ISSN 2226-6771

VOLUME 1 June 2012 NUMBER 1

INSTITUTE OF INTELLECTUAL PROPERTY,
NATIONAL TAIPEI UNIVERSITY OF TECHNOLOGY

NTUT Journal of Intellectual Property Law and Management

The NTUT Journal of Intellectual Property Law and Management is published annually by the National Taipei University of Technology ("NTUT"), a national university located in Taipei City, Taiwan. The Journal is run by the Institute of Intellectual Property, an educational organization of the NTUT. The address of the NTUT is No. 1, Sec. 3, Chung-hsiao E. Rd., Taipei City 10608, Taiwan.

ISSN 2226-6771

[2012] Vol. 1 NTUT J. of Intell. Prop. L. & Mgmt.

EDITORIAL TEAM

ISSN 2226-6771

[2012] Vol. 1 NTUT J. of Intell. Prop. L. & Mgmt.

ISSN 2226-6771

[2012] Vol. 1 NTUT J. of Intell. Prop. L. & Mgmt.

The **NTUT Journal of Intellectual Property Law and Management** is published annually by the National Taipei University of Technology ("Taipei Tech."), a national university located in Taipei City, Taiwan. The Journal is run by the Graduate Institute of Intellectual Property, an educational organization of Taipei Tech. The address of Taipei Tech. is No. 1, Sec. 3, Chung-hsiao E. Rd., Taipei City 10608, Taiwan.

ISSN 2226-6771

[2012] Vol. 1 NTUT J. of Intell. Prop. L. & Mgmt.

CALL FOR PAPERS

The journal welcomes unsolicited articles on all aspects of intellectual property issues. Currently, the journal prefers articles related to American IP laws. But, IP issues related to other jurisdictions are still acceptable.

Submission:

1. A manuscript has to follow the citation format of The Bluebook: A Uniform System of Citation. If the citation format for a particular reference is not provided, please give a citation in a form: [Author], [*article title*], [volume number] [JOURNAL TITLE] [first page] (publication year), for instance, Zvi Griliches, *Patent Statistics as Economic Indicators: A Survey*, 8 JOURNAL OF ECONOMIC LIRERURURE 1661, 1661-707 (1990).A list reference is not required.
2. A manuscript is limited to at most 5,000 words, including the main text and footnotes. Potential authors are encouraged to contact Prof. Ping-Hsun Chen for a manuscript template.
3. A manuscript has to include an abstract of at most 300 words and at most five keywords.
4. The authors are responsible for the factual or legal accuracy of their papers. No payment is for contribution. Two copies of the journal will be supplied to the authors free of charge.
5. Manuscripts must be typewritten in English. Electronic submissions are preferred. Please provide Microsoft Word files. Email: cstr@ntut.edu.tw.

Review:

In 2013, all manuscripts will be subject to a peer-review process.

Copyright:

By submitting manuscripts, all authors shall grant to the National Taipei University of Technology to disseminate their papers through the instruments of the National Taipei University of Technology or other entities.

ISSN 2226-6771

[2012] Vol. 1 NTUT J. of Intell. Prop. L. & Mgmt.

TABLE OF CONTENTS

PATENT LAW AND THE PROTECTION OF TRADITIONAL KNOWLEDGE

Sophia F. Espinosa[*]
Full-Time Professor
School of Law,
Universidad San Francisco de Quito (Ecuador)

ABSTRACT

Legal protection of traditional knowledge associated to genetic resources is an issue that garnered the attention of the international community more than two decades ago. There is still a lot of work to do in order to identify an adequate system of regulation that will protect traditional knowledge, while at the same time satisfying the interests of national policy and the international community. The purpose of this paper is to analyze if the patent law regime is a suitable system to protect traditional knowledge. The idea is as follows. The first step is to consider the opinion of indigenous and local communities, in order to identify their interest in protecting their traditional knowledge under the patent regime and conciliate the Western cosmovision with their principles and values. Second, it is to adjust the concept of the legal standards to the national reality and the interests of the communities. Consequently, with the right approach, national governments can make it possible to traditional knowledge to comply with the TRIPS minimum requirements of patentability in order to get an effective protection.

Keywords: Patent, traditional knowledge, traditional cultural expressions, expressions of folklore

[*] Juris Scientiae Doctoris (J.S.D.) 10' & LL.M. 08', Washington University in St. Louis School of Law; LL.B. 04', Universidad Sal Francisco de Quito (*Summa Cum Laude*). Prof. Espinosa Coloma's main areas of research are Intellectual Property, Access to Genetic Resources and Traditional Knowledge, Biotechnology and the Law, and Competition Law.

I. Introduction

Legal protection of traditional knowledge associated to genetic resources is an issue that garnered the attention of the international community more than two decades ago.[1] Nevertheless, despite its interest in regulating this topic, the international community has not been able to create an effective mechanism to protect traditional knowledge in all their dimensions. Some proposals have been made, and many countries have developed domestic law related to this topic. Nonetheless, there is still a lot of work to do in order to identify an adequate system of regulation that will protect traditional knowledge, while at the same time satisfying the interests of national policy and the international community.

The purpose of this paper is to analyze if the patent law regime is a suitable system to protect traditional knowledge. Consequently, we will define the different approaches for traditional knowledge protection in order to get into the study of patent law.

II. Traditional Knowledge Protection

Protecting traditional knowledge and the associated genetic resources is not an easy task because of the nature and characteristics of traditional knowledge. Traditional knowledge can be understood as a form of "knowledge which is developed, sustained and passed on within a traditional community, and is passed between generations, sometimes through specific customary systems of knowledge transmission. A community might see TK as part of their cultural or spiritual identity. So it is the relationship with the community that makes it 'traditional."[2]

After analyzing the dimensions of traditional knowledge, the World Intellectual Property Organization (WIPO) has decided that for purposes of legal protection, it is not convenient to state a definition of traditional knowledge. Instead, WIPO has suggested that for regulatory purposes, the distinctive characteristics of traditional knowledge should be established. Consequently, Article 3 of the Draft Provisions for Traditional Knowledge Protection reads:

---

[1] *See* World Intellectual Property Office [WIPO], *Elements of a Sui Generis System for the Protection of Traditional Knowledge*, ¶ 4, WIPO/GRTKF/IC/3/8 (Mar. 29, 2002), *available at* http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_3/wipo_grtkf_ic_3_8.pdf. The approval of the WIPO/UNESCO Model Provisions for National Laws on the Protection of Expressions of Folklore against Illicit Exploitation and other Prejudicial Actions, of 1982, by a Committee of Experts, and the establishment of the Convention on Biological Diversity, of 1992, are two major landmarks of the debate on the protection of traditional knowledge.

[2] *See* WIPO, *Intellectual Property and Traditional Knowledge*, at 6 *available at* http://www.wipo.int/export/sites/www/freepublications/en/tk/920/wipo_pub_920.pdf.

> 1. These principles concern protection of traditional knowledge against misappropriation and misuse beyond its traditional context, and should not be interpreted as limiting or seeking externally to define the diverse and holistic conceptions of knowledge within the traditional context. These principles should be interpreted and applied in the light of the dynamic and evolving nature of traditional knowledge and the nature of traditional knowledge systems as frameworks of ongoing innovation.
>
> 2. For the purpose of these principles only, the term "traditional knowledge" refers to the content or substance of knowledge resulting from intellectual activity in a traditional context, and includes the know-how, skills, innovations, practices and learning that form part of traditional knowledge systems, and knowledge embodying traditional lifestyles of indigenous and local communities, or contained in codified knowledge systems passed between generations. It is not limited to any specific technical field, and may include agricultural, environmental and medicinal knowledge, and knowledge associated with genetic resources.[3]

These provisions have two main objectives, first to state the nature of traditional knowledge and second to define the scope of protectable subject matter. In that way, the provisions highlight the holistic, dynamic, and traditional characteristics of traditional knowledge, but at the same time it states that the protection of traditional knowledge against misappropriation and misuse can only be used beyond the traditional context. This means that any constraint related to traditional knowledge management can be applied only to third parties and not to traditional knowledge holders, who are authorized to manage their knowledge in the traditional way.

In addition, WIPO uses the term traditional knowledge to refer to all traditional knowledge categories, which could include "agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal knowledge, including related medicines and remedies; biodiversity-related knowledge; 'expressions of folklore' in the form of music, dance, song, handicrafts, designs, stories and artwork; elements of languages, such as names, geographical indications and symbols; and

[3] *See* WIPO, *Revised Draft Provisions for the Protection of Traditional Knowledge*, at 21 (Article 3), *available at* http://www.wipo.int/export/sites/www/tk/en/consultations/draft_provisions/pdf/draft-provisions-booklet-tk.pdf.

movable cultural properties."[4] For the purposes of this draft, it does not include traditional cultural expressions (TCE) or expressions of folklore (EoF) as subject matter of protection. In this respect, the second paragraph clarifies that these provisions cover traditional knowledge as such. This means that they would not apply to TCEs/EoF, which are treated in complementary and parallel provisions (document WIPO/GRTKF/IC/8/4). In its general structure, but not its content, the paragraph is modeled on Article 2(1) of the Berne Convention which delineates the scope of subject matter covered by that Convention by first providing a general description and then an illustrative list of elements that would fall within its scope. In following a similar approach, this paragraph does not seek to define the term absolutely. A single, exhaustive definition might not be appropriate in light of the diverse and dynamic nature of TK, and the differences in existing national laws on TK.[5]

Doctor Nuno Carvalho introduces an interesting classification in this regard: traditional knowledge stricto sensu and traditional knowledge lato sensu. Traditional knowledge stricto sensu "consists of knowledge itself, that is, ideas developed by traditional communities and indigenous peoples, in a traditional and informal way, as a response to the needs imposed by their physical and cultural environments and that serve as means of cultural identification." [6] On the other hand, traditional knowledge lato sensu encompasses expressions of traditional culture or expressions of folklore.[7] This approach facilitates the treatment of ideas and expression within the realm of legal regulation in order to properly address both topics. As a result, for the purposes of this paper, we will only focus on the protection of traditional knowledge stricto sensu (traditional knowledge).

Protection of traditional knowledge and genetic resources is a topic that involves policy and intellectual property issues. Because of the nature and characteristics of traditional knowledge, policy issues address a broad spectrum of matters that involve a variety of domestic and international concerns. Nevertheless, intellectual property issues can be summarized in two key ways - defensive protection and positive protection.[8]

Defensive protection addresses any kind of mechanism developed to prevent third parties that are not considered traditional knowledge holders

---

[4] *See* WIPO, *Intellectual Property Needs and Expectations of Traditional Knowledge Holders*, at 25, *available at* http://www.wipo.int/tk/en//tk/ffm/report/final/pdf/part1.pdf.

[5] *See* WIPO, *supra* note 3, at 22.

[6] Nuno Pires de Carvalho, *From the Sahama's Hut to the Patent Office: A Road under Construction*, *in* BIODIVERSITY AND THE LAW 243 (Charles McManis ed., 2007).

