications in Indonesia. In fact, Indonesia already has a regulation on patent which provides legal protection to inventors of technology. Data from the Directorate General of Intellectual Property Rights the Ministry of Law and Human Rights have revealed the number of foreign patents filed in Indonesia in 2012 has reached 6,212 applications. This indicates current domestic market, particularly technological products, is practically “monopolized” by foreign players. TRIPs aim at protecting and enforcing law on intellectual property right to encourage the innovation, transfer, and deployment of technology, the achievement of mutual benefits for technology creators and users, by ways that create social and economic wellbeing and balance between rights and obligations. Creations and innovations in technology of a country bring prosperity and economic development for the community. With the patent right, the creations and innovations in technology of a country bring prosperity and economic development for the community. This study tends to identify the low level of Indonesian awareness to act in patent's registration. The methodology used in this study is document analysis. Reviewing relevant documents pertaining to the questions rose in the study. The results show that patent's law is not yet properly functioning as refer to a tool of economic development. The results in line with the fact that patent's right in Indonesian yet purposed by government to only normative and fulfillment of ratification of TRIPS Agreement.

Keywords: Patents, Knowledge-based economy, Intellectual property rights.

Introduction

Rapid advancements in technology have had great impacts on our daily lives for these past couple of decades. Such advancements are supported by high technologies in various sectors, from

computer, electronics, telecommunications, and biotechnology, to mechanical, chemical, and other sectors. Along with came the advancements, came erases the awareness to improve

utilizations of simple technology (Law No. 14 of 2001). Regarding this condition, Indonesia has the specific regulation particularly made created to provide legal protection to inventors in technologies according with the Law No. 14 of 2001 regarding Patents. Law No. 14 of 2001 was established, not only to give protection to Indonesian and foreign inventors, but also to prove Indonesia's commitment in ratifying the Agreement Establishing the World Trade Organization which also includes the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs) particularly regulating issues on patents. The ratification of TRIPs has encouraged Indonesia to adjust its national regulation on patent. Data from the Directorate General of Intellectual Property Rights the Ministry of Law and Human Rights have revealed the number of patent applications filed in Indonesia in 2011 has reached 820. This was a sheer improvement from 2009 and 2010 with consecutively 648 and 795 applications respectively. Comparing this with the increasing number of foreign patents filed in Indonesia. Total foreign patents filed in 2009 reached 4,145 applications, and increased to 5,035 applications in the following year. The number continued to increase up to 5,432 applications in 2011 to 6,212 applications in 2012. This indicates current domestic market, particularly tech products, is still practically monopolized by foreign players (Kopertis, 2003). Patent applications from Indonesia, as revealed by the Patent Treaty Cooperation, are very low in number compared to other ASEAN countries. Indonesia rates far Singapore, Malaysia, Thailand, the Philippines, Vietnam, while outperforming only Brunei Darussalam. Among ASEAN members, Singapore is recorded as the country with largest WIPO patent applications, followed by Malaysia

(262 patents), Thailand (60 patents), the Philippines (16 patents), Vietnam (13 patents), and Indonesia (11 patents). The reason behind Indonesia's low number of patents remains unclear. Is Indonesia aware of the facility? In fact, Indonesia has ratified the convention, thus is capable of filing the international patent application through PCT. Does Indonesia consider it unnecessary to internationally file for the patents through PCT? Or does this reflect Indonesia indeed lacks patents that fit the international acknowledgment?

Apart from rare socializations on patents to public, a core issue which also becomes international concern is weak legal enforcement in Indonesia. This is important as it affects legal protection to holders of Intellectual Property Rights (IPR). For these couple of years, a number of violations to IPR in Indonesia have not received proper actions because they are considered as unimportant legal issues. Therefore, the Law No. 14 of 2001 regarding Patent (hereinafter referred to as Patent Law 2001) exists to achieve Patent Goal, which is providing protection to inventors. A number of evidence proves this Patent Law has several flaws (specify the flaws) which should be immediately resolved to allow effective implementation of the Law. In some develop countries, patent's right is treat for much more advanced as one of the tool for the development of technology and economic. A parallel affect should appear for increasing growth of technology's field with regard to economic and industrial growth. Both growth shall indicate a positive impact on opening new vacancies for society.

