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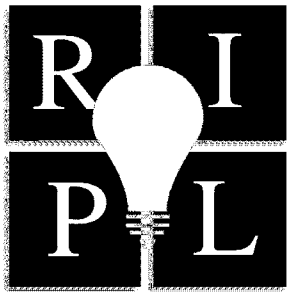

WHAT THE PCT CAN LEARN FROM TWO AFRICAN SYSTEMS

ZION H. PARK

ABSTRACT

The purpose and goal of patent law is to help society by encouraging innovation. While the Patent Cooperation Treaty ("PCT") has made international patent procurement easier and more accessible, the current system is still plagued with redundancies and inefficiencies. These flaws are barriers to patent offices and individual patentees, hindering innovation and the growth of developing nations. Ultimately, these problems are hindrance to society, contradicting the goal of patent law. This comment compares the PCT to two similar but less prominent African regional patent systems: African Regional Industrial Property Organization ("ARIPO") and African Industrial Property Convention ("OAPI"). ARIPO and OAPI are appropriate models to compare the PCT to, because they were developed in cooperation between their developing member nations to achieve intellectual property and social development. From the comparisons, the comment proposes changes to the current PCT model that will solve, in part, its deficiencies and adhere to the purpose of global patent law.

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WHAT THE PCT CAN LEARN FROM TWO AFRICAN SYSTEMS

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INTRODUCTION

The purpose and goal of patent law is to help society by encouraging innovations.[1] While the Patent Cooperation Treaty[2] ("PCT"), with the influences of The Trade-Related Aspects of Intellectual Property Rights Convention[3] ("TRIPS"), has helped toward harmonized international patent law, the current system still has significant deficiencies.[4] The current PCT model is too costly and inefficient.[5] Consequently, these excessive costs and inefficiencies are barriers to innovation.[6] Ultimately, these deficiencies are hindrances to society as a whole because they thwart innovation and growth of developing nations.[7] Therefore, these problems have effects that are directly contradictory to the purpose of patent law.

The African Regional Industrial Property Organization[8] ("ARIPO") and the African Industrial Property Convention[9] ("OAPI") are two regional patent systems in the Sub-Saharan Africa. This comment will compare the PCT to these systems, which may bring insights to modifying the current PCT model to relieve the current

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[1] Kamil Idris, *International Intellectual Property Law: Introduction*, 26 FORDHAM NT'L L.J. 209, 217 (2003) [hereinafter *International Intellectual Property*]. The World Intellectual Property Organization ("WIPO") has proclaimed the universal value of intellectual property as a contribution to the progress of societies; that it is a power of imagination applied to solving practical problems; and that its success is measured by its service to society. KAMIL IDRIS, INTELLECTUAL PROPERTY: A POWER TOOL FOR ECONOMIC GROWTH 9 (2003), *available at* http://www.wipo.int/about-wipo/en/dgo/wipo_pub_888/index_wipo_pub_888.html [hereinafter A POWER TOOL].

[2] *See generally* Patent Cooperation Treaty, June 19, 1970, 28 U.S.T. 7645, 1160 U.N.T.S. 231, *available at* http://www.wipo.int/pct/en/texts/pdf/pct.pdf [hereinafter PCT]. The PCT greatly unified the filing of international patent applications by permitting "the filing of one patent application, replacing the need for a multiplicity of separate applications." Jay Erstling & Isabelle Boutillon, *The Patent Cooperation Treaty: At the Center of the International Patent System*, 32 WM. MITCHELL L. REV. 1583, 1598 (2006).

[3] *See generally* Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS – RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 81 (1994) [hereinafter TRIPS].

[4] *See* John H. Barton, *Issues Posed by a World Patent System*, 7 J. INT'L ECON. L. 341, 341–42 (2004).

[5] *See id.* at 344.

[6] *See* Keith E. Maskus, *Intellectual Property Challenges for Developing Countries: An Economic Perspective*, 2001 U. ILL. L. REV. 457, 466 (2001) [hereinafter *IP Challenges*].

[7] *See* Barton, *supra* note 4, at 342.

[8] *See generally* Agreement on the Creation of the African Regional Industrial Property Organization, Dec. 9, 1976, *available at* http://www.aripo.wipo.net [hereinafter ARIPO].

[9] *See generally* Bangui Agreement on the Creation of African Intellectual Property Organization, March 2, 1977, *available at* http://www.oapi.wipo.net [hereinafter OAPI].

deficiencies and negative effects of furthering global and harmonization efforts.[10] The background section will begin by summarizing the development and key events in international patent law history. Then, it will detail the PCT, ARIPO and OAPI with respect to their history and procedures. The analysis section will address the advantages the PCT has brought to the advancement of patent harmonization efforts. Then, it will identify and analyze two problems with the current PCT model. Lastly, the analysis section will compare the differences between the PCT and the two African regional systems. The proposal section will recommend two changes to the current PCT system that will solve, in part, these problems and encourage the continuing efforts toward global patent harmonization.

I. BACKGROUND

The background section of this comment describes the development and impact of international patent law and international patent procurement. Section A will begin by introducing the history of international patent law. Section B will discuss the harmonization efforts that have been made thus far. Section C will discuss the history and procedures of the PCT, ARIPO, and OAPI respectively.

A. History of International Patent Law

For centuries, civilizations have utilized intellectual property ("IP") as a reward and means to encourage creative innovations.[11] In return for giving ownership over an author's or inventor's idea, governments would require the full disclosure of the idea to the public to be exploited after its protected term.[12] It is the philosophy of IP rights that giving these incentives is the best way to encourage innovation and advance public welfare.[13]

Since the end of the twentieth century, intellectual property has become an integral part of the economies of developed countries.[14] Furthermore, intellectual property has been recognized as one of the most valuable assets in commercial transactions and is "gaining ground as a measure of corporate viability and future performance."[15] As a result, developed countries have devoted greater resources to

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[10] *See generally* Adebambo Adewopo, *The Global Intellectual Property System and Sub-Saharan Africa: A Prognostic Reflection*, 33 U. TOL. L. REV. 749 (2002).