[7] *See id.*

[8] *See* WIPO, Traditional Knowledge, http://www.wipo.int/tk/en/tk/ (last visited Nov. 22, 2012).

from obtaining intellectual property rights over traditional knowledge.[9] Defensive protection has mainly focused on the patent law system. The main objective is to prevent the acquisition of patent rights over traditional knowledge through the use of traditional knowledge as prior art. In this respect, defensive protection aims at ensuring that existing TK is not patented by third parties – ideally, by ensuring that relevant TK is taken fully into account when a patent is examined for its novelty and inventiveness. Normally, a claimed invention in a patent application is assessed against the so-called "prior art" – the defined body of knowledge that is considered relevant to the validity of a patent. For example, if TK has been published in a journal before the applicable date of a patent application, it is part of the relevant prior art, and the application cannot validly claim that TK as an invention – the invention would not be considered novel. In recent years, concern has been expressed that TK should be given greater attention as relevant prior art, so that patents are less likely to cover existing publicly disclosed TK.[10]

Positive protection is oriented to the creation of a system that gives traditional knowledge holders rights over traditional knowledge in order to empower them and allow them to take action against misuse or unauthorized exploitation of traditional knowledge.[11] This approach also gives traditional knowledge holders an incentive to promote and protect traditional knowledge. Thus, positive protection uses legal mechanisms to ensure the protection of traditional knowledge. In this respect, The options for positive protection include existing IP laws and legal systems (including the law of unfair competition), extended or adapted IP rights specifically focused on TK (sui generis aspects of IP laws), and new, stand-alone sui generis systems which give rights in TK as such. Other non-IP options can form part of the overall menu, including trade practices and labeling laws, the law of civil liability, the use of contracts, customary and indigenous laws and protocols, regulation of access to genetic resources and associated TK, and remedies based on such torts as unjust enrichment, rights of publicity, and blasphemy.[12]

Defensive protection and positive protection of traditional knowledge are not mutually exclusive. On the contrary, they are complementary approaches that should be developed in a coordinated framework, because one is oriented to avoid misappropriation and to block the acquisition of illegitimate intellectual property rights (defensive protection), and the other

[9] *See* Nuno Pires de Carvalho, *supra* note 6, at 247. *Also see* WIPO, *supra* note 2, at 26.
[10] *See* WIPO, *supra* note 2, at 26.
[11] *See id*. at 12.
[12] *See id*. at 17.

looks for the prevention of unauthorized use (positive protection). Therefore, they should be considered as balancing elements that are crucial for the achievement of effective protection of traditional knowledge. This posture also responds that the nature of traditional knowledge is so diverse that it does not have a definite form of protection. Traditional knowledge protection must allow an array of options and combinations that can be adapted by each nation according to its needs and the specific characteristics of its traditional knowledge.

The protection of TK has shown that no single template or comprehensive "one-size-fits-all" solution is likely to suit all the national priorities and legal environments, let alone the needs of traditional communities in all countries. Instead, effective protection may be found in a coordinated "menu" of different options for protection. The key is to provide TK holders with an appropriate choice of forms of protection, to empower them to assess their interests and choose their own directions for the protection and use of their TK, and to ensure there is adequate capacity to carry through protection strategies. The way in which a protection system is shaped and defined will depend to a large extent on the objectives it is intended to serve. Protection of TK, like protection of IP in general, is not undertaken as an end in itself, but as a means to broader policy goals. The kind of objectives that TK protection is intended to serve include:[13]

- Recognition of value and promotion of respect for traditional knowledge systems
- Responsiveness to the actual needs of holders of TK
- Repression of misappropriation of TK and other unfair and inequitable uses
- Protection of tradition-based creativity and innovation
- Support of TK systems and empowerment of TK holders
- Promotion of equitable benefit-sharing from use of TK
- Promotion of the use of TK for a bottom-up approach to development

III. Protection of Traditional Knowledge and Genetic Resources under Existing Intellectual Property Regimes - Patent Law

The policy debate over traditional knowledge protection has cataloged the existing intellectual property rights regimes as inconsistent and contradictory to traditional knowledge. The unique nature of traditional knowledge makes it difficult for existing intellectual property regimes to totally satisfy the expectations of traditional knowledge holders. Thus, some sectors are skeptical about the real purposes and goals of intellectual

[13] *Id*. at 16.

property regimes.[14] The main reason for this skepticism is based on the different origins of traditional knowledge and intellectual property rights, and the interests behind them.

In the growing international debate over the legal protection of traditional knowledge, one frequently hears the view expressed that the traditional knowledge of indigenous peoples and local communities does not readily fit into the existing intellectual property regimes of the industrialized world, that these regimes basically promote the interests of the industrialized world and encourage what has come to be called (and vilified as) "biopiracy."[15]

Nevertheless, experience has shown the contrary and demonstrated that existing intellectual property regimes can legally protect traditional knowledge and genetic resources from unauthorized use and misappropriation. According to WIPO, "existing IP laws have been successfully used to protect against some forms of misuse and misappropriation of TK, including through the laws of patents, trademarks, geographical indications, industrial designs, and trade secrets."[16] Nevertheless, the existing intellectual property regime still needs to be adjusted in order to make effective. In this paper, we will analyze how it is possible to fit traditional knowledge into the existing intellectual property system, specifically patent law protection.

The patent law system is oriented to the promotion of science through a grant by the state of a legal monopoly to the inventor, who gets the right to exclude others from the use, production, and sale of the invention. These exclusive rights are granted for a limited period, during which the inventor can obtain fair compensation for his/her effort, investment, and time used in the development of the invention. In exchange, the state gets the full disclosure of the invention, which allows others to continue developing inventions for the well being of society.

In broad terms, patents can be defined as exclusive rights granted for an invention - either a product or a process - that offers a new technical solution to a specific problem. A patent implies the grant of a "monopoly" to an inventor who has used his knowledge and skills to produce a product or process which is new, involves an inventive step and is capable of industrial application. This "monopoly" is limited in time and allows for the patent holder to exercise an exclusive right over the invention and benefit

[14] Charles McManis, *Fitting Traditional Knowledge Protection and Biopiracy Claims into the Existing Intellectual Property and Unfair Competition Framework, in* INTELLECTUAL PROPERTY AND BIOLOGICAL RESOURCES 430-31 (Burton Ong ed., Marshall Cavendish, Singapore 2004).

[15] *See id*. at 425.

[16] *See* WIPO, *supra* note 2, at 17.

commercially from its exploitation. The grant of a patent is conditioned upon the full public disclosure of the invention in order to enable others to improve on existing inventions and technology in general.[17]

The procedure for granting patent rights establishes that an invention can gain patent protection if it satisfies the requirements of novelty, non-obviousness, and industrial application. In Article 27.1, the TRIPS Agreement clearly states that "[s]ubject to the provisions of paragraphs 2 and 3, patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application."[18] Therefore, for the purposes of this study, it is important to clarify the meaning and extension of these three criteria.

Novelty refers to the "newness" of an established invention. An invention is novel when there is no prior art. Prior art is the knowledge base that existed before the invention was discovered or before the invention was disclosed by the filing of a patent application.[19] There is no international standard of novelty, which means that the domestic legislation of each country defines the extension of novelty according to their needs and reality. In that sense, the national laws decide what can be considered prior art. In this respect, Professor Charles McManis states:

> "Novelty" in patent law means little bit more than that the claimed invention is not disclosed in the "prior art," however the legal term of art turns out to be defined under national law. What counts as prior art and how "novelty" is defined in various patent systems around the world is highly variable, and neither the Paris Convention nor the TRIPS Agreement prescribes a particular definition of either prior art or novelty.[20]

Non-obviousness "refers to the presence of an inventive step. In order for an inventive step to be present, the invention or innovation must not have

---

[17] *See* MANUEL RUIZ, THE INTERNATIONAL DEBATE ON TRADITIONAL KNOWLEDGE AS PRIOR ART IN THE PATENT SYSTEM: ISSUES AND OPTIONS FOR DEVELOPING COUNTRIES 5 (Center of International Environmental Law 2002), *available at* http://www.ciel.org/Publications/PriorArt_ManuelRuiz_Oct02.pdf.

[18] TRIPS Agreement art. 27.1, *availbale at* http://www.wto.org/english/tratop_e/trips_e/t_agm3c_e.htm#5.

[19] *See* STEPHEN HANSEN & JUSTIN VANFLEET, TRADITIONAL KNOWLEDGE AND INTELLECTUAL PROPERTY: A HANDBOOK ON ISSUES AND OPTIONS FOR TRADITIONAL KNOWLEDGE HOLDERS IN PROTECTING THEIR INTELLECTUAL PROPERTY AND MAINTAINING BIOLOGICAL DIVERSITY 9 (American Association for the Advancement of Science 2003), *available at* http://shr.aaas.org/tek/handbook.

[20] *See* McManis, *supra* note 14, at 443.

been obvious at the time of its creation to anyone having "ordinary skill in the art." European patent law is more specific, requiring that the invention or innovation must also solve a problem in a technical way."[21] That means that the invention not only needs to be new, but that it also must involve a significant intellectual effort that makes it subject to patent rights. This inventive step should elevate any prior art to another level, that makes the new invention non-obvious to a person skilled in the art.

The invention must not simply be novel, but must result from qualified intellectual effort that makes it non-obvious. This criterion thus requires a higher standard of novelty through an inventive step. Strong protection leading to a competitive advantage shall only be granted to inventions that would be an apparent improvement to prior art to a person skilled in the art practiced by the invention. This requirement is justified by the 'monopoly-profit-incentive' rationale, according to which strong protection shall only be granted to substantial contributions to the technological progress.[22]

The requirement that the invention be capable of industrial application or utility "refers to the existence of a potential market for patented knowledge. To meet this requirement, a public desire for the patented material must exist or have the potential to exist."[23] The main objective of this provision is to avoid speculative patents. This is intended to prevent the acquisition of exclusive rights to innovations that do not have a marketable product in mind and that can be speculatively used when a possible commercial application appears.

This condition is particularly relevant within the fields of biotechnology and chemistry, where it is possible for researchers to develop new compounds with relative ease, yet without, at least initially, any immediate practical application in mind. The criterion of utility again became critical in the evaluation of claims for inventions in the area of biotechnology, in order to prevent "speculative booking" of exclusive rights.[24]

In addition to the substantive requirements, patent law also requires the satisfaction of procedural disclosure requirements. This means that the inventor must disclose in the patent application how to enable the invention or the best mode to put the invention into practice. The objective of this requirement is to promote innovation by ensuring that other people can

[21] *See* HANSEN & VANFLEET, *supra* note 19, at 9.

[22] *See* Philippe Cullet, Christophe Germann, Andrea Nascimento Muller, & Gloria Pasadilla, *Intellectual Property Rights, Plant Genetic Resources and Traditional Knowledge*, *in* RIGHTS TO PLANT GENETIC RESOURCES AND TRADITIONAL KNOWLEDGE 126 (Susette Biber-Klemm &Thomas Cottier eds., CABI, UK, 2006).

[23] *See* HANSEN & VANFLEET, *supra* note 19, at 9.

[24] *See* CULLET ET AL., *supra* note 22, at 125.

access this information and use it as a referent for the development of new inventions.

One of the reasons for this condition is based on the exchange theory of the award of the patent: the patent applicant is awarded exclusive rights in return for the disclosure to society of a new, useful and non-obvious invention. Without a disclosure that enables other persons to benefit from the invention for their own research and development work, this exchange between the inventor and the society would not make sense. This condition also performs the function of filtering out speculative applications, since it constitutes a reliable assessment of the usefulness of the invention for the purpose of its industrial application.[25]

In theory, if traditional knowledge meets these four criteria, then it should be subject to patent protection. This possibility has been suggested particularly for the protection of traditional medicinal knowledge.[26] It is important to establish, that some traditional knowledge can easily meet these requirements. However, as Blakeney has exposed, patent law has been developed by the Western world according to that world's technological and industrial needs and circumstances.[27] Therefore, is it possible that the Western approach to patent law could be applied to compensate indigenous peoples and local communities for their traditional knowledge contributions?

Fitting traditional knowledge within the patent law system causes some intrinsic and practical problems. Intrinsic issues include the concept of property, the motivation of commercial exploitation, the novelty requirement, and the conception of the inventor as an individual.[28]

The concept of property, as we know, has been developed according to the Western approach. According to indigenous world view, the human being and nature occupy complementary roles, which means that both are connected and inter-related in order to maintain an equilibrium.[29] Thus, for indigenous peoples, "life and its forces are seen as a gift to be humbly accepted, not as something to be taken for granted or used to manipulate other life forms. Life is reserved, acknowledged, and reaffirmed through

[25] *See id*. at 126.

[26] *See* Geertrui Van Overwalle, *Holder and User Perspectives in the Traditional Knowledge Debate: A European View*, *in* BIODIVERSITY AND THE LAW 358 (Charles McManis ed., 2007).

[27] *See* Michael Blakeney, *Bioprospecting and the protection of traditional medical knowledge of indigenous peoples: An Australian perspective*, 19 E.I.P.R. 298, 298-303 (1997) (discussing traditional medicinal knowledge protection).