The low number of patent applications in Indonesia apparently also reflects the level of our technologies. This fact, of course, encourages us to continue improving our technology, which eventually needs to be

patented. Purba (2011), the increase in patent applications nationally will automatically reduce our dependency on technologies from overseas. This conforms with TRIPs' objective, which is *"the promotion of technological innovation and to the transfer and dissemination of technology..."*

Intellectual property assets of a company bring added values to its economics, such as at Walt Disney or Microsoft. More than 80% of company values come in the forms of assets related to intellectual properties and assets. Microsoft, for example, has US\$90 billion of wealth with asset capitalization amounting at US\$270 billion. A large part of this asset capitalization, amounting to US\$180 billion, is estimated to consist of intellectual property assets such as trademarks, patents, trade secrets, and know-how (Kamil, 2003).

Patent Right

Patent right is an interesting topic because within it (just like any other IPRs) contains economic rights moral right, and social function. Certain aspect especially contained in IPR is the Economic Right, which is a right to gain economic benefits over said intellectual property. Intellectual property is an item measureable with money, hence the term Economic Right. Economic right may come as certain amount of money obtained from self utilization of the IPR or from utilization by other parties through license. Economic right is calculated because an intellectual property can be used by other parties in profitable industries or trades. In other words, IPR is a trade object. Another aspect related to IPR is Moral Right which protects private interest or Creator/Inventor's reputation. Moral Right is attached to Creator/Inventor. Copyright or Patent can be transferred to other party, however Moral Right cannot be separated

from Creator/Inventor as it is personal and eternal. Personal means it shows the characteristics of good name, ability, and integrity belonged only to Creator/Inventor. Eternal means it is attached to Creator/Inventor lifelong even after their death.

Syafrinaldi (2010), similar to other IPRs, patent contains the reinforcement and justification nature of a democratic government, hence having a social function. Within special condition and with certain requirements established in State laws or regulations, the State can take over the ownership of a person's or institution's objects for greater interest, such as public interest. Economic function is a means to realize a just and prosperous society. In its implementation, social function in patent right is grounded by national interest or public (common) interest. Substantially, IPR can be described as "Right on property arising from or born as human intellectual ability". This description fundamentally provides the justification that works arising from or born as human intellectual ability become IPR core and object of arrangements (Margono, 2003). TRIPs (Trade Related Aspects of Intellectual Property Rights) are one of 15 issues in GATT (General Agreement on Tariff and Trade) which regulates IPR globally. In general TRIPs contain IPR-related juridical norms to be obeyed and performed, in addition the arrangements of banning on trade in IPR infringing goods. The establishment of TRIPs during the Uruguay Round (GATT) was essentially triggered by the constantly-spending international trade and economics which are no longer limited by country borders. Munawarah (2006), TRIPs were initiated by the United States of America in anticipation of the assessment that WIPO (World Intellectual Property Organization), an organization under the United Nations, can no longer

protect their IPR in international market which in turn resulted in negative position in their balance of trade. The United States tried bringing IPR issues to GATT trade forum. Inputs on IPR were initially opposed by developing countries under the arguments that IPR issues in GATT were improper (incompetent). GATT is a multilateral trade forum, whereas IPR was not related to trade whatsoever. In the end, the other countries were open to the suggestion under the argumentation that (international) trade development of a country depends on the advancement of technologies, including the protection of its IPRs. TRIPs aim at protecting and enforcing IPR laws to encourage the innovation, transfer, and deployment of technology, the achievement of mutual benefits for technology creators and users, by ways that create social and economic wellbeing and balance between rights and obligations.