[11] Gerald J. Mossinghoff & Vivian S. Kuo, *World Patent System Circa 20XX, A.D.*, 38 IDEA 529, 531 (1998).

[12] *See* Keith E. Maskus, *Intellectual Property Rights and Economic Development*, 32 CASE W. RES. J. INT'L L. 471, 473–74 (2000) [hereinafter *IP Rights*].

[13] Jean Raymond Homere, *Intellectual Property Rights Can Help Stimulate the Economic Development of Least Developed Countries*, 27 COLUM. J.L. & ARTS 277, 279 (2004).

[14] *See* A POWER TOOL, *supra* note 1, at 33 (noting that a growing body suggests that a functioning system of intellectual property rights is a likely indication of economic growth).

[15] *Id.* at 54. For example, in 1999, intellectual property licensing in the global market totaled more than $100 billion. *Id.* at 61. Also, in 2000, intellectual property assets made up forty percent of the net value of U.S. corporations. Homere, *supra* note 13, at 280–81 (noting that developed countries with intellectual property rights systems also experience lower unemployment rates, stronger education systems, better quality of life, and greater research and development).

promoting innovation, to securing exclusive rights in information, and to gaining competitive advantages in world markets.[16]

B. Efforts Toward Harmonization

Realizing that intellectual property had become an important part of international commerce, many nations sought international protection of intellectual property rights.[17] However, the scope of patent rights was limited solely to national jurisdictions of the governing authorities and was incapable of providing adequate and practical international protection.[18] For successful harmonization, a unification of systems of intellectual property laws among different nations is required.[19] Numerous countries have written various treaties and conventions in an attempt to harmonize intellectual property laws in the international arena.[20] Despite international efforts, worldwide patent law harmonization has not yet occurred.[21]

In 1883, fourteen member countries adopted the Paris Convention for the Protection of Industrial Property, signaling the beginning of international protection for patents, trademarks, and industrial designs.[22] To further promote protection of intellectual property throughout the world, the United Nations established The World Intellectual Property Organization ("WIPO").[23] However, industrialized and developed countries criticized WIPO for being overly accommodating to developing

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[16] A POWER TOOL, *supra* note 1, at 33.

[17] Adewopo, *supra* note 10, at 751.

[18] Mossinghoff & Kuo, *supra* note 11, at 531.

[19] *See* Christopher D. DeCluitt, *International Patent Prosecution, Litigation and Enforcement*, 5 TULSA J. COMP. & INT'L L. 135, 138 (1997) (describing a "universality theory" of thought which supports the idea that an issued patent in one jurisdiction would be enforceable in all jurisdictions).

[20] Mossinghoff & Kuo, *supra* note 11, at 531. Among the many conventions and treaties administered by WIPO, the two major multinational agreements are the Paris Convention and the PCT. *Id.*

[21] *See* A POWER TOOL, *supra* note 1, at 283. Even with the Paris Convention, patent laws among nations were widely disparate because the Convention did not define patentable subject matter, patent terms, limitations to licenses, or claim interpretation and enforcement. Mossinghoff & Kuo, *supra* note 11, at 533. Also, most nations have been unwilling to change their system, which has plagued international harmonization efforts. Decluitt, *supra* note 19, at 138.

[22] *See generally* Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as last revised at Stockholm on July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 [hereinafter Paris Convention]. The Convention applied to "patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition." *Id.* art. 1. The Paris Convention allowed member nations access to the protections of other members' patent laws by effectively treating the citizens of member nations as one of their own for purposes of patent applications. *Id.* art. 3.

[23] *See generally* World Intellectual Property Organization, http://www.wipo.int/about-wipo/en/what_is_wipo.html. WIPO administers and enforces the Paris and Berne Conventions, and one of its missions is to facilitate the transfer of technology from developed countries to under-developed countries. Evelyn Su, *The Winners and the Losers: The Agreement on Trade-Related Aspects of Intellectual Property Rights and Its Effects on Developing Countries*, 23 HOUS. J. INT'L L. 169, 182–83 (2000).

countries, and for lacking any serious means to enforce violations.[24] In response, the World Trade Organization ("WTO") was created as an adjudicatory body for trade disputes.[25] Simultaneously, the WTO member nations voted to adopt the TRIPS agreement, which incorporates the philosophy of WIPO and many provisions of the Paris Convention, as well as a number of additional obligations in areas where previous agreements were perceived to be inadequate.[26] TRIPS requires that any country wanting to join the WTO must abide by the TRIPS agreement.[27] Thus, by outlining the minimum standards of IP protection each nation must meet in TRIPS, the WTO is attempting to unify individual nations' intellectual property laws.[28]

Currently, even with prolonged attempts at patent harmonization, there is no unified "international" or "world patent."[29] Accordingly, traditional patent systems require each inventor to obtain a patent from each country where protection is desired.[30] Progress has been made, and multilateral treaties, such as the PCT and other regional patent treaties, have been made to facilitate and continue the efforts toward patent harmonization.[31]

C. PCT: Obtaining International Patent Protection

The PCT is a multilateral treaty administered by WIPO that facilitates the worldwide filing of patent applications.[32] The PCT entered into force on January 24, 1978; however, only 636 applications were filed that year.[33] Since its inception, the

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[24] Adewopo, *supra* note 10, at 757 (explaining that WIPO's Paris Convention proved to be incapable of catering the interest of the developed nations, which was best served by strong intellectual property protection initiatives).

[25] Mossinghoff & Kuo, *supra* note 11, at 538; *see generally* the World Trade Organization, http://www.wto.org.