[28] *See* Geertrui Van Overwalle, *supra* note 26, at 359-60

[29] *See* CHIDI OGUAMANAM, INTERNATIONAL LAW AND INDIGENOUS KNOWLEDGE 26, 27 (University of Toronto Press, Canada 2006).

prayer, ceremony, dance and ritual."[30] This holistic cosmovision inter-relates all dimensions of the natural and supernatural world.[31] This knowledge about the interrelation of nature, the human being, the natural, and the supernatural world are the fundamental basis for traditional knowledge and heritage. As a consequence, because nature and resources are conceived as crucial elements for life, indigenous peoples have not developed a concept of property in the way that Western nations did. For indigenous peoples, resources shall be shared within the community in order to maintain life but at the same time respect nature. Nevertheless, this communal sense does not apply to all resources. For instance, specific knowledge is only held by certain members of the community. In this respect, Graham Dutfield states:

> Traditional proprietary systems relating to scarce tangibles such as land, resources and goods, and to valuable intangibles like certain knowledge and cultural expressions, are often highly complex and varied. Generalizations should be made with extreme caution. However, it appears frequently to be the case that knowledge and resources are communally held. While individuals and families may hold lands, resources or knowledge for their own use, ownership is often subject to customary law and practice and based on the collective consent of the community. Nonetheless, the idea that traditional property rights are always collective or communal in nature while Western notions of property are inherently individualist is an inaccurate cliché. While this may appear to contradict what we have just stated, specialized knowledge may be held exclusively by males, females, certain lineage groups, or ritual or society specialists (such as shamans) to which they have rights of varying levels of exclusivity. But in many cases, this does not necessarily give that group the right to privatize what may be more widely considered to be the communal heritage.[32]

Therefore, we can conclude that depending on the characteristics of the traditional knowledge and the values of the community that holds this knowledge, the concept of property can be applied. In addition, if we consider the different legal mechanisms that exist to maintain property, it is possible to use a legal figure that can allow the community to hold the control over the traditional knowledge under the patent law system.

---

[30] James Henderson, *Ayukpachi: Empowering Aboriginal Thought*, *in* RECLAIMING INDIGENOUS VOICES AND VISION 258 (Marie Battiste ed., UBC Press, Vancouver 2000).

[31] *See* OGUAMANAM, *supra* note 29, at 16.

[32] GRAHAM DUTFIELD, PROTECTING TRADITIONAL KNOWLEDGE: PATHWAYS TO THE FUTURE 2, (International Centre for Trade and Sustainable Development, Switzerland 2006).

Another issue is the motivation of indigenous people regarding commercial exploitation of traditional knowledge. As previously stated, traditional knowledge is conceived as a whole, in which the natural and spiritual world work together for the well being of the community.[33] For indigenous people, traditional knowledge has a sacred value that constitutes an element of identity. As Doctor Nuno Carvalho says, "TK is a means of cultural identification, be it TK strictu sensu or be it the expressions of TK. In other words, even the technical elements of TK, because of their particular insertion in a cultural context, are associated in an indissoluble manner with the identity of the community. There must be an unbreakable link that connects TK to its creators."[34] Therefore, traditionally, indigenous peoples do not conceive traditional knowledge as a commodity subject to trade; however, it is a decision that has been made by the community. Patent law contemplates a limited period of exclusivity, in which the inventor can commercialize the invention and obtain a fair reward for their effort. Nevertheless, this approach can be less attractive for indigenous people because of the spiritual meaning imputed to TK. In this respect, another problem relates to the final goal of patent law. The principal rationale of patent law is to provide an incentive for inventiveness and creativity, commercialization and distribution, by offering the patent holder a period of time during which his rights are immunized from competition. Indigenous peoples have been reported to be not primarily concerned with the commercial exploitation of their knowledge and market economic values. As Balick points out, knowledge may have its greatest value to indigenous peoples because of its ties with cultural identity or its sacred significance.[35]

The novelty requirement is another problem that has to be analyzed within this field. One of the main characteristics of traditional knowledge is that it is conceived as a "creation over a long period of time in which it has been passed down from generation to generation."[36] This collective character of traditional knowledge creates problems with the novelty requirement.[37] According to the Western point of view, if knowledge is passed down through generations, that knowledge is in the public domain.[38] Therefore,

---

[33] *See* OGUAMANAM, *supra* note 29, at 15-17.

[34] *See* Nuno Pires de Carvalho, *supra* note 6, at 243.

[35] *See* Geertrui Van Overwalle, *supra* note 26, at 359.

[36] Walter H. Lewis & Veena Ramani, *Ethics and Practice in Ethnobiology: Analysis of the International Cooperative Biodiversity Group Project in Peru*, *in* BIODIVERSITY AND THE LAW 394 (Charles McManis ed., 2007).

[37] *See* SILKE VON LEWINSKI & ANJA VON HAHN, INDIGENOUS HERITAGE AND INTELLECTUAL PROPERTY 65 (Kluwer Law International, Netherlands 2004).

[38] *See* Doris Estelle Long, *Traditional Knowledge and the Fight for the Public Domain*, 5 J. MARSHALL REV. INTELL. PROP. L. 317, 321 (2006).

how can traditional knowledge be novel if it is part of the public domain? This is a misconception, because not all traditional knowledge is shared by the community. In fact, some knowledge is reserved by few members or even by one member of the community, such as the shaman.[39] "Recent investigations ... have shown that not all indigenous knowledge is communally shared, and not all of it is considered to be in the public domain. Various healing methods have been reported to have been held under a secrecy regime."[40] In addition, traditional knowledge holders have developed their own mechanisms to regulate access and use of traditional knowledge. Therefore, if the knowledge is protected by some sort of regime that regulates its management, then it cannot be considered to be a part of the public domain. In this respect, Graham Dutfield states:

> Many traditional societies have their own custom-based "intellectual property" systems, which are sometimes quite complex. Customary rules governing access to and use of knowledge do not necessarily differ all that widely from western intellectual property formulations, but in the vast majority of cases they almost certainly do. Nonetheless, there is a tendency to treat such rules with disrespect or to ignore them as if they do not exist. However, knowledge thought to be part of the public domain may in some cases turn out under customary law to remain subject to the legal claims of individuals and communities. Even if one disregards customary law, the unauthorized dissemination or use of certain publicly available traditional knowledge could sometimes be challenged on the basis of concepts existing in the western legal system, such as copyright, breach of confidence and misappropriation. Accordingly and in consequence, nothing is being taken from the public domain that should be there, but only what should not be. … The public domain is being promoted in opposition to privatization as part of a debate about intellectual property rights, a discussion that does not easily accommodate the specific interests and claims of non-Western societies. Why is this case? Disclosed TK has from the distant past to the present been treated as belonging to nobody. Consequently, many indigenous peoples' representatives are concerned that pro-public domain rhetoric, sympathetic as many of them are about the sentiments behind it, may inadvertently threaten their rights. Indeed, the public domain concept is problematic from the perspective of many traditional societies in which TK holders or others, such as tribal

[39] *See* Lowell John Bean, *California Indian Shamanism and Folk Curing*, *in* AMERICAN FOLK MEDICINE 111 (Hand Wayland ed., University of California Press 1976).

[40] *See* Geertrui Van Overwalle, *supra* note 26, at 359.

> elders, have permanent responsibilities concerning the use of such knowledge, irrespective of whether it is secret, is known to just a few people, or is known to thousands of people throughout the world. Custodianship responsibilities do not necessarily cease to exist just because the knowledge has been placed in the so-called public domain. There is no doubt that a tremendous amount of TK has been disclosed and disseminated over the years without the authorization of the holders.[41]

A fourth impediment is the conception of the inventor as an "individual, solitary, and original creator, or a group of individuals (so-called joint inventorship), not collective entities."[42] However, this point is still arguable because not all traditional knowledge is created by the whole community. It has been stated that some traditional knowledge can be developed by one individual within the community. "In general, creation of TK is an incremental and collective process, but it does not follow that TK is not the products of individuals. Depending on the customary laws and principles applicable to particular situations, nothing stands in the way of recognizing an individual creation as a genuine piece of TK."[43] This makes it possible to protect traditional knowledge not only under patent law, but also under copyright law. In this respect, Michael J. Balick states, "One way of strengthening the position of the traditional healer employed in the Belize project has been to consider these people as colleagues and teachers, rather than as informants. ... By including traditional healers who provided information for research as co-authors or providing acknowledgment using their names, all parties benefit."[44]

Another solution for this problem is the use of the joint inventorship figure. To use the joint inventorship concept, it is necessary that "each of the joint inventors have contributed to the inventive conception, working on the same subject matter and making the same contributions to the inventive thought ant to the final result."[45] Therefore, this concept could be used only under certain circumstances, in which the participation of the traditional knowledge holder has been tangible and direct throughout the process, as opposed to isolated or indirect participation. In this respect, Doctor Nuno Carvalho says that "shamans who supply relevant, if not crucial, genetic material may provide important support for the activities of the research and

[41] *See* DUTFIELD, *supra* note 32, at 8-9.

[42] *See* Geertrui Van Overwalle, *supra* note 26, at 360.

[43] *See* Nuno Pires de Carvalho, *supra* note 6, at 243.

[44] Michael J. Balick, *Traditional Knowledge: Lessons from the Past, Lessons for the Future*, *in* BIODIVERSITY AND THE LAW 287 (Charles McManis ed., 2007).

[45] *See* Geertrui Van Overwalle, *supra* note 26, at 360.

development of pharmaceutical and biotechnological companies, but they are not considered co-inventors of the products and processes obtains as ultimate derivatives of those genetic resources."[46]

Nevertheless, in some cases, the concept of joint-inventorship has been successfully applied. That is the case with the ICBG Project in Peru. The ICBG is a grant which supports the idea that the "discovery and development of pharmaceutical and other useful agents from natural products can promote economic opportunities and enhanced research capacity in developing countries while conserving the biological resources from which these products are derived."[47] The ICBG Project is a role model, because it incorporates diverse mechanisms for the protection of traditional knowledge. In this project, prior informed consent was required for access to genetic resources and traditional knowledge. Agreements containing the principles of access and benefit-sharing were also signed by the parties, and existing intellectual property rights as patents were used to protect traditional knowledge and guarantee fair compensation to traditional knowledge holders.[48]

Each agreement recognizes that the traditional knowledge of the indigenous people is their cultural legacy and that the people have a right for such knowledge to be protected from the public domain. They state that such knowledge is being provided voluntarily and is being retained in confidence. Should such information prove valuable, then the original IPR of the indigenous people over such knowledge would be preserved through the filing of appropriate patents, and by the inventors assigning shared ownership of the patents to the indigenous federations. The agreements also recognize the ownership and patrimony of the Peruvian state over certain tangible resources (whole plants) collected by the researchers in Peru for scientific purposes and for making extracts, fractions and isolating compounds of potential commercial use as new pharmaceuticals.[49]

IV. Conclusion

In conclusion, despite these issues, we can still maintain the position that if traditional knowledge meets the requirements established by patent law, it could be subject to protection. We can sustain this asseveration in the fact that all these intrinsic issues can be overcome. The first step is to consider the opinion of indigenous and local communities, in order to identify their interest in protecting their traditional knowledge under the patent regime and

[46] Nuno Pires de Carvalho, *supra* note 6, at 251.
[47] *See* Lewis & Ramani, *supra* note 36, at 400.
[48] *See id*. at 400-10.
[49] *See id*. at 405.

conciliate the Western cosmovision with their principles and values. Second, it is to adjust the concept of the legal standards to the national reality and the interests of the communities. Consequently, with the right approach, national governments can make it possible to traditional knowledge to comply with the TRIPS minimum requirements of patentability in order to get an effective protection.

Therefore, we support the thesis that countries should work on the application of existing intellectual property rights such as patent law. It has been said that existing IPRs are opposed to TK's nature; however, the best way to protect TK and respect all that it represents is through an immediate and effective protection that nowadays it is only available through the existing intellectual property rights.

Cited as:

Bluebook Style: Sophia F. Espinosa, *Patent Law and the Protection of Traditional Knowledge*, 1 NTUT J. of INTELL. PROP. L. & MGMT. 159 (2012).

APA Style: Espinosa, S. F. (2012). Patent law and the protection of traditional knowledge. *NTUT Journal of Intellectual Property Law & Management, 1*(2), 159-174.