Creativity and innovation in technology brings prosperity and economic growth for the community. For example, the development of a new computer software or information technology needs cost, time, and human resources with special expertise. On the other hand, the activities of copying, utilizing, or fabricating the creativities and innovations developed by other person is uncomplicated. Hence, protection to IPR is a necessity. Intellectual Property Right covers a legal area in charge of judicial rights of works or creations of human intellectuality in relation to economic and moral interests (Damian, 2004).

In general, IPR has the purpose to protect inventors, goods producers, and other intellectual services through certain and limited right granting to control the utilization of goods performed by the producer. This is not applicable to physical goods where creations can be realized but

merely as the replacement of the intellectual creation. Before the establishment of WTO international intellectual property right issues were administrated by the World Intellectual Property Organization (WIPO), an organization under the United Nations established in 1967. Work relation between WIPO and WTO is set out in the Agreement between the WIPO and WTO, 1995. About this relation TRIPs state: Desiring to establish a mutually supportive relationship between the WTO and the World Intellectual Property Organization (referred to in this Agreement as "WIPO") as well as other relevant international organizations. WIPO, historically, has assisted a number of developing countries in the development of IPR system, including the regulation and human resources training, including in Indonesia. Developed countries incorporated in the Organization for Cooperation and Development (OECD) had initially insisted WTO to hold the control on IPR, remembering TRIPs are inseparable part of the WTO Agreement. WIPO was considered too accommodating for developing countries. WIPO's balance of power policy is considered more beneficial to developing countries compared to similar arrangement within the WTO (Abbott, Cottier, and Gurry, 1999). The definition of Intellectual Property is not a standard definition. In this case, WIPO (1993) in its General Information states: No international treaty defines these concepts, and the various countries differ from each other on several important points. It is not possible, therefore, to give universally accepted definitions of the various forms of international property. Sardjono (2004), in TRIPs patent right becomes a part of IPR. Two IPR scopes regulated in TRIPs include:

- Industrial Property and Copyright. Industrial Property includes: patent, utility models;

- Industrial design, trade mark, service mark, trade names, and geographical indications, while copyright also include related rights or neighboring rights.

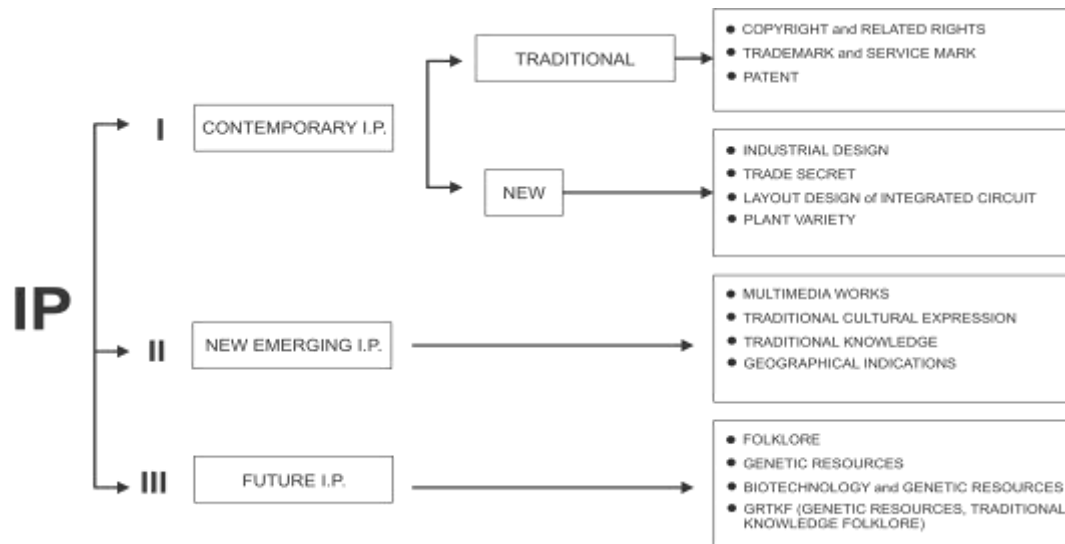


Figure 1. Contemporary, New-Emerging, and Future Intellectual Properties (*Source: Demian, 2012*)

TRIPs do not define intellectual properties; however, Article 1.2 of TRIPs states intellectual properties include:

Copyright and related rights (such as from stage artists, voice recording producers, and broadcasting organizations);

Trademark;

Geographical Indications;

Industrial Design;

Patent;

Layout Design of Integrated Circuit;

Trade Secret and Test Data;

New Plant Variety.