[26] *See* Su, *supra* note 23, at 185–86 ("The purpose of the TRIPS Agreement is to provide adequate and effective protection for intellectual property rights in order to reduce impediments to international trade and promote global competition.").

[27] *Id.*

[28] *See id.* at 187–89. Additionally, TRIPS contains arrangements for transitions. *Id.* at 191. Developed countries had until January 1, 1996, to comply with all provisions of the TRIPS agreement. *Id.* Similarly, while developing countries had until January 1, 2000, least developed countries had until January 1, 2006, to fully comply with TRIPS. *Id.*

[29] Robert W. Pritchard, *The Future is Now—The Case for Patent Harmonization*, 20 N.C. J. INT'L L. & COM. REG. 291, 299 (1995). In 1985, WIPO began discussions in Geneva on the global harmonization of patent law. *Id.* The discussions ended in 1994 when the United States declared that it would not switch from a first-to-invent system to a first-to-file system. *Id.* at 291.

[30] Mossinghoff & Kuo, *supra* note 11, at 534.

[31] *See* Erstling & Boutillon, *supra* note 2, at 1585. After the enactment of the PCT and the formation of regional patent treaties such as the European Patent Convention ("EPC"), the Eurasian Patent Convention ("EAPC"), the African Organization of Intellectual Property ("OAPI"), and the African Regional Industrial Property Association ("ARIPO") have greatly facilitated the filing of foreign patent applications. *Id.* at 1591.

[32] *See* PCT, *supra* note 2, preamble.

[33] WIPO STATISTICS, PCT STATISTICAL INDICATORS REPORT: ANNUAL STATISTICS 1978–2005 3 (2006), http://www.wipo.int/ipstats/en/statistics/patents/pdf/pct_yearly_report.pdf [hereinafter WIPO Statistics] (noting that in 1979, the PCT's first full year of operation, the number of applications was 2,586).

PCT has grown significantly in its membership and usage.[34] Currently, more than one million PCT applications have been filed.[35]

The PCT system essentially has two phases: an "international" phase and a "national" phase.[36] During the "international" phase, a PCT application may be filed in a "Receiving Office."[37] Following the Paris Convention, the "international filing date" of the PCT application has the effect of a "regular national filing date" in each of the contracting states.[38] Each PCT application is then subjected to an international search by an "International Authority" chosen by the applicant.[39] An unpublished opinion is communicated to the applicant with the search report.[40]

Following the international phase, the second step, the "national phase" begins where the applicants have the option of pursuing their PCT applications in the national patent offices of countries where they desire protection.[41] To enter the national phase, an applicant files an express request to the PCT, files translations where appropriate, and pays the required national fees.[42] The time limit by which the applicant must undertake the necessary steps for entry into the national phase is set at thirty months from the priority date, with a few exceptions.[43] Once the applications are submitted to national offices, the substantive conditions of patentability are governed exclusively by the national laws.[44]

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[34] Erstling & Boutillon, *supra* note 2, at 1584.

[35] WIPO Statistics, *supra* note 33, at 3.

[36] Erstling & Boutillon, *supra* note 2, at 1590.

[37] PCT, *supra* note 2, art. 10. A "Receiving Office" may be a national office of a contracting State or regional office acting on behalf of one or more Contracting States. *Id.* art. 2. A Receiving Office receives new PCT applications, checks that they are in compliance with a number of requirements, verifies the contents filed, checks payment of fees, and coordinates communications between the applicant and the other PCT offices and authorities. Erstling & Boutillon, *supra* note 2, at 1587.

[38] PCT, *supra* note 2, art. 8. PCT applications are typically subsequent filings of priority applications that benefit from the filing dates of priority applications, as long as it follows within a twelve-month period of the filing of a priority application as provided under the Paris Convention. Erstling & Boutillon, *supra* note 2, at 1592.

[39] PCT, *supra* note 2, art. 15. Generally, the "International Authorities" are national patent offices that are the most experienced in the examination of patent applications. Erstling & Boutillon, *supra* note 2, at 1588. The twelve current "International Authorities" are: the national offices of Australia; Austria; Canada; China; Finland; Sweden; Japan; the Republic of Korea; the Russian Federation; Spain; the U.S.; and the European Patent Office. *Id.* The main tasks of the International Authorities are: discovering relevant prior art; establishing the "international search report;" sending search results and opinions to the applicants; receiving amendments from the applicants; and establishing the "preliminary report on patentability." *Id.*

[40] PCT, *supra* note 2, art. 18. After receiving the search report, the applicant has an option to respond or amend the original claims within two months. Erstling & Boutillon, *supra* note 2, at 1593.

[41] Erstling & Boutillon, *supra* note 2, at 1597 (noting that the PCT is an application filing system, not a patent issuing system).

[42] PCT, *supra* note 2, arts. 22, 39.

[43] *Id.*

[44] *Id.* art. 27(5).

D. The African Regional Patent Systems

Due to Africa's long history of being subjected to external influences, a political map of Africa will show that the French and English occupy two dominant positions.[45] It is natural then, insofar as IP rights cooperation is concerned, that the French speaking countries cooperate with each other while the English speaking countries cooperate with each other.[46] This has given rise to two regional intellectual property systems in Africa: ARIPO and OAPI.[47]

1. ARIPO

ARIPO was established among English-speaking African nations on December 9, 1976.[48] ARIPO was mainly established to pool the resources of its member countries in industrial property matters together in order to avoid duplication of financial and human resources.[49] ARIPO currently operates through two protocols: the Harare Protocol for patents and industrial design,[50] and the Banjul Protocol for service marks.[51]

The main objective of the Harare Protocol is to establish a convenient procedure as an alternative scheme to a totally dependent patent system through registering, processing, granting, and administrating patents on behalf of member countries.[52] The protocol outlines ARIPOS's patentability requirements and its substantive examination formalities.[53] Moreover, ARIPO's standard of novelty and inventiveness are similar to the requirements found in major industrialized countries' patent laws.[54]

However, the Harare Protocol leaves member states with the burden of rejecting patents issued in their name within six months after notification of such decisions if the inventions are not patentable in accordance with the Protocol or for some other reason based on the national law.[55] Also, patents issued by ARIPO on behalf of

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[45] *See* Adewopo, *supra* note 10, at 749.