GAINING EXPERIENCE FROM A CASE ANALYSIS OF THE PARALLEL IMPORTATION OF TRADEMARK GOODS IN THE UNITED STATES

Fa-Chang Cheng*
Associate Professor
Graduate Institute of Science and Technology Law,
National Kaohsiung First University of Science and Technology (Taiwan)

ABSTRACT

The import of gray-market goods (also called parallel importation) has raised serious discussion about whether this type of behavior should be allowed and under what type of situations exceptions to the general rule should exist. Three parties are involved in the scenario of parallel importation: the consumer, the importer, and the domestic trademark rights owner. The benefits of allowing parallel importation are to encourage international business transactions and reduce the domestic market price. The drawbacks of allowing parallel importation are the potential of increasing unfair competition to the domestic trademark owner and also the potential confusion for the domestic consumer. Through the legal experience of the United States in solving parallel importation disputes, this study investigates the policy patterns of how to strike a balance for preserving the legal interests of the consumer, the importer, and the domestic trademark rights owner. By reviewing the experience of the United States, this study adds to the discussion on the Revised Trademark Act recently taking force in Taiwan.

Keywords: Parallel importation, gray-market goods, exhaustion doctrine, genuine goods, common ownership or control

* J.D. 01', Ohio Northern University Claude W. Pettit College of Law; LL.M. 99', Golden Gate University School of Law; LL.B. 94' Soochow University School of Law, Taiwan.

I. Introduction

The territorial effects of intellectual property protection are recognized as a general principle of intellectual property protection worldwide. Intellectual property protection includes different individual rights, and the right to import is most closely connected with the physical borders of sovereign nations. Generally, prohibiting the importation of counterfeit goods serves a legitimate legal purpose and causes no disputes. However, disputes arise when imports are legally manufactured outside the territory of sovereignty and enter the sovereignty without the permission of the intellectual property rights holder. This type of importation is called "parallel importation," and the goods involved are called "gray-market goods."[1] Because the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) remains silent on the topic of parallel importation,[2] deciding whether to allow the importation of gray-market goods is a policy choice.[3] This study presents a description of current policy attitudes regarding the parallel importation of trademarked goods in the United States by using a case research and analysis to further extend the author's personal observations. The end of this study provides a brief discussion of the trademark law recently revised in Taiwan based on experience from the policy solution to the parallel importation of trademarked goods in the United States.

Although the concept of exhaustion doctrine (also called first-sale doctrine) may overlap to an extent with the notion of parallel importation, these two legal principles cannot be regarded as equal, and they require clarification. The exhaustion doctrine restricts the control of a trademark owner to goods sold by the owner of intellectual property rights or with his/her consent. According to different requirements in different countries, the first sale of goods within a domestic territory, region, or any part of the world prohibits the owner's assertion of intellectual property rights.[4] However, prohibiting the importation of gray-market goods into the domestic market involves not only foreign goods manufactured by the owner of intellectual property rights or with his/her consent, but also foreign goods

---

[1] World Trade Organization, *Glossary, available at* http://www.wto.org/english/thewto_e/glossary_e/glossary_e.htm (last visited Sep. 28, 2012).

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

[3] *See* ARTHUR R. MILLER & MICHAEL H. DAVIS, INTELLECTUAL PROPERTY 272-273 (2d ed. 1990).

[4] World Intellectual Property Organization, *International Exhaustion and Parallel Importation, available at* http://www.wipo.int/sme/en/ip_business/export/international_exhaustion.htm (last visited Sep. 29, 2012).

legitimately manufactured outside the domestic market without the permission of the rights owner to import into the domestic market. An overlap between the concept of parallel importation and exhaustion doctrine occurs in the situation where foreign goods manufactured by the domestic rights owner or under the owner's consent enter the domestic market through importation. For example, in the Olympus case,[5] the 2nd Circuit Court in the United States supported the Customs Regulation in treating foreign goods bearing the genuine domestic trademark under the exhaustion defense and prohibiting parallel importation into the United States.[6] Because the purpose of this article is to review the experience of importing gray-market goods into the United States from a policy perspective, this study focuses on a case analysis discussion of the United States on the subject of parallel importation instead of the exhaustion doctrine.

II. The Case Analysis of the Parallel Importation of Trademarked Goods in the United States

This section reviews judicial decisions in recent years regarding the importation of gray-market goods within the United States. Depicting the legal infrastructure of regulating parallel importation in the United States is crucial to achieving the goal of this study. However, the purpose of this study is to gain some experience from the policy thinking behind these judicial decisions based on the regulations of parallel importation in the United States. Therefore, this section both presents the legal infrastructure of regulating parallel importation in the United States through the case discussion and provides policy observations on this legal infrastructure.

Regulations on the importation of gray-market goods in the United States are from two federal legislations: (1) the Lanham Act[7] and (2) the Tariff Act of 1930 and its administrative regulations.[8,9] The Lanham Act treats the subject of importing gray-market goods from the consumer's confusion perspective, whereas the Tariff Act of 1930 and its administrative regulations consider unfair industrial competition. Before introducing cases to correspond with each of these directions, it is necessary to clarify that the term "genuine goods" is not synonymous in these two case groups. This is because the term has its own purpose of protecting the consumer and the

[5] *See* Olympus Corp. v. United States, 792 F.2d 315, 320 (2d Cir. 1986).

[6] Timothy Toohey & Keith Gregory, *Parallel Imports and the First Sale Doctrine, available at* http://www.swlaw.com/assets/pdf/news/2011/11/14/ParallelImportsandtheFirstSaleDoctrine_Toohey_Gregory.pdf.

[7] 15 U.S.C § 1114 (1997).

[8] 19 U.S.C. § 1526(a)(d) (1930).

[9] 19 C.F.R. § 133.21(b)(c) (1987).

domestic trademark owner, respectively, as explained further below.

A. To Regulate Parallel Importation within the Tariff Act of 1930

Regarding the regulation of parallel importation, the pertinent provision to the Tariff Act of 1930 is 19 U.S.C. § 1526(a) and (d), which is read as follows:

> (a) Except as provided in subsection (d) of this section, it shall be unlawful to import into the United States any merchandise of foreign manufacture if such merchandise, or the label, sign, print, package, wrapper, or receptacle bears a trademark owned by a citizen of, or by a cooperation or association created or organized within the United States, and registered in the Patent and Trademark Office by a person domiciled in the United States, under the provisions of section 81 to 109 of title 15, and if a copy of the certificate of registration of such trademark is filed with the Secretary of the Treasury, in the manner provided in section 106 of said title 15, unless written consent of the owner of such trademark is produced at the time of making entry.[10]
>
> (d)(1) The trademark provisions of this section … do not apply to the importation of articles accompanying any person arriving in the United States when such articles are for his personal use and not for sale if (A) such articles are within the limits of types and quantities determined by the Secretary pursuant to paragraph (2) of this subsection, and (B) such person has not been granted an exemption under this subsection within thirty days immediately preceding his arrival.[11]

The Customs Service promulgates administrative regulations to implement the above-mentioned provision within the Tariff Act of 1930, and the regulation is as follows:[12]

> (b) Identical trademark. Foreign made articles bearing a trademark identical with one owned and recorded by a citizen of the United States or a corporation or association created or organized within the United States are subject to seizure and forfeiture as prohibited importations.
>
> (c) Restrictions not applicable. The restrictions set forth in paragraphs … and (b) of this section do not apply to imported

[10] *See supra* text accompanying note 8.
[11] *Id.*
[12] *See supra* text accompanying note 9.

> articles when:
> (1) Both the foreign and the U.S. trademark or trade name are owned by the same person or business entity;
> (2) The foreign and domestic trademark or trade name owners are parent and subsidiary companies or are otherwise subject to common ownership or control;
> (3) The articles of foreign manufacture bear a recorded trademark or trade name applied under authorization of the U.S. owner … ;
> (5) The merchandise is imported by the recordant of the trademark or trade name or his designate;
> (6) The recordant gives written consent to an importation of articles … and such consent is furnished to appropriate Customs officials; or
> (7) The articles of foreign manufacture bear a recorded trademark and the personal exemption is claimed and allowed under § 148.55 of this chapter.

Based on these provisions and administrative regulations, the general legal attitude in the United States regarding the importation of gray-market trademark goods is to disallow such behavior, with certain exceptions. To exclude applying the rule against gray-market good importation, the trademark owner's consent and personal use create little controversy because these two exceptions cause no significant harm to the trademark owner. However, to commercially import genuine trademarked goods that bear the legitimate trademark from either a domestic or foreign market without the express authorization of the domestic rights owner could create unexpected competition for the domestic rights owner. Therefore, lifting the ban on importing gray-market goods requires other convincing supportive arguments to clarify when and under what circumstances the policy should allow exceptions. The following case study and discussion present an answer to this question.

1. KMARK Corp. v. Cartier, Inc.[13]

This is a case seeking injunctive and declaratory relief, and was filed by the Coalition to Preserve the Integrity of American Trademarks and two of its members to invalidate the administrative regulation promulgated by the Customs Service, to enforce the provision to prohibit the parallel importation within the Tariff Act of 1930.[14] In this case, the Supreme Court described three types of importing foreign manufactured goods into the domestic

[13] KMARK v. Cartier, Inc., 486 U.S. 281 (1988).
[14] *Id*. at 281-282.

market, as follows:

> In case 1, despite a domestic firm's having purchased from an independent foreign firm the right to register and use the latter's trademark as a United States trademark and to sell its foreign manufactured products here, the foreign firm imports the trademarked goods and distributes them here, or sell them abroad to a third party who imports them here. In case 2, after the United States trademark for goods manufactured abroad is registered by a domestic firm that is a subsidiary of (case 2a), the parent of (case2b), or the same as (case 2c), the foreign manufacturer, goods bearing a trademark that is identical to the United States trademark are imported. In case 3, the domestic holder of a United States trademark authorizes an independent foreign manufacture to use that trademark in a particular foreign location. Again, the foreign manufacturer or a third party imports and distributes the foreign-made goods.[15]

The Supreme Court discussed the legitimacy of the exceptions of importing gray-market goods, as described in 19 C.F.R. § 133.21 (b)(c), corresponding with the Case 2 and Case 3 scenarios of parallel importation. The Supreme Court thought that the Case 1 scenario was exactly what motivated Congress to enact 19 U.S.C. § 1526(a) and (d) in prohibiting the importation of gray-market goods in the Katzel case.[16] That the Customs Service asserted no exception in the Case 1 scenario made prohibiting the entrance of gray-market goods straightforward and caused no controversy. The problem arose when the Customs Service applied the exceptions to the Case 2 and Case 3 scenarios to determine whether these exceptions contradict the appropriate interpretation regarding the provision of the Tariff Act of 1930. To interpret the provisional language of the legislation, the first step is to decide whether the language itself suffices in clarity and does not leave doubt for alternate interpretations, so that the administrative regulation cannot contradict the provisional language if the meaning of the language is clear.[17] However, "[I]f the statute is silent or ambiguous with respect to the specific issue addressed by the regulation, the question becomes whether the agency regulation is a permissible construction of the Statute."[18] The Supreme Court had no problem concluding that the Case 3 scenario (also 19 C.F.R. § 133.21 (c)(3)) fell outside the clear interpretation of provisional

[15] *Id*. at 286-287.
[16] A. Bourjois & Co. v. Katzel, 260 U.S. 689 (1923).
[17] Bd. of Governors, FRS v. Dimension Financial Corp., 474 U.S. 361, 368 (1986).
[18] *KMARK*, 486 U.S. at 291-92.

language in the Tariff Act of 1930 by reasonable administrative interpretation.[19] The opinion of the majority of the Supreme Court regarding how to explain the "common ownership or control" exception contained in 19 C.F.R. § 133.21 (c)(1)(2) was split; even the majority concludes that the common ownership or control situation is not covered by 19 U.S.C. § 1526(a) prohibiting the importation of gray-market goods. One part of the majority focused on the meaning of wording in 19 U.S.C. § 1526(a).[20] Two Justices thought the wording "owned of" did not apply to the domestic subsidiary that registered the trademark, as Case 2(a) exemplified, because the foreign parent might actually own the trademark. The wording "merchandise of foreign manufacture" might have several meanings, allowing Case 2(b)(c) to fall outside the coverage of 19 U.S.C. § 1526(a). The Supreme Court explained as follows:

> A further statutory ambiguity contained in the phrase "merchandise of foreign manufacture," suffices to sustain the regulations as they apply to case 2b and 2c. This ambiguity parallels that of "owned by," which sustained case 2a, because it is possible to interpret "merchandise of foreign manufacture" to mean (1)goods manufactured in a foreign country, (2)goods manufactured by a foreign company, or (3)goods manufactured in a foreign country by a foreign company. Given the imprecision in the statute, the agency is entitled to choose any reasonable definition to interpret the statute to say that goods manufactured by a foreign subsidiary or division of a domestic company are not goods "of foreign manufacture."[21]

In addition to the explanation provided by the two Justices, four other Justices focused on the legislative intent to protect the domestic trademark owner from unfair foreign competition with which he/she had no connection.[22] According to these four Justices, the common ownership or control exception corresponding to C.F.R. § 133.21 (c)(1)(2) was actually serving its legislative intent.