Hence, discussion of IPR as a concept cannot be separated from patent as a part of the IPR. A number of concepts of terms commonly used in IPR also include patent right designs. To be able to receive exclusive right granted by a country to an inventor, concerned inventor needs to fulfill certain requirements. The country has set the requirements into two general parts; administrative and physical and substantive requirements. Administrative and physical requirements essentially are related to applicant's identity and patent

application's physical forms. Substantive requirements are directly related to the assessment whether or not an invention fits the patent. Substantive requirements can only be assessed when administrative and physical requirements are met. Substantive requirements are assessed by experts called patent assessors. Patent assessors performing assessment on substantive requirements should have proper and relevant expertise in technical area in which the invention applied for patent (Robinson, 2012).

Patents in the Knowledge-based Economy

The term of Knowledge-based Economy was coined by Dominique Farag and Beng in 1996 in Organization for Economic Cooperation and Development (OECD) forum. In OECD, KBE (Knowledge-based Economy) is knowledge on:

Know-what: knowledge on facts;

Know-why: knowledge on science;

Know-how: knowledge on how to accomplish something;

Know-who: knowledge on information.

During technology transfer processes, we will be more commonly encountered with IPR issues, including industrial rights, i.e. patent right, trademark and know-how right, and other intellectual properties such as copyright in computer software, technical drawings, and other technical manuals. Right granted by legal system in this case is commonly the right to be recognized and protected by law based on legal power for certain period of time to certain acknowledged person to prohibit or limit other people and any actions from interfering with the person's intellectual property, such as invention in patent rights, trade name in brand, knowledge in know-how, and works or creation in copyright. Such rights are granted by governmental institutions to people who have fulfilled legal procedures and, in many cases, who have applied for the protection of rights (e.g. patent is granted to an inventor whose invention is genuinely recent and who has applied for the protection of such right). A strong patent system and proper enforcement is a prerequisite for technology transfer and investment. Without patent to protect, no businesses are willing to disclose their technologies or invest in Research and Developments. Kamil Idris, stating: Thus, the most fundamental way that patents facilitate technology transfer and investment is the creation of a safe environment in which business and further R&D may be conducted. With such investment and business relations, given the proper structuring of and favorable terms in joint venture agreements, a rich harvest of technology transfer in the form of know-how and human capital development can be reaped. We witnessed some experiences of emerging economies

in the last century. The above discussion sets forth the theoretical rationale for the patent system. However, the test of theory is how it works in practice. Kamil (2003), a practical description of how patents stimulate economic development could be the subject of a multi-volume treatise. This section will provide some facts and examples of how this process occurs in everyday business and policy contexts, especially focusing on:

how patents facilitate technology transfer and FDI;

patents as stimulants of R&D at universities and research centers;

patents as catalysts of new technologies and new businesses, and

how businesses, especially small and medium-sized enterprises (SMEs), accumulate IP assets and engage in transactions based on such assets.

There is a correlation between international trade and IPR, that IPR plays an important and positive role in economic development. Even among poor countries, IPR can be an important condition for the progress of business (Maskus, 2000).

Why Patent Applications in Indonesia is Low in Number

The low number of patent applications in Indonesia indicates the lack of innovation and research domestically, therefore creating very low number of technological inventions to be patented both inside and outside the country. This may be caused by:

Economic crises

If patent indicates economic growth, then a country with a little number of patents will also experience low economic growth. Economic crises in Indonesia from year to year in addition to leadership and trust crises have caused Indonesia lost its focus in preparing the country's competitiveness

improvement programs which direct to independency. Monetary turmoil affecting real economic sector has resulted in the low number of patent applications in Indonesia, as economic downturn has influence on Research and Development investment which is an initial step from patenting activities.