[46] *See id.* at 765.

[47] *Id.*

[48] ARIPO, *supra* note 8 (listing the 16 member states as Botswana, The Gambia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Sierre Leone, Somalia, Sudan, Swaziland, Uganda, United Republic of Tanzania, Zambia, and Zimbabwe).

[49] *Id.* Its major objective is the study, promotion, and cooperation on matters relating to intellectual property in collaboration with the Economic Commission for Africa, WIPO, and other appropriate organizations. *Id.*

[50] *See generally* Harare Protocol on Patents and Industrial Designs Within the Framework of the African Regional Intellectual Property Organization, Dec. 10, 1982, *available at* http://www.aripo.org/Documents/Protocols/harare_agreement.pdf [hereinafter Harare Protocol].

[51] *See generally* Banjul Protocol on Marks Within the Framework of the African Regional Intellectual Property Organization, Nov. 19, 1993, *available at* http://www.aripo.org/Documents/Protocols/banjul_protocol.pdf.

[52] Adewopo, *supra* note 10, at 766. The application is tendered in the respective member country's industrial property office which will transmit the application to ARIPO. *Id.* The applicant may indicate which countries he seeks to protect his granted patent. *Id.*

[53] *Id.*; *see* Harare Protocol, *supra* note 50, § 3.

[54] Adewopo, *supra* note 10, at 766.

[55] Harare Protocol, *supra* note 50, § 3(6).

member countries are still individual national patents and would still be maintained and enforced by their respective national laws.[56]

2. OAPI

OAPI was established among French-speaking African nations.[57] It was signed as an "Agreement Relating to the Creation of an African Intellectual Property Organization" on March 2, 1977; commonly known as the Bangui Agreement.[58] Under this system, OAPI grants a single patent that is issued from the regional patent office for all member countries.[59] The OAPI patent is separately valid in each member nation.[60] Therefore, OAPI requires its member nations to renounce their national sovereignty to grant patents and adopt a single uniform substantive patent law.[61]

An OAPI patent application is made directly to the OAPI office by an individual domiciled in an OAPI member state, or through an agent in a member state.[62] OAPI also allows granted patents to be subjected to compulsory licensing if "the establishment or development of industrial or commercial activities on such territory is unfairly and substantially prejudiced."[63]

II. ANALYSIS

The analysis section will focus on the different systems of international patent issuance. Section A will analyze the success of the PCT in the path toward patent harmonization. Section B will analyze the PCT's problem areas and their negative effects on innovation and society. Section C will compare the PCT model with the similar but less prominent African regional systems: ARIPO and OAPI. The comparison will demonstrate two advantages of the ARIPO and OPAI systems that may help cure the problems of the PCT.

A. PCT Is a Leap Forward

The PCT, broadly stated, offers applicants wanting patent protection in multiple countries the ability to file a single patent application, providing a consistent and

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[56] *Id.* § 3(10). ARIPO is similar to the EPC in that it deals with patent prosecution and leaves patent enforcement to each member country. *See* Mossinghoff & Kuo, *supra* note 11, at 544–45.

[57] Adewopo, *supra* note 10, at 767. The sixteen OAPI member countries are Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Cote-d'voire, Gabon, Guinea, Guinea-Bissau, Mali, Amritania, Niger, Senegal, and Togo. OAPI, *supra* note 9, at 12–13.

[58] *See generally* OAPI, *supra* note 9. The Agreement covers various intellectual properties, including patents, utility models, trademarks and service marks, copyrights, and cultural heritage. *Id.* art. 4.

[59] *Id.* art. 8.

[60] *Id.*

[61] Mossinghoff & Kuo, *supra* note 11, at 544.

[62] OAPI, *supra* note 9, art. 6.

[63] *Id.* Annex I, art. 46.

uniform procedure under predictable sequence and well-established international standards.[64] It also allows applicants to make better decisions about their patent procurement by providing them with an opinion of patentability without having to apply for patents in multiple countries.[65] By doing so, the PCT system allows for better management of patent portfolios and avoidance of unnecessary expenses, greatly reducing overall costs of patent protection.[66]

As a result of the advantages of the PCT, the number of PCT applications has increased dramatically in past decades.[67] Specifically, between 1990 and 2005, the filing of PCT applications increased on the average of 16.8% per year and topped 135,000 international applications in 2005.[68]

B. Justifications for Changes in the PCT

Although the PCT has been widely successful in making international patent applications more convenient and cost-effective, the process of obtaining international patent protection is still plagued by drawbacks in efficiencies due to duplicative work, hindering innovation, and growth of developing nations.[69]

One major shortcoming of the current PCT system is that the opinions obtained during the international phase are not binding when the PCT applications are processed at the national phase.[70] Therefore, while a PCT application starts out as a single application, it is multiplied in the national phase.[71] In practice, almost all major national Patent Offices repeat the search and examination of a nationalized PCT application at the national phase just as they would for a domestic application, giving little to no deference to the international search or opinion.[72] As workload of the PCT office has increased, these parallel searches and examinations have created a multiplication of cost and waste of resources at the national phase of the PCT process.[73] For example, considering that some 300,000 applications are filed each

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[64] Erstling & Boutillon, *supra* note 2, at 1598–99.