2. United States v. Eighty-Three Rolex Watches[23]

This case involves the definition of "common ownership or control" as found in the administrative regulation.[24] The dispute started when the

[19] *Id.* at 294.
[20] *Id.* at 292-293.
[21] *Id.*
[22] *Id.* at 302.
[23] United States v. Eighty-Three Rolex Watches, 992 F.2d 508 (1993).
[24] 19 C.F.R. § 133.2 d(1)(2) (1987).

Customs Service refused to provide ROLEX (USA) the protection of denying gray-market goods manufactured by ROLEX (Swiss) to entry.[25] Even when the owner of the ROLEX (Swiss) trademark assigned the ROLEX (USA) trademark to a domestic company in the United States, the owner asserted that ROLEX (USA) and ROLEX (Swiss) were under common ownership or control. First, that a sole shareholder who owned only 26 shares of the holding company of the ROLEX (USA) trademark was also one of the five-member board of directors and the seven officers to the company-owned ROLEX (Swiss) trademark was insufficient to prove common ownership and control. The argument that the owner of the ROLEX (Swiss) trademark has a close business relationship with the holding company of the ROLEX (USA) trademark owner (parts supporting and product distribution relationship) did not survive the common control scrutiny, which is similar to a parent-subsidiary relationship.[26] The court also indicated that possessing 30% of the ownership might not suffice to meets the common control requirement.[27]

3. Vittoria N. Am. L.L.C. v. Euro-Asia Imports[28]

This case, which was handed down by the West District of Oklahoma, had two main disputes. The first dispute was whether to assign the trademark rights to a domestic entity, with a preservation clause in the contract that could cast doubt on the transferring aspect of the contract itself, is really the Case 1 scenario. The second dispute involved how to decide the common control element, as in previous cases. The facts in this case were as follows: Vittoria (Italy), which registered the trademark for tires and inner tubes for bicycles and motorcycles, assigned the rights of its trademark to Vittoria (U.S.A.), which was organized under Oklahoma law. Vittoria (U.S.A.) had no official corporate structure connection with Vittoria (Italy), despite Vittoria (U.S.A.) having had a close business relationship with Vittoria (Italy).[29] For example, the owner of Vittoria (Italy) allegedly influenced the business decisions of Vittoria (U.S.A.) regarding the distribution and marketing budget for certain brands. Vittoria (Italy) also supplied a product catalogue for the use of Vittoria (U.S.A.), which listed Vittoria (U.S.A.) as part of an "International Distribution Network." In addition to the close business relationship between Vittoria (U.S.A.) and Vittoria (Italy), the contract assigning trademark contained the following provision: "In the

[25] *Eighty-Three Rolex Watches*, 992 F.2d at 510.

[26] United States v. Eighty-Nine Bottles of Eau de Joy, 797 F.2d 767 (9th Cir 1986).

[27] Osawa & Co. v. B & H Photo, 589 F. Supp. 1163 (S.D.N.Y. 1984).

[28] Vittoria N. Am., L.L.C. v Euro-Asia Imports, No. 99-CV-1357, 2000 WL 33950123 (W.D. Okla. July 12, 2000).

[29] *Id.* at *3.

event that [Vittoria (Italy)] desires to have the Trademark as well as the goodwill and all rights and title to the registration reassigned to it, it shall give [Vittoria (U.S.A.)] thirty (30) days written notice and [Vittoria (U.S.A.)] shall execute a reassignment to [Vittoria (Italy)]."

The court in the case discussion did not find sufficient evidence to support the argument of common control because the court considered the allegedly close business connection to be just like "any working relationship between a manufacturer and a distributor, such as coordinated marketing and warranty services."[30] Regarding the argument about the reassignment provision, the court recognized that Vittoria (Italy) was attempting to persuade the court that the trademark did not fully pertain to Vittoria (U.S.A.), despite the existing contract having been assigned the rights of trademark to Vittoria (U.S.A.). However, the court rejected the argument of Vittoria (Italy) and expressed that only reassignment wording in an assignment contract, without other convincing evidence, would not make the contract a sham.[31]

B. To Regulate Parallel Importation within the Lanham Act

As stated at the beginning of this study, the legal system in the United States adopts a two-prong approach to regulating the entry of gray-market goods. One is resolving disputes from the unfair competition perspective, as discussed early in part A of this section, and the other is resolving disputes from the perspective of consumer protection. The pertinent provisions contained in the Lanham Act codified at 15 U.S.C. § 1114 and 1124 are as follows:

> 15 U.S.C. § 1114: Any person who shall, without the consent of the registrant—(a)use in commerce any reproduction, counterfeit, copy, or colorable imitation of registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive…shall be liable in a civil action ….[32]

> 15 U.S.C. § 1124: [N]o article of imported merchandise which shall copy or simulate the name of any domestic manufacture, or manufacturer, or trader, or of any manufacturer or trader located in any foreign country which, by treaty, convention, or law afford

[30] *Id.* at *4.

[31] Premier Dental Prod. v. Darby Dental Supply Co., 794 F.2d 850, 855-856 (3d Cir. 1986).

[32] 15 U.S.C. § 1114(1)(a) (1988).

> similar privileges to citizens of the United States, or which shall copy or simulate a trademark registered in accordance with the provisions of this chapter or shall bear a name or mark calculated to induce the public to believe that the article is manufactured in the United States, or that it is manufactured in any foreign country or locality other than the country or locality in which it is in fact manufactured, shall be admitted to entry at any customhouse of the United States ….[33]

This section introduces several cases from the United States that explain how to apply these provisions to disputes regarding the importation of gray-market goods. Generally, the genuine goods mentioned in the following cases mean those goods that will not confuse the consumer about the true identity of the domestic trademark.

1. Iberia Foods Corp. v. Rolando Romeo[34]

Iberia Foods Corp. owned the domestic trademark "Mistolin," which was assigned by Mistolin Dominicana and the subsidiary of Mistolin Dominicana, Mistolin Caribe, sold products bearing the "Mistolin" trademark in Puerto Rico. The defendant, Rol-Rom Foods, registered in New Jersey, purchased goods bearing the "Mistolin" trademark from the Puerto Rico market and imported them into the U.S. market without the authorization of Iberia Foods Corp., owner of the "Mistolin" trademark in the United States. Two arguments are involved in the case. First the defendant contended that the geographical area for assigning the "Mistolin" trademark should include Puerto Rico. That Mistolin Caribe sold products bearing the "Mistolin" trademark in Puerto Rico made Iberia Foods Corp. either abandon the trademark rights or implied consent to their sale in Puerto Rico. This argument was rejected by the court based on the reason that the assigning agreement covered only the continental United States.[35] The second argument was whether the products imported by the defendant were genuine goods. The criterion here was the existence of material differences between the products sold by the trademark rights owner and those sold by the alleged infringer.[36] If material difference existed between the products sold by the trademark rights owner and the imported products according to the facts of the case, the importation of gray-market goods that are not genuine would be

[33] 15 U.S.C. § 1124 (1988).

[34] Iberia Foods Corp. v. Rolando Romeo, 150 F.3d 298 (1998).

[35] *Id.* at 301.

[36] Martin's Herend Imp., Inc. v. Diamond & Gem Trading USA, 112 F.3d 1296, 1302 (5th Cir. 1997).

disallowed, based on 15 U.S.C. § 1114.[37] The purpose of this provision is not only to protect the goodwill of the trademark owner,[38] but also to prevent the consumer from confusing the true identity (quality and nature) of trademarked goods.[39]

2. Yamaha Corp. of Am. v. United States[40]

In this case, Yamaha-America appealed a previous court decision in which the court had dismissed its complaint. This facts of the case mentioned here are simple. Yamaha-America was a wholly owned subsidiary of Yamaha-Japan and assigned from Yamaha-Japan the trademark registered in the United States. Yamaha-America filed a lawsuit against ABC International Traders Corporation for importing gray-market goods into the United States without the authorization of Yamaha-America. Yamaha-America was attempting to raise action for the violation of 15 U.S.C. § 1124 in importing gray-market goods, and the previous court had rejected this argument.

The court in this case affirmed the previous court decision and rejected the argument in this case because "the importation of genuine goods is not actionable under the Lanham Act,"[41] which had been confirmed by previous cases.[42] An important question pertaining to this case is whether the imported goods were genuine. The criterion for judging genuine imported goods depends on the existence of physical (material) difference. If no physical (material) difference exists between imported goods and domestic trademark goods, imported goods are genuine (and vice versa). The court did not decide the "genuine" issue on its merits because it applied the "issue preclusion" doctrine. The controversy had been heard in another case, with the conclusion that the imported goods were genuine. This court decision was based on insufficient evidence. However, the court in this case seemed to imply that additional evidence presented by Yamaha-America would offer it a fighting chance to prove the existence of a physical (material) difference between the goods of Yamaha-America and Yamaha-Japan if the court had not applied the "issue preclusion" doctrine. The additional evidence brought by Yamaha-America was as follows:

---

[37] El Greco Leather Prod. Co. v. Shoe Word Inc., 806 F.2d 392, 395 (2d. Cir. 1986).

[38] Weil Ceramics and Glass, Inc. v. Dash, 878 F.2d 659, 671 (3rd Cir. 1989).

[39] Societe Des Produits Nestle, S.A. v. Casa Helvetia, Inc., 982 F2d. 633, 641 (1st Cir. 1992).

[40] Yamaha Corp. of Am. v. United States, 961 F.2d 245 (D.C. Cir. 1992).

[41] Yamaha Corp. of Am. v. ABC Int'l Traders Corp., 703 F. Supp. 1398, 1404 (C.D. Cal. 1988).

[42] NEC Electronics v. CAL Circuit Abco, 484 U.S. 851 (1987). *See also* Olympus Corp. v. United States, 486 U.S. 1042 (1988).

> [T]he gray-market products have the following physical differences: They lack the Underwriters Laboratory Approval and electromagnetic shielding required by the FCC; they have duel voltage switches and different plugs; they are not covered by the same warranties; and they do not include the sam training and educational services as those provided by Yamaha-America.[43]

III. The Observation of Policy Thinking behind the Regulations on Parallel Importation in the United States

The dispute about whether to allow the importation of gray-market goods (also called parallel importation) in trademark protection policy has long been in existence. Three parties are involved in the decision-making process: the consumer, the owner of trademark rights, and the importer. Occasionally, the interests of the consumer and the trademark owner are held together to some degree to counterbalance the considering interests of the other side. However, these two types of interest sometimes stand against each other.

To better understand the legal infrastructure regarding the importation of gray-market goods into the United States, this study considers two approaches to regulate parallel importation: the consumer protection approach and the unfair competition approach. In the consumer protection approach, the legal interests of the consumer and the owner of a trademark stand on the same side to counterbalance the interest of the importer of gray-market goods. Because no international treaty firmly recognizes the right to import gray-market goods, and to avoid consumer confusion and to protect the trademark rights owner, the importation of gray-market goods, which is treated as importing non-genuine goods, will be enjoined insofar as a material difference between the imported goods and that of the domestic trademark goods exists, resulting in consumer confusion regarding the true identity (quality and nature) of trademarked goods. Therefore, the importation influences the goodwill of the domestic trademark owner. In the unfair competition approach, the legal interest of the consumer's access to goods that are cheaper stands against the legal interest of the trademark holder, and striking a balance between the interests of each side is more difficult than in the first approach. This is because, in the first approach, preventing consumer confusion takes a higher priority than other considerations. The current legal policy in the United States to prevent the unfair importation of gray-market goods seems to weigh the domestic trademark owner's property rights more than the consumer's free access to "genuine goods." The only exception to appease concerns regarding unfair-competition effects in the importation of gray-market goods is by

[43] *Yamaha Corp. of Am.*, 961 F.2d at 253.

applying the "common ownership and control" standard to the international exhaustion doctrine, which is limited in the interpretation of the doctrine itself.