Research and Development outcomes not yet fit for patents

Innovations, research, and development to create patents with commercial values in this country are low and seem less serious, hence regarded unfit for WIPO patent application. Such condition is triggered by Indonesian culture which tends to consume rather than to create. This is reflected from the tendency of many scientists who do not concern on matters related to innovating process. Most of them merely use or modify existing technology for the continuation of their projects.

Inventors concern less on patents

If Indonesia indeed has many new inventions, subsequently the above reality on the number of patents can be an encouragement for scientists in Indonesia. Patent is a branch of intellectual properties to be fight for by every scientist.

Inventors lack of understanding about patent application

Indonesian inventors may have a lot of products fit for patents, but lack of understanding on how to file for their patent application internationally to WIPO. Naturally, IPR office in Indonesia needs to facilitate free annual patent application filing to inventors in addition to simplifying bureaucratic system. Exploring the potentials and providing good understanding with proper socialization

are also recommendable. If such programs already exist, then the quality should be improved.

Differences in research and development orientation

In educational sector, research and development in this country aims more on increasing credit points for the promotion of rank, echelon, or position; whereas researched and development in foreign countries are commercially-based. That is to say, Indonesian research and development aims for points, while abroad it aims for coins. Education in developed countries prioritizes on industry-based researches. Therefore governments abroad are easier to grant research funds for professional scientists, in which within it includes welfare benefit for more focused research. We need to immediately realize Indonesia will forever become a consumer's country without strong backup in research sector. Indonesia already has excellent human resources. The only problem is how to change their mindset into performing research and development that creates patents with commercial values. Now is the time to change our orientation.

(6) The lack of government concern and funding agencies to support a researcher to perform research and development domestically. Government in Indonesia lacks of feasibility to provide high salary for the scientists to compete domestically. A fresh graduate doctor in Malaysia, for example, is paid RM5-10 thousand (Rp15-30 million rupiah) each months, not including facilities such as car, housing, and health insurance. Whereas our scientists who have just returned to our country are faced with difficult employment and administration system, besides having to go through pre-service period, writing for applications, even

losing the opportunities to perform researches with full facilities. The government needs to realize researchers also need to meet the necessities besides their researching needs. Such necessities include financial facilities for their family. If such necessities are not met, they may choose other country considered better at giving the appreciation they deserve. We have an Indonesian scientist becoming a university-level exemplary research lecturer in the United Kingdom; another Indonesian researcher becomes the best, young researcher in Asia Pacific; and many more of Indonesian scientists abroad have received awards for their dedications. Not a few become part of a team and result in excellent works, and later patent the products under the foreign industry where they dedicate themselves.

(7) In terms of culture, Indonesia is busier making discourses instead of preparing clear program and making real execution. The underdevelopment of Indonesian culture is far behind the Netherlands, Japan, Germany, Hungary, India, Egypt, and France. This is an irony considering our ancestors have created much more diverse cultural products. stating “the ability of developing countries, including least developed countries, to integrate development concerns into their intellectual property systems is constrained by the growing number of multilateral, regional and bilateral commitments they continue to make in the area of intellectual property. Accordingly, it is ever more important today that developing countries maintain and make use of the flexibilities that are available in the international intellectual property regime, rather than strengthen intellectual property protection without making a thorough assessment beforehand of the needs, risks and impact of increasing protection.”

Conclusion

From above explanation it can be concluded that patent provides huge benefit for the development of a Country. Patent right protects the creations and innovations in technology of a country to bring prosperity and economic development for the community. In enforcing patent right, there should be a harmony between legal enforcement, utilization, and fairness. It is hoped Indonesian patent law can function as a “tool of economic development”, because advancements in industrial countries are a resulted of from the implementation of legal principles in addition to human resources with high creativity.

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