[65] *Id.* at 1599. The results of the international search and preliminary examination allow the applicant to gauge the likely success of the patent application. *Id.* If the international search and examination results are negative and the likelihood of obtaining a patent is small, an applicant may merely stop proceeding with the application, or, alternatively, proceed only in a very small number of countries. *Id.*

[66] *Id.*

[67] Mossinghoff & Kuo, *supra* note 11, at 536.

[68] WIPO Statistics, *supra* note 33, at 3.

[69] *See* Mossinghoff & Kuo, *supra* note 11, at 530.

[70] *See* PCT, *supra* note 2, arts. 27(5), 33(1) (stating that the objective of the PCT examination is to formulate a "preliminary and non-binding opinion on the questions whether the claimed invention appears to be novel, to involve inventive step (to be non-obvious), and to be industrially applicable," as defined for the purposes of the PCT examination); *see also* Markus Nolff, *TRIPS, PCT and Global Patent Procurement*, 83 J. PAT. & TRADEMARK OFF. SOC'Y 479, 481 (2001) [hereinafter *Patent Procurement*].

[71] *See* Mossinghoff & Kuo, *supra* note 11, at 536.

[72] *Patent Procurement*, *supra* note 70, at 482.

[73] *See* WORLD INTELL. PROP. ORG., THE INTERNATIONAL PATENT SYSTEM IN 2005—PCT YEARLY REVIEW 6 (2006), *available at* http://www.wipo.int/freepublications/en/patents/901/wipo_pub_901_2005.pdf (stating that during the last five years, the workload of the international Bureau increased by over fifty percent, but over the same period, the number of staff processing

year in the U.S., and if, conservatively, half of those are filed in different countries, the duplication of these searches represents an enormous waste of an estimated $150 million for filing in only two countries.[74]

1. Duplicative Work Hinders Innovation

Such costs for patent procurement are an unnecessary tax on innovation, both for the patentees and the patent offices.[75] For the patentees, the duplication of work makes international patent procurement almost too expensive.[76] The patent system is supposed to encourage investment in research and innovation, but if all the costs are spent on procurement of patents, there are less left to be used for further development.[77]

For the patent offices, conducting redundant searches and examinations in multiple jurisdictions is a waste of human resources—skills that are particularly scarce in much of the world.[78] Most patent offices cannot handle their present workload as they are having difficulty processing, performing searches, and examining the current number of patent applications within a reasonable time.[79] Such lack of man-power can lead to a slow search, examination, and procurement of patents. On the other hand, national patent offices may grant patents without adequate search and examination, leading to weak or bad patents.[80] To both patentees and national patent offices, there are strong reasons to reduce the workload of international patent examination and granting.[81]

2. PCT Hinders Social Growth

Currently, largely through the implementation of TRIPS, the global IP system is going through significant expansion and modernization.[82] Although it is proposed

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record copies increased only three percent). Therefore, the workload of different national offices has increased in multiple magnitude in recent years. *Id.*

[74] Barton, *supra* note 4, at 345.

[75] *Id.* at 345.

[76] A POWER TOOL, *supra* note 1, at 274. On top of the fees paid to the individual patent offices, there are also other costs, such as legal fees and translations that would raise the cost of applying for international patents. Barton, *supra* note 4, at 345.

[77] *See* Mossinghoff & Kuo, *supra* note 11, at 530 (stating that the "unnecessary redundancy drives up the costs of obtaining and enforcing worldwide patent protection to a level that can only be afforded by the largest multinational corporations").

[78] Barton, *supra* note 4, at 344.

[79] *Patent Procurement*, *supra* note 70, at 480. A large backlog of unexamined applications can have negative effects of delayed patent protection. *Id.* Also, if Patent Offices do not perform searches and examinations before granting, development of their industries and economies will be hampered. *Id.*

[80] *Id.* Weak patents significantly stifle manufacturing trade and discourage technology developers. *IP Challenges*, *supra* note 6, at 464.

[81] *See* A POWER TOOL, *supra* note 1, at 268.

[82] *See IP Challenges*, *supra* note 6, at 457. The TRIPS agreement envisions a stronger protection of intellectual property rights by requiring all the members of the WTO to meet its standards. *Id.*

that stronger intellectual property rights ("IPRs") can increase economic growth and encourage technological development, there can be negative impacts on developing nations as well.[83]

It is argued that if developing countries develop stronger IPRs, such an action would encourage dynamic competition, which would ultimately promote economical growth.[84] Stronger IP protection can promote technology transfers thereby increasing the willingness and volume of imports.[85] On the other hand, strong IP protection may have negative effects on the economy by creating industrial monopolies that may be abused.[86]

Also, any long term economic development promised by a stronger intellectual property system may be trumped by massive short-term losses. Coupled with the difficulty of having to deal with the effects of complying with TRIPS and developing a stronger intellectual property system is the challenge of dealing with the economic costs that come with creating and administering a stronger IP rights system.[87] The development of examination and registration offices has considerable fixed costs.[88] Therefore, governments of developing nations face challenges to strike an appropriate balance that promotes rigorous but fair dynamic competition for both short-term and long-term economic development and growth.[89]

The heavy cost of international patent procurement through the PCT and the exhaustion of valuable skills created by its redundancy of workload may hinder many developing countries and cause greater loss than benefits.[90] Such a consequence is in direct conflict with the goal of IPRs.[91]

C. Analysis Through Comparison with ARIPO and OAPI

ARIPO and OAPI treaties were developed to achieve cooperation in intellectual property protection to increase technological, economic, and industrial development of its developing member nations.[92] These treaties are appropriate models to

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[83] *Id.* at 458. The impact of this compulsory strengthening of global intellectual property on the economic development and growth of developing countries is extremely complex. *Id.* Adoption of a stronger intellectual property right could either raise or reduce economic growth. *Id.* The difficulty comes in the fact that these developing nations are faced with the challenge of reconciling intellectual property protection with the global push for more open, pro-competitive trade. *Id.*

[84] *Id.* at 459.