IV. Conclusion

Based on the legal infrastructure regarding the parallel importation of trademarked goods in the United States, this section provides comments on the Revised Trademark Act recently enacted in Taiwan.[44] In article 5 of the Revised Trademark Act, importing goods bearing a trademark is defined as "use trademark," and articles 68, 95, 96, and 97 stipulate penalties for the unauthorized use of a trademark. This includes importing gray-market goods without the consent of the domestic trademark owner.[45] Therefore, generally, legislators in Taiwan also want to prevent the importation of gray-market goods. However, the exceptions to this prohibition of parallel importation, which are based on the international exhaustion doctrine, are broader than their counterparts in the United States. In article 36 of the Revised Trademark Act,[46] the provision stipulates that "[w]here goods have been put on the domestic or foreign market under a registered trademark by the proprietor or with his consent, the proprietor is not entitled to claim trademark rights on such goods…." The provision itself is unclear on the meaning of "by the proprietor or with his consent," and whether this provision includes the common ownership or control situation, or whether non-exclusive licensing still holds on further judicial interpretation. Regarding the consumer protection aspect of parallel importation, the test in the United States is on whether a physical (material) difference exists between imported goods and domestic trademarked goods, or whether the goods cause consumer confusion. In Taiwan, according to article 68 of the Revised Trademark Act,[47] using an identical domestic trademark certainly causes consumer confusion, and the international exhaustion doctrine enacted in article 36 also applies to this situation. The legislators in Taiwan seem to have adopted the consumer protection approach and the unfair competition approach and regard them in the same manner for regulating parallel importation. This study proposes that the consumer protection approach and the unfair competition approach should be treated separately, as is the case in the United States. To consider the unfair competition aspect of parallel importation, the author of this study supports the notion that

[44] LAWBANK, *Trademark Act, available at* http://db.lawbank.com.tw/Eng/FLAW/FLAWDAT0201.asp.

[45] *Id.*

[46] *Id.*

[47] *Id.*

Taiwan could reduce restrictions on the importation of gray-market goods because Taiwan is still a trademark-import country instead of a trademark-export country. This would be valid until Taiwan turns into a trademark-export country or other important national considerations arise.

Cited as:

Bluebook Style: Fa-Chang Cheng, *Gaining Experience from a Case Analysis of the Parallel Importation of Trademark Goods in the United States*, 1 NTUT J. of INTELL. PROP. L. & MGMT. 175 (2012).

APA Style: Cheng, F.-C. (2012). Gaining experience from a case analysis of the parallel importation of trademark goods in the United States. *NTUT Journal of Intellectual Property Law & Management, 1*(2), 175-188.

[2012] Vol. 1 NTUT J. of Intell. Prop. L. & Mgmt.

RETHINKING THE "ACCESS" ELEMENT IN COPYRIGHT INFRINGEMENT CASES ABOUT POPULAR MUSIC

Ping-Hsun Chen[*]
Assistant Professor
Graduate Institute of Intellectual Property,
National Taipei University of Technology (Taiwan)

ABSTRACT

This article explains why a popular music songwriter could easily infringe some old pop songs. The infringement theory is based on "subconscious copying." This thought may be right in the past, but in the era of Internet, the facts of subconscious copying may be deemed to be true in many situations. To illustrate the problem, two court cases are reviewed. These cases situate the songwriter in a very risky environment. Specially, the use of Internet may make the environment worse. Therefore, this article provides a solution, which points out the need of changing the determination of the "access" element in copyright infringement cases.

Keywords: Copyright, pop music, access

[*] J.D. 10' & LL.M. 08', Washington University in St. Louis School of Law; LL.M. 07', National Chengchi University, Taiwan; B.S. 97' & M.S. 99' in Chem. Eng., National Taiwan University, Taiwan.

I. Introduction

In the popular ("pop") music industry, musicians are always inspired by other musicians,[1] or they are good at synthesizing the past musical elements so as to create a new, fantastic composition.[2] Doubtlessly, the musicians are under a high risk of copyright infringement because they easily get access to others' works.[3]

To hold a copyright infringer liable, a plaintiff must prove (1) that he or she "owns a valid copyright" and (2) that the infringer "copied constituent elements of the copyrighted work."[4] Regarding the first element, the plaintiff must register the copyrighted work in the United States Register of Copyrights in order to establish prime facie evidence of a valid copyright.[5] However, the first element may be attacked by the infringer because of lack of originality.[6] Or, the copyright will be invalid because of lack of either fixation in a tangible medium of expression or authorship.[7] Besides, "the idea-expression dichotomy" and "the useful article doctrine" are used to destroy copyrightability.[8]

Regarding the second element, the plaintiff has to prove factual copying and substantial similarity between the infringed and infringed works.[9] Factual copying can be proved by either direct evidence or circumstantial evidence.[10] While the direct evidence is rarely provided, the circumstantial evidence may be shown by proving that "the infringer had access to the

---

[1] For instance, Kenny "Babyface" Edmonds once said, "There's so much great music to learn from. Listen to Elton John, Stevie Wonder, the Beatles, and the Stones. Make them part of your playlist, and you'll have a wider background to inspire you." Josh B. Wardrop, *He's Got That Whip Appeal*, BERKLEE NEWS, Dec. 21, 2007, http://www.berklee.edu/news/2007/12/babyface.html (an interview report about Kenny "Babyface" Edmonds) (last visited Dec. 2, 2008).

[2] *See* Candace G. Hines, Note, *Black Musical Traditions and Copyright Law: Historical Tensions*, 10 MICH. J. RACE & L. 463, 491 (2005).

[3] *See* Jamie Walsh, Case Note and Comment, *No Justice for Johnson? A Proposal for Determining Substantial Similarity in Pop Music*, 16 DEPAUL-LCA J. ART & ENT. L. 261, 261 (2006).

[4] Positive Black Talk Inc. v. Cash Money Records, Inc., 394 F.3d 357, 367 (5th Cir. 2004).

[5] Jorgensen v. Epic/Sony Records, 351 F.3d 46, 51 (2d Cir. 2003); Johnson v. Gordon, 409 F.3d 12, 17 (1st Cir. 2005) ("Upon the plaintiff's production of such a certificate, the burden shifts to the defendant to demonstrate some infirmity in the claimed copyright.").

[6] Apple Barrel Prods., Inc. v. Beard, 730 F.2d 384, 387 (5th Cir. 1984).

[7] ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGY AGE 386-87 (Aspen Publishers 4th ed. 2006).

[8] *Id.* at 395-415.

[9] *Positive Black Talk Inc.*, 394 F.3d at 367.

[10] *Id.* at 367-68.

copyrighted work prior to the creation of the infringing work"[11] and that "probative similarity" between the copyrighted work and infringing work exists.[12] After the plaintiff establishes factual copying, the infringer can rebut it by showing that the infringing work was independently created.[13] But, if the infringer fails to do so, the plaintiff then successfully establishes factual copying.[14]

Regarding the issue of "substantial similarity," the plaintiff has to prove that "the copyrighted work and the allegedly infringing work are substantially similar."[15] The test for "substantial similarity" is "a two-part analysis: an objective extrinsic test and a subjective intrinsic test."[16] The objective extrinsic test asks "whether substantial similarity exists between the ideas and expression of the [copyrighted and infringing] works."[17] If the objective extrinsic test is passed, the subjective intrinsic test then asks, in view of a reasonable person, "whether the initial expression was (a) protected and (b) substantially taken."[18] Additionally, without proof of factual copying, the infringer may still be liable if the plaintiff can prove the "striking similarity" between the copyrighted and infringing works.[19]

Though the copyright infringement is established, the infringer may bring "the fair-use doctrine affirmative defense [to preclude] liability."[20] A judge will look at "the purpose and character of the [infringing] use," "the nature of the copyrighted work," "the amount and substantiality of the [infringing]

---

[11] *Id.* at 368.

[12] *Id.* Some Circuits do not require "probative similarity." *See e.g.*, Dawson v. Hinshaw Music Inc., 905 F.2d 731, 732 (4th Cir. 1990) ("[B]ecause of the difficulties in proving copyright infringement by direct evidence, the law has established a burden shifting mechanism whereby plaintiffs can establish a *prima facie* case of infringement by showing possession of a valid copyright, the defendant's access to the plaintiff's work, and substantial similarity between the plaintiff's and defendant's works."); Smith v. Jackson, 84 F.3d 1213, 1218 (9th Cir. 1996) ("Because direct evidence of copying is not available in most cases, plaintiff may establish copying by showing that defendant had access to plaintiff's work and that the two works are 'substantially similar' in idea and in expression of the idea.").

[13] *Id.* at 368.

[14] *Id.*

[15] *Id.*

[16] Swirsky v. Carey, 376 F.3d 841, 845 (9th Cir. 2004).

[17] Toliver v. Sony Music Entm't Inc., 149 F. Supp. 2d 909, 915 (D. Alaska 2001).

[18] *Id.*

[19] *See e.g.*, John R. Autry, Note, *Toward a Definition of Striking Similarity in Infringement Actions for Copyrighted Musical Works*, 10 J. INTELL. PROP. L. 113, 113-14 (2002); Henry J. Lanzalotti, Casenote, *Is Proof of Access still Required? Proving Copyright Infringement Using the "Strikingly Similar" Doctrine: An Analysis of the Fourth Circuit's Decision in Bouchat v. Baltimore Ravens, Inc.*, 9 VILL. SPORTS & ENT. L.J. 97, 104-05 (2002).

[20] Zomba Enters., Inc. v. Panorama Records, Inc., 491 F.3d 574, 581 (6th Cir. 2007).

portion," and "the [market] effect of the [infringing] use" to see whether the fair use would save the infringer.[21]

This essay focuses on the "access" element about the "factual copying" issue and wants to provide a solution for determining the "access" element with respect to pop music. Part II analyzes and criticizes two cases about how to prove that a copyright infringer had accessed to a copyrighted song. Part III proposes a new standard for judging the access element about the pop music copyright infringement, and some policy arguments are also presented to support such standard.

II. Two Extreme Cases of the Access Element

A. Teenage Memory of the Infringer-*Three Boys Music Corp. v. Bolton*

In *Three Boys Music Corp. v. Bolton*,[22] the infringing song was "Love Is a Wonderful Thing" written by Michael Bolton and Andrew Goldmark in early 1990,[23] while the infringed song was also with the same title and written by the Isley Brothers in 1964.[24] The Isley Brothers got a copyright of the infringed song from the Register of Copyrights and recorded for United Artists in 1964.[25] United Artists released the infringed song as a single in 1966, and several music magazines predicted that the infringed song would be a hit.[26] But, the Isley Brothers' "Love Is a Wonderful Thing" never got into any top 100 charts.[27] In 1991, the infringed song was released on CD by EMI after the infringing song was written.[28] Michael Bolton's "Love Is a Wonderful Thing" was released as a single in April 1991, and it ranked 49 on Billboard's year-end pop chart.[29] Through the Ninth Circuit' factual illustration, the infringing song was more popular or well-known than the infringed song.

The lawsuit was filed in 1992.[30] In 1994, the jury found the copyright infringement, and the defendant moved for judgment as a matter of law and

---

[21] *Id.* at 581-82.

[22] 212 F.3d 477 (9th Cir. 2000).

[23] *Id.* at 481. You may watch the music video of "Love Is a Wonderful Thing" through http://www.youtube.com/watch?v=ddAoI8OMNcQ.

[24] *Id.* at 480. The information of the Isley Brothers may be found at http://en.wikipedia.org/wiki/The_Isley_Brothers. Their song cannot be found on the Youtube.

[25] *Id.*

[26] *Id.*

[27] *Id.*

[28] *Id.* at 480-81, 484.

[29] *Id.* at 481.

[30] *Id.*

new trial.[31] The district court judge dismissed the defendant's motions.[32] Finally, in 1996, the district court judge issued the judgment regarding the damages allocation.[33] The defendant, therefore, appealed.[34]

Regarding the "access" issue, the Ninth Circuit faced a question of whether to overturn the jury's verdict, and it decided to affirm the verdict.[35] The Ninth Circuit relied on the "subconscious copying" theory provided by Judge Learned Hand in 1924.[36] The basic concept is that "[e]verything registers somewhere in our memories, and no one can tell what may evoke it … Once it appears that another has in fact used the copyright as the source of this production, he has invaded the author's rights. It is no excuse that in so doing his memory has played him a trick."[37] That is, somewhere in your memory about one old song may lead to the inference that you accessed that song. And, the Ninth Circuit went further by stating, "[T]he theory of subconscious copying has been applied to songs that are more remote in time."[38] This attitude caused the Ninth Circuit to sustain the jury's verdict finding that Michael and Andrew accessed to the infringed song.

At the trial, the plaintiff provided four types of evidence. First, Michael and Andrew lived in Connecticut in 1966.[39] Michael liked R&B songs, led a band performing popular songs of Black singers, and had a brother who collected a lot of records.[40] Second, three DJs said that the infringed song was widely disseminated on radio and television stations.[41] The infringing song was played several times for several months on one TV show broadcast in Philadelphia, New York, and Hartford-New Haven and some radio shows broadcast in Philadelphia, Chicago, Buffalo, and New York.[42] Third, Michael once met the Isley Brothers in one 1988 concert, where he said he knew the group very well and had all stuff.[43] Fourth, Michael once asked Andrew whether their song copied Marvin Gaye's "Some Kind of

---

[31] *Id.*
[32] *Id.*
[33] *Id.*
[34] *Id.*
[35] *Id.* at 481-82.
[36] *Id.* at 482.
[37] *Id.* at 482-83 (citing Fred Fisher, Inc. v. Dillingham, 298 F. 145, 147-48 (S.D.N.Y. 1924)).
[38] *Id.* at 483 (discussing ABKCO Music, Inc v. Harrisongs Music, Ltd., 722 F.2d 988 (2d Cir. 1983)).
[39] *Id.*
[40] *Id.*
[41] *Id.*
[42] *Id.*
[43] *Id.* at 483-84.

Wonderful."[44]

On the other hand, the defendants provided several attacks. First, they never admitted hearing the infringed song.[45] The song never reached the top 100 of the Billboard's pop music chart, and the new release of the infringed song was made after they wrote the infringing song.[46] Second, two songs were not strikingly similar.[47] Third, three R&B experts said they never heard the infringed song, and the Connecticut TV shows never played the infringed song.[48]

Relying on the lower court's record, the Ninth Circuit agreed with the possibility that two teenagers, who liked R&B music, could remember the infringed song, when the song was played on radio or TV shows for several weeks, so as to subconsciously copy the song after 25 years.[49] Since the jury fully heard both sides' arguments, the Ninth Circuit deferred to the jury's findings.[50] That is, the Ninth Circuit affirmed that an infringer's teenage memory can be used to establish the "access" element by not overturning the inference of the jury that Michael and Andrew would subconsciously copy the infringed song because their possible teenage memory of such song.

B. Submissions to Persons Surrounding the Infringer-*Armour v. Knowles*

In *Armour v. Knowles*,[51] the plaintiff, Jennifer Armour, a singer and songwriter, composed a demo tape by which she hoped to advance her career.[52] The tape was produced in early January 2003, and it included an instrumental version of her song, "Got a Little Bit of Love for You."[53] On February 12, 2003, she registered a copyright of an acappella version of her song.[54] Sometime between January and March 2003, her manager, Marc McKinney, sent copies of the tape to many people that he thought could help contact Beyoncé Knowles (known as "Beyoncé").[55] But, no one responded to him, and no tapes were return.[56]

---

[44] *Id.* at 484.
[45] *Id.*
[46] *Id.*
[47] *Id.*
[48] *Id.*
[49] *Id.*
[50] *Id.*
[51] 512 F.3d 147 (5th Cir. 2007).
[52] *Id.* at 150-51.
[53] *Id.* at 151.
[54] *Id.*
[55] *Id.*
[56] *Id.*

The infringing song was "Baby Boy," which was commercially released on June 24, 2003.[57] The song was collected in one Beyoncé's album, which Beyoncé began to produce in February 2003.[58] On July 11, 2005, the plaintiff sued Beyoncé and other defendants for copyright infringement.[59] The plaintiff claimed that Beyoncé's "Baby Boy" copied parts of her song, "Got a Little Bit of Love for You."[60] At the district court, the defendants successfully moved for summary judgment.[61] Consequently, the plaintiff appealed.[62]

On appeal, one of the issues was whether Beyoncé had accessed to the infringed song.[63] The Fifth Circuit held that the plaintiff did not prove Beyoncé's access.[64] Basically, the Fifth Circuit asked whether the infringer "had a reasonable opportunity to view the copyrighted work[] before creating the infringing work."[65] And, a bare possibility, a finding based on speculation or conjecture, or nothing more than a tortuous chain of hypothetical transmittals is insufficient to establish the "access" element.[66] Generally, the Fifth Circuit did not believe the plaintiff's story.

The infringing song was made through a long process, and the disputed part of the infringing song was composed by February 13, 2003.[67] To prove the "access" element, the plaintiff provided four paths by which Beyoncé had access to the infringed song.[68] One path stood for one person the tapes were given to.[69] But, all paths failed. First, the plaintiff admitted that the tapes were sent or given to three persons either late February or early March 2003.[70] Second, although the tape was mailed to the last one person (called "T-Bone") at the end of January, the plaintiff could not provide sufficient evidence showing the relationship between T-Bone and Beyoncé.[71] Here, the plaintiff only provided an affidavit of Mr. McKinney, stating that he thought that T-Bone and Beyoncé were good friends, and other evidence showing

---

[57] *Id.* You may watch the music video of "Baby Boy" through http://www.youtube.com/watch?v=EuNIKjKuptQ.
[58] *Id.*
[59] *Id.*
[60] *Id.*
[61] *Id.*
[62] *Id.*
[63] *Id.* at 152.
[64] *Id.*
[65] *Id.* at 153 (citation omitted).
[66] *Id.*
[67] *Id.*
[68] *Id.*
[69] *Id.*
[70] *Id.* at 153-54.
[71] *Id.* at 154-55.

that T-Bone and Beyoncé once worked in a movie before.[72]

Although the Fifth Circuit thought that the plaintiff did not prove the "access" element, it still provided six logic steps of showing the relationship: "(1) T-Bone and Beyonce were in fact good friends; (2) T-Bone and Beyonce regularly communicated; (3) T-Bone received and listened to the demo tape …, (4) after receiving and listening to it, T-Bone gave the tape to Beyonce; (5) Beyonce received the tape and had the opportunity to listen to it; (6) all of this happened [before the disputed part was composed]."[73] These six steps could be a rule of showing the relationship between an infringer and a third party by whom the infringer would have a chance to access the copyrighted work.

C. Disadvantages to the Pop Music Industry

In *Three Boys Music Corp.*, the Ninth Circuit just punished Michael Bolton for his concerns of avoiding copyright infringement. And, image that you are a fan of some famous singer. Now, the singer you respect comes to sue you for copyright infringement, while you care about the copyright issues very much during the creation of your own song. Worse, your concern of copyright infringement when the song was being made could become a negative impact on the determination of independent creation.[74]

In *Armour*, on the other hand, the Fifth Circuit protected a successful singer from involving in unwanted copyright disputes. But, what the Fifth Circuit established is to make friends potential paths that lead the singer to copyright infringement.[75]

Both cases would be devastating to songwriters in the Internet era. First, through any video-sharing websites, such as Youtube, it is impossible for any persons to assert that they have not listened to any audio or visual works.[76] Especially, when an infringer has, for example, a Youtube account, a story of subconscious copying could be easily made. Second, many recording companies or artists have their Youtube web pages to post music videos,

---

[72] *Id.* at 155.

[73] *Id.*

[74] *Three Boys Music Corp.*, 212 F.3d at 486.

[75] The Fifth Circuit introduced one Fourth Circuit's decision, Towler v. Sayles, 76 F.3d 579 (4th Cir. 1996). *Armour*, 512 F.3d at 155 & n.16. In *Towler*, the Fourth Circuit stated, "A court may infer that the alleged infringer had a reasonable possibility of access if the author sent the copyrighted work to a third party intermediary who had a close relationship with the infringer." *Id.*, 76 F.3d at 583.

[76] There is an alternative way for an infringer to be caught in the "subconscious copying" theory, which is a music work used in TV commercials. *See* Nora Miles, Note, *Pop Goes the Commercials: The Evolution of the Relationship Between Popular Music and Television Commercials*, 5 VAND. J. ENT. L. & PRAC. 121, 121-22 (2003).

where they also allow others to comment.[77] Since the comments could be an audio and visual response, it is possible that someone could submit their works through these Youtube channels.[78] Therefore, an infringer could be easily caught through the *Armour* theory, especially under the circumstances where the web pages are created by the infringers or the music companies thereof.

III. A New Proposal

A. Reversing Test

The "reversing test" means that a court should consider the "similarity" element before deciding the "access" element. The basic idea is that, if there is no similarity to the extent where a reasonable person could believe there was some copying, we should not spend judicial resource, such as discovery, to deal with the "access" issue.

The consideration of the "similarity" element should be a question of degree. And, if the degree of similarity reaches a certain level, then the court should ask whether an infringer had accessed to the infringed work. Otherwise, the test should be stopped.

The inquiry for the "similarity" element should not depend on the degree of "access,"[79] but should focus on the component comparison of both infringed and infringing songs. The access stories in *Three Boys Music Corp.* and *Armour*, though the latter one did not make it, are not subject to a clear spectrum of the degree of "access." No direct copying was proved, but only some inference of possible copying was given. As a result, no real access has ever happened. And, there is no way to judge the degree of "access." The proposition that "when a high degree of access is shown, we require a lower standard of proof of substantial similarity"[80] is impracticable.

---

[77] For instance, Atlantic Recording has http://www.youtube.com/user/AtlanticVideos, Sony BMG Music Entertainment has http://www.youtube.com/user/sonybmg, and Chilli (TLC member), has http://www.youtube.com/user/chillionlinevideos.

[78] Actually, a Youtube site, http://www.youtube.com/watch?v=6Oldo026juo, is used as path for Chilli to collect dancing videos.

[79] There are two sorts of "similarity" in the copyright infringement analysis. One is "probative similarity," which is used as one element of establishing "factual copying" in some federal circuit courts, *see e.g. Johnson*, 409 F.3d at 18 (1st Cir.); *Jorgensen*, 351 F.3d 51 (2d Cir.); *Positive, Black Talk Inc.*, 394 F.3d at 368(5th Cir.), but not in other federal circuit courts. *See e.g.*, *Towler*, 76 F.3d at 583-84 (4th Cir.); *Three Boys Music Corp.*, 212 F.3d at 481 (9th Cir.). The other is "substantial similarity," which are applied by all federal circuit courts. The degree of access will only affect the standard of "substantial similarity" in a sense of lowering the proof. *Three Boys Music Corp.*, 212 F.3d at 485. Here, the present proposal mentions this issue because the proposal makes the "access" element independent from the "similarity" element.

[80] *Swirsky*, 376 F.3d at 844.

The question of degree is a factorial determination. The determination is like a "fair-use" analysis, where a court should go through several factors in order to decide the existence of "similarity" between copyrighted and infringing works. And, the factors mean the components that are contributed to both infringed and infringing songs.

The two general components are lyrics and melodies. The lyrics between the infringed and infringing works are easily compared while the comparison of the melodies is complex. The factors for the melody comparison include tempos, pitches (or pitch emphasis or sequences), chords, choruses, notes, baselines, key, harmony, and rhythm.[81] Other factors about the compositional methodologies may be considered, such as "inversion" and "retrograde."[82]

Finally, under the present proposal the line of similarity is not drawn because of the complexity of the music works so that it is better to let judges to go through many factors to reach their conclusions.