[85] *Id.* at 462.

[86] *Id.* at 469.

[87] *Id.* at 466. One of the significant costs of implementing an effective system is that it would divert scarce professional and technical resources out of other productive activities. *Id.*

[88] *Id.* For example, there are needs of drafting administrative procedures and training examiners, judges, and customs authorities. *Id.*

[89] *Id.* at 459.

[90] *Id.*

[91] *See International Intellectual Property*, *supra* note 1, at 209–10; *see also* Michael N. Meller, *Principles of Patentability and Some Other Basics for a Global Patent* System, 5 PSYCHOL. PUB. POL'Y & L. 359 (stating that "[i]f the patent profession does not accomplish this on its own another way will be found by those who have an economic need for a global patent but who neither know nor care what a global patent system truly needs to foster a vibrant global economy.").

[92] *See generally* Adewopo, *supra* note 10, at 765–68 (giving an overview of the purposes and procedures of ARIPO and OAPI).

compare to the PCT on developing a global patent system that will adhere to the needs of developing and developed countries.[93] The remaining portion of this section will analyze whether the ARIPO and OAPI systems have characteristics that avoid the deficiencies of the PCT in excessive cost and workload.[94]

1. ARIPO and the Automatic Patent Issuance System

One of the major differences between the PCT and the ARIPO system is that the Harare Protocol, under the ARIPO system, empowers the ARIPO office to receive and process patent and industrial design applications on behalf of the member parties.[95] The PCT currently burdens each state with the work of reviewing the international application in order to issue a national patent, which creates unnecessary duplication of work.[96] The ARIPO system, therefore, is more authoritative than the PCT system.

The PCT is unable to adopt the automatic issuing of patents on behalf of other nations because the small differences in national patent laws and the individual nations' desire to maintain their sovereignties.[97] However, ARIPO's procedure alleviates this sovereignty issue by permitting member states to reject ARIPO patent issuance within six months of its designation if it finds that granting the patent conflicts with the national law.[98] Furthermore, under ARIPO, if the patent is rejected, the applicant may amend and cure the application within three months to obtain the national patent.[99] By having this system of authority and check, ARIPO attempts to solve the problems of the limited resources of the African countries and minimize work duplication.[100]

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[93] *See* A POWER TOOL, *supra* note 1, at 284–85 (stating that "[r]egional IP systems could give a boost to developing country efforts to utilize IP as a tool for economic development.").

[94] *See id.* Regional intellectual property offices that are established through cooperation between regional countries enhance efficiencies in human resources and finances for the individual countries through considerable facilitation of patent procurement. *Id.*

[95] Adewopo, *supra* note 10, at 766. "After the expiration of the said six months, the Office shall grant the patent, which shall have effect in those designated States which have not made the communication referred to in subsection (6). The Office shall publish the patent granted." Harare Protocol, *supra* note 50, § 3(7).

[96] A POWER TOOL, *supra* note 1, at 286 (stating that the PCT has structural limitations to its legal effect because the international preliminary examination reports are authoritative but not binding). The national or regional offices often conduct the same or additional searches to get the same results of the reports. *Id.* The PCT has been criticized for the lack of faith accorded to the search reports and preliminary examinations. Mossinghoff & Kuo, *supra* note 11, at 536.

[97] *See* Erstling & Boutillon, *supra* note 2, at 1600–01 (stating that although the PCT has harmonized application procedures, it has had to oblige to inflexible details of different national laws).

[98] Mossinghoff & Kuo, *supra* note 11, at 545.

[99] Harare Protocol, *supra* note 50, § 3(8).

[100] *See IP Challenges*, *supra* note 6, at 467 (stating that small and poor countries are unable to develop intellectual property institutions unless they can cut their costs by taking advantage of cooperative international agreements).

2. OAPI and Group Patenting

One unique feature of the OAPI system is that a single patent law is applied to all of its member nations.[101] Membership to the OAPI system calls for a substantive harmonization of all of the nations' patent laws.[102] Therefore, the OAPI application process does not have a national phase, as only one OAPI patent is issued and enforced by each of the member countries.[103] The sixteen member OAPI system appears to have achieved a small-scale harmonization that WIPO is attempting to achieve on the global scale.[104]

By allowing patents to be maintained independently by member nations under a unified law, OAPI minimizes post-grant uncertainties involved with an issued patent.[105] This is what has kept the world from enjoying the efficiency of having a true global patent system.[106] However, the cooperation of OAPI and the PCT shows how such integration can help in the progress of the globalization of patent law. Currently, OAPI is a listed member of the PCT.[107] This means that OAPI could be designated as one of the nations that an applicant may choose to have a patent issued through. From there, an OAPI patent will cover the member states that are also members of the PCT.

III. PROPOSAL

As demonstrated in the analysis section, the PCT is not perfect, and its deficiencies are hindrances to innovation and growth of developing nations.[108] By integrating key parts of the ARIPO and OAPI systems to the current PCT model, the proposal section argues that the PCT should be able to achieve, at least in part, the goals proposed herein. Patent harmonization can only be achieved through many small treaties and agreements over a period of time that allows for the narrowing of substantive intellectual property laws and economic disparities.[109] This proposal is a building block that hopefully will become the foundation for a truly global and effective world patent system.

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[101] *See* Mossinghoff & Kuo, *supra* note 11, at 544 ("[T]he OAPI grants a single patent from the regional patent office that is separately valid in all member countries.").

[102] *Id.* at 544. OAPI requires that each member nation adopt a single uniform substantive patent law; although, that law may be separately interpreted by each state. *Id.*

[103] *See id.* OAPI member states have all renounced their national sovereignties to grant patents for their own respective states. *Id.*

[104] *Id.* at 536. The PCT fails to focus directly on the substantive patent law, and does not result in the issuance of an "international patent." *Id.*

[105] *Id.* at 544. However, since OAPI lacks a central administering body to address post-grant matters, it does not fulfill the unified substantive protection proposed by the treaty. *Id.*

[106] *See* Barton, *supra* note 4, at 356 (stating that a reasonable international patent system would reduce filing fees and legal expenses).

[107] WIPO Statistics, *supra* note 33, at 22.

[108] *See* Meller, *supra* note 91 (stating that unless an international patent law and system serves the needs of inventors worldwide, it will fail).

[109] *See id.* Given the increasing cooperation between the three primary jurisdictions of the United States, Japan, and Europe, the outline for a worldwide patent system can be established and built upon. *Id.*

A. Allow the PCT to Have Automatic Granting Power

As stated in the analysis section, the *International Preliminary Reports on Patentability* issued by the current PCT model are only persuasive, and patent offices in each nation must grant or reject each application independently.[110] This process is often redundant and wasteful in nature.[111]

A proposed modification to the PCT would implement ARIPO's automatic granting procedure.[112] This modified PCT will determine the patentability of its patent applications and grant the patents on behalf of the member nations. The national intellectual property offices would be minimally involved, saving man power and cost significantly.

It can be argued that the PCT lacks the substantive authority to determine an application's patentability with respect to all the individual nations because of the insufficient harmonization of patent law and practice.[113] However, since the implementation of TRIPS, the substantive PCT provisions are in general agreement with the corresponding TRIPS provisions, which set minimal standards regarding patentability.[114] Therefore, WTO members can now be assured that a PCT national patent would meet the minimal requirements set by TRIPS.

Furthermore, ARIPO allows for member states to maintain their sovereignty by providing an opportunity to take exceptions to the patent assignment within six months of such notice.[115] Within that time, the applicant may amend the application to make it acceptable to the particular state.[116] After six months, the national patent will automatically be issued, if no exception was made, or rejected if not cured of its defects.[117]

In practice, if each national patent office is assured that the PCT will use the minimal TRIPS standard in examining the application, that patent office just needs to examine the application according to that particular state's standards that are beyond the minimum TRIPS standard. Therefore, the scope of the examination

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[110] A POWER TOOL, *supra* note 1, at 286.

[111] *Id.* (suggesting that the cost of filing PCT applications may be reduced if its member states trusted the PCT authorities).

[112] *See Patent Procurement*, *supra* note 70, at 482 (suggesting that improvement of global patent procurement in developing the PCT should result in the PCT Search report and the PCT Examination Report being given meaningful consideration at the national phase).

[113] *Id.* at 484. For example, there are no common definitions of what constitutes prior art and there are language barriers. *Id.* at 482. Mr. Nolff suggests that if these issues can be resolved, the PCT would start to resemble a global patent procurement system. *Id.*

[114] *See id.* at 479–80. For example, TRIPS sets minimal requirements for patentable subject matter for all WTO members. TRIPS, *supra* note 3, art. 27. This TRIPS requirement is applied as the "international" body of law used in the PCT international preliminary report on patentability. *See* Markus Nolff, *The Expanded International Search Procedure: What Will be the Next Step in View of TRIPS?*, 86 J. PAT. & TRADEMARK OFF. SOC'Y 717, 726–27 (2004) [hereinafter *Search Procedure*]. Since the PCT is fully compatible with TRIPS, the opinion stated in the PCT Examination Report gives a good indication of the applications' patentability under TRIPS. *See Patent Procurement*, *supra* note 70, at 484.

[115] Harare Protocol, *supra* note 50, § 3(6).

[116] *Id.* § 3(8).

[117] *Id.* § 3(7).

performed by the national patent offices would be significantly reduced, thereby reducing the cost, workload, and the time needed to prosecute patents.[118]

B. Form Joint Treaties among Nations

While ARIPO streamlined the patent procurement process through the automatic granting of patents, the patents granted are still individual national patents.[119] They are separate exclusionary licenses from one another.[120] An OAPI patent, on the other hand, is a single patent that is enforced within each of the member states.[121] Therefore, OAPI is a more harmonized patent system than ARIPO.[122] Having a single uniform substantive patent law is the ultimate goal of the harmonization movement.[123] Although it would be impractical and unrealistic to propose a uniform substantive patent law among all PCT member states, any cooperation between multiple states in patent law will further increase efficiency and reduce costs and workloads.[124] It is true that regional patent treaties like OAPI and the European Patent Convention have achieved such cooperation. The path toward a singular patent law lies, then, in creating more treaties among different nations—not just among regions, but among nations with similar substantive IP laws. Even if two countries agree to have one patent law between each other, the workload on the patent office will be reduced by half. As the TRIPS requirement of the minimum IP standard on WTO member states are enforced and adhered to, the differences in patent laws between each state will be increasingly narrowed, making it easier for such treaties to be achieved.[125]

A modified PCT, adopting OAPI's singular patent system, should require member states to be categorized into a multilateral group. Here, independent of the modified system suggested in the prior section, the PCT's patentability examination would not be binding. However, such a report would now give a certification of

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[118] See *Patent Procurement*, *supra* note 70, at 488. The granting of a PCT certificate of patentability and the proposed changes to the PCT in the Nolff article are distinguishable from the proposals of this comment. *Id.* There, a system is proposed where a PCT certificate of patentability would have more weight and influence on the national phase of the PCT application. *Id.* Also suggested is the implementation of a PCT Patent which would be applied to member states that agree to bind themselves to this scheme. *Id.* Here however, this comment is proposing a workable model where the patent application must still meet the national requirement of patentability and not the requirement of the PCT. *Id.* Additionally, the ability to reject a pending certificate of patentability further gives each member state the maintenance of its sovereignty. *Id.*

[119] Mossingoff & Kuo, *supra* note 11, at 545.

[120] *See id.*

[121] *Id.* at 544.

[122] *Id.* It may be argued that OAPI's ability to have a singular patent law was in part due to its member states' lack of resources and personnel to maintain the patent system to start with and that it would be more difficult for nations with already established patent laws to come to such agreements. *Id.* In order for nations to have effective intellectual property rights in their current society, such treaties and compromises must be made. *See, e.g.*, Meller, *supra* note 91.

[123] *See* Mossinghoff & Kuo, *supra* note 11, at 547 (envisioning a world patent system where one world patent is issued that would be enforceable throughout the entire world).

[124] *See* Meller, *supra* note 91.

[125] *See Search Procedure*, *supra* note 114, at 728.

whether it meets that group's substantive law on patentability. Such a system would be more efficient and less costly.

A better alternative to this modified system would be for TRIPS, which already requires countries to raise their intellectual property law standards, to require those countries that meet certain substantive patent laws to join a multilateral group that would be under a single patent law. This would allow such groups to divide the workload in the national phase and a successful patent will be enforceable in all nations in that group.

C. Combined System

The two suggested modifications to the PCT, independently, would decrease cost and inefficiency to the current PCT model. The PCT can be made more efficient in both cost and workload by combining the two proposed changes to the PCT. A patent application will be examined at the international stage of the PCT process and certified to have met TRIPS' minimum standards. The application will be deemed to be accepted by a joint multinational group unless it is held not to have met the joint multinational patent law standards that are beyond the TRIPS' requirements. This would result in a dually efficient system where the PCT office would be distributing fewer certified patents and each joint multinational group would further have to examine fewer applications for possible suspect issues.[126]

D. Will the Modification Help Society?

The purpose of globalization and harmonization is only partly fulfilled when substantive law and procedures are unified. Advancement in international patent law should encourage innovation and benefit society by fostering developing countries to take advantage of IPRs. [127] The proposed system would allow developing countries to have inexpensive access to an international patent system.[128] Also, the ability for each state to reject a patent application would allow it to prevent market power abuse that could be created by over-inclusive patents.[129] Therefore, on top of being more efficient and less costly, the modified PCT system would allow developing

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[126] Further developments of national IP standards will likely bring the substantive laws of the nations closer together and encourage more treaties to be formed. This would smoothly lead to a point where there is only one world patent group, and the PCT need only to examine to its standard.

[127] *See IP Challenges*, *supra* note 6, at 463 (noting that "weak patents in large developing economies are barriers to manufacturing imports" and that bilateral agreements and "strength of national patent laws had a positive and significant impact on imports in many product sectors"). For example, the article points to the productivity gain of China when China had strengthened its patent laws in compliance with TRIPS. *Id.*

[128] *See id.* at 466–67. For example, as a rough estimate of the costs of complying with TRIPS, the expected one-time costs of administrative TRIPS compliance in Bangladesh was $250,000 and the annual costs for judicial work, equipment, and enforcement was over $1.1 million. *Id.* at 466.

[129] *See, e.g.*, *id.* at 469 ("Evidence suggests that patents support considerably higher prices for protected drugs than for copied and generic drugs."). Introduction of some patents for medicines in certain developing countries will raise prices and put an overdue burden on its citizens. *Id.*

countries to have more affordable access to the global patent market while still obtaining control over its own economic growth and development.[130]

IV. CONCLUSION

The proposed modifications to the current PCT model, incorporating ARIPO's automatic patent issuance and the OAPI's unified patent law system, will decrease costs and workload. Ultimately, such improvements would encourage the international trade development of developing countries while fostering and protecting its own domestic economies.[131]

A global world patent system is not a system that can be made through a single treaty or put into practice overnight.[132] A realistic and practical implementation for such a unified system has to be through a vehicle that allows the nations to adopt a global patent market while giving them the advantage of less work and faster innovation. Globalization efforts must also adhere to the principle goal of patent law: to encourage innovation for the benefit of society.[133] If the current working systems continue to grow in effectiveness and uniformity, global harmonization of patents will naturally be fulfilled.

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[130] *See* Meller, *supra* note 91 (stating that a global patent treaty should be "discussed as a vehicle for further refinement and for accommodation of the economic needs of the various jurisdictions around the world"). Such a patent system should enable countries to retain their present patent laws for domestic purposes, yet be able to file for global patents and establish their rights around the world. *Id.*

[131] *See* Barton, *supra* note 4, at 344 (describing the PCT as an "effective first step toward harmonization under TRIPS" by simplifying the processes of filing and searching in a large number of national and regional patent offices).

[132] *See* Meller, *supra* note 91, at 359 (stating that the "concept of a global patent has been mesmerizing and, at times, even blinding those planning for it . . . ."). However, "it is the ultimate goal . . . to enable patenting a uniform worldwide patent application in an increasingly, economically interdependent world." *Id.* As one of the benefits of patent harmonization, it would be possible for patent offices to rely on one another not only for searches but also in decisions whether or not to grant a patent. *See generally*, James E. Rogan, Dir. U.S. Patent and Trademark Office, Speech at the WIPO Conference on the International Patent System: Global Recognition of Patent Rights (Mar. 26, 2002), *available at* http://www.wipo.int/patent/agenda/en/meetings/2002/presentations/rogan.pdf.

[133] *See* Barton, *supra* note 4, at 345–46 (exploring an international system using realistic standards). The article calls for an economically reasonable standard of patentability to allow development of developing nations; taking steps to ensure that the developing nations can maintain and use appropriate defensive measures, such as compulsory licensing; and providing preferential fee arrangements to developing nations or even to allow shorter patent terms for developing nations. *Id.*