B. Appropriation for Pop Music

The new proposal reflects the nature of the pop music. First, the songwriters in the pop music industry are always inspired by previous songs or contemporary songs. Second, the songwriters in the pop music industry have to listen to others' works in order to frame or secure particular features of pop songs. For example, country music, R&B music or jazz music has distinct features for listeners to identify what it is. Thus, it is easy to get a scheme like *Three Boys Music Corp.* to establish factual copying.

Besides, in the cases where the songwriters are singers, the scheme like *Three Boys Music Corp.* is more likely to be established. People who become a pop music singer generally love pop music. They love music, so they are willing to take a chance to be a pop music star. How can you image a pop music singer who has never listened to pop music? As a result, "access" may be always loaded in a high degree, so courts may always lower the "similarity" standard even though the infringed and infringing works are sounded differently or distinctively in view of general pop music listeners or even though the infringed work is an unpopular song for all times.

Especially in the era of Internet composing of many video-sharing websites, it is easier for a song to reach a songwriter. Some websites, such as Youtube, have increasing database of music works. Even though a law suit

[81] *See id.* at 845-46, 848 & n.13, 849; *see also* David S. Bloch, *"Give the Drummer Some!" On the Need for Enhanced Protection of Drum Beats*, 14 U. MIAMI ENT. & SPORTS L. REV. 187, 189 (1997).

[82] *See Johnson*, 409 F.3d at 21.

may follow, some people still upload songs or music videos to Youtube.[83] Hence, the increasing database of music works on Internet make the "access" standard lower and lower, so that no one can get away from the theory of subconscious copying like *Three Boys Music Corp.* unless he or she has never surfed on Internet.

Moreover, the interactive function of the video-sharing websites makes the strict rule in *Armour* for the "access" element looser and looser. It is not like a case of software infringement, where an infringer should buy a product to analyze. Rather, it is a case where an infringer could be easily caught by a song submitter through the interactive function.

Therefore, we need to find a way to get around the current legal theory about the "access" element. The best way as proposed above is to consider the "similarity" element before the "access" element is evaluated. If no similarity exists, there is no need to discover "access." That is, since the "access" element seems to be presumptively established in the pop music cases the key issue should be the "similarity" element.

IV. Conclusion

Pop music has unique features and deserves a different treatment when the copyright infringement concerning a pop music song is analyzed. The current "access" theory for establishing factual copying is not healthy to the pop music industry. So, the legal standard for factual copying should be changed. The present proposal is simple and straight. It requires that the "similarity" element should be dealt with before the "access" element is considered. The consideration behind this proposal includes the awareness of Internet effects and nature of songwriters or singers in the pop music industry. With the present proposal, it will not be a presumptive "sin" that songwriters are inspired by previous songs or artists.

Cited as:

Bluebook Style: Ping-Hsun Chen, *Rethinking the "Access" Element in Copyright Infringement Cases about Popular Music*, 1 NTUT J. OF INTELL. PROP. L. & MGMT. 189 (2012).

APA Style: Chen, P.-H. (2012). Rethinking the "access" element in copyright infringement cases about popular music. *NTUT Journal of Intellectual Property Law & Management, 1*(2), 189-199.

[83] *See* Andrea Frey, Note, *To Sue or Not to Sue: Video-Sharing Web Sites, Copyright Infringement, and the Inevitability of Corporate Control*, 2 BROOK. J. CORP. FIN. & COM. L. 167, 167-68 (2007).

REVIEW OF THE LEGAL SCHEME AND PRACTICE OF TECHNOLOGY TRANSFER IN TAIWAN

Wei-Lin Wang*
Assistant Professor
Graduate Institute of Financial and Economic Law,
Feng-Chia University (Taiwan)

ABSTRACT

To follow the experience of the United States, Taiwan mimics the system of the Bayh-Dole Act and passed the Fundamental Science and Technology Act in 1999; from then this Act has been implemented for around 12 years. As a result, this Law not only generates valuable patents to promote commercial development, but also saves the additional cost on the investment of technology transfer for the government. Ever since the passage of this Act, it has been generally recognized to have positive effects on the society as a whole. This article reviews the practice and resulting effects of the Fundamental Science and Technology Act, compared with performance of other countries, and furthermore propose several suggestions to the current status of the practical implementation to maximize the benefits and to minimize the flaws of the Fundamental Science and Technology Act. The key policy recommendations include: eliminating non-exclusive license preference, eliminating license income contribution to funding agencies, detailing statutory instructions and regulations regarding march-in right, and preventing from conflicts of interest.

Keywords: Technology transfer, university, patent, Bayh-Dole Act, Fundamental Science and Technology Act

* J.S.D. 04', Washington University in St. Louis School of Law; LL.M. 01', University of Pennsylvania Law School; LL.B. 94', National National Chengchi University, Taiwan.

I. Introduction

Before the 1970s, the U.S. government agencies that owned patent rights to government-funded research were not allowed to grant exclusive license to private industry, and as a result, private industry gradually lost interest in the technology transferred from government-funded research because these private businesses were reluctant to invest capital into commercialization of such transferred technology without the protection of patent rights or exclusive license.[1]

In order to promote the cooperation between academic institutions and private industries and strengthen national innovation, research and development, the U.S. government introduced the Bayh-Dole Act in 1980 to promote technology transfer by allowing universities, small businesses, and other research institutions to retain ownership of the patent rights resulting from government-funded research.[2] The Act allocates patent rights to academia rather than to the government. As a result, the academia can now profit by receiving royalties from licensing patent rights to private industries for further development and commercialization. Private industry can now utilize patent rights or exclusive licenses from academia with the entire society benefiting due to economic growth stimulated thereby.

To follow the experience of the United States, Taiwan mimics the system of the Bayh-Dole Act and passed the Fundamental Science and Technology Act in 1999; from then this Act has been implemented for around 12 years. As a result, this Law not only generates valuable patents to promote commercial development, but also saves the additional cost on the investment of technology transfer for the government. Ever since the passage of this Act, it has been generally recognized to have positive effects on the society as a whole. However, there have been mounting criticisms claiming that this Law corrupts the university's basic missions to educate and conduct research, and there are strong voices contesting that knowledge and research results should be freely and openly disseminated, especially when they are funded by the government using the money from the public.

In response to the aforementioned criticism and to expand the effects of the Fundamental Science and Technology Act, Taiwan's Legislative Yuan amended such Law in 2011. Nonetheless, a few defects still remains in the new Amendment, which are worthy of further discussion by academia. This study will, in the first place, review the practice and resulting effects of the Fundamental Science and Technology Act, compared with performance of

[1] *See* 35 U.S.C. § 202 (2003).

[2] The University and Small Business Patent Procedure Act, commonly known as the Bayh-Dole Act, Pub. L. No. 96-517, 94 Stat. 3015-3028, codified as amended at 35 U.S.C. §§ 200-211, 301-307 (2003).

other countries, and furthermore propose several suggestions to the current status of the practical implementation to maximize the benefits and to minimize the flaws of the Fundamental Science and Technology Act.

II. Practice of Technology Transfer in Major Countries

It is widely held that the Bayh-Dole Act has spurred universities to become involved in transfer of technology from their laboratories to the marketplace. Considerable interest in emulating the Bayh-Dole Act was seen in a number of OECD governments. In Japan and many Western European countries, policies emulating the Bayh-Dole Act are in place; and Japan has the most radical reform among other countries.[3] The following subchapter will explore the practice in such countries for a better understanding of Taiwan's situation.

A. Japan

The Japanese Bayh-Dole Act, the Facilitation Act of Technology Transfer for Universities and Research Institutes (FATTURI hereinafter), was established by MEXT (Ministry of Education, Science and Technology) and METI (Ministry of Economy, Trade and Industry) in 1988. The law also mandated the shifting the ownership of government-funded research from government to universities.[4]

Under the FATTURI, while it was possible for the TTOs (Technology Transfer Office) to reside in the private university campuses such as the cases in Waseda University and Keio University, profit-making TTOs were not allowed to reside in the campuses of national universities, as in the cases of Tokyo University and Tohoku University.[5] Many TTOs were therefore established outside of campus as independent entities. In addition, according to Japanese Law, however, national universities have no status as legal entities, so they will encounter difficulties when promoting technology transfer. Concerning the problem, the "Basic Law for Intellectual Properties" and other related policies were further established in 2002. Under the Basic Law for Intellectual Properties, congress mandated that government take necessary steps to encourage commercial dissemination of research. Then in 2003, the Japanese Congress further promulgated the "Law for National

[3] PAUL CHANG-BIN LIU ET AL., GENERAL PRINCIPLES ON INTELLECTUAL PROPERTY MANAGEMENT 229 (2004) (in Chinese).

[4] *Id.*

[5] Jerry G. Fong, *Lessons Learned from International Innovation System: What Taiwan Can Learn and Do for Its Innovation System*, 2 SCIENCE AND TECHNOLOGY POLICY 132, 136 (2005) (in Chinese).

Universities as Legal Entities", which endow the legal-entity status with national universities.

With the law in place, universities were endowed with the status of independent entities, and were able to join research conducted by different government agencies and enjoyed multi resources of government funding from different agencies.[6] In addition, the law that prohibited civil servants from holding two jobs at a time no longer shackled faculties in universities.[7] The environment was in many ways friendlier to technology transfer.

C. Germany and other European countries

In German, academic institutions were generally seen as a pure vehicle for knowledge creation. However, their role was somewhat eclipsed by their U.S. counterparts after the congress passed the Bayh-Dole Act in the U.S. Consequently, an amendment of "Higher Education Outline", which encouraged universities to engage in more technology transfer activities, was made in 1998. TTOs within the institution could now take on more of the functions that had been delegated otherwise. Further amendments include the reform of a section of German Employee Invention Law in 2002, dealing with inventions by teaching faculty at universities. After February 2002, faculties in German universities were required to report inventions to the academic institutes. The institutes could now claim ownership of the patent rights generated by their faculty, while the faculty-inventors were entitled to some part of the revenue generated from the patents. It was hoped that the reform would assist universities in the dissemination of the research findings.[8]

Germany aside, other European countries have also devoted themselves to the facilitation of technology transfer to the industry by encouraging close interaction between academia and industry through facilitating the setup of university spin-off companies and R&D centers.[9] Take Sweden for example. In the 1998 Community Innovation Policies Address, VINNOVA (Sweden Agency for Innovation System) hoped that the improved innovation system policies would create sustainable growth in Sweden.

The Community Innovation Policies in Sweden was largely manifested through the Competence Center Program, which facilitated collaborations

---

[6] *Id*. at 136-137.

[7] *See* Li-Jiuan Chen, *The Institutional Issues for the Commercialization of the Public Universities' R&D Results*, 26 (Oct.) NEWSLETTERS ON RESEARCH IN BIOTECHNOLOGY AND LAW [SHENG-WU KE-JI YU FA-LU YAN-JIU TONG-XUN] 18, 21 (2008) (in Chinese), *available at* http://bio-law.blog.ntu.edu.tw/files/2010/01/問題與研究一.pdf.

[8] *See id*. at 28-29.

[9] Wen-Chi Hung, *Comparative Study of Technology Transfer Practices in Europe, the U.S and Japan*, 2 SCIENCE AND TECHNOLOGY POLICY 151, 161 (2005) (in Chinese).

among industry, academia and government. 28 Competence Centers were set up in eight universities where research were conducted in various discipline, including energy, transportation, environment, manufacturing, biology, biomedical technology, and information technology. Enterprises involved in the Competence Center Program would have the priority to negotiate the licensing deals from the center. Currently, more than 200 enterprises have collaborated or involved in the Competence Center Program.[10]

D. Comparison of Technology Transfer Performance between Major Countries

1. Overview

In addition to the aforementioned Japan and German, a number of Organization for Economic Cooperation and Development (OECD) countries have also emulated Bayh-Dole Act to set up TTOs in and outside the campus, giving academic institutions title to government-funded research, and raising the ceiling on time limit for faculties in universities. However, it remains unclear whether there is a practical benefit despite the emulation. A working group under OECD was therefore set up to shed some light on the issue. The working group evaluated the results of technology transfer in academia among member countries and published the results report, *Turning Science into Business: Patenting and Licensing at Public Research Organization* (hereinafter refer to as the OECD report[11]), in 2004. The report suggested that the then-current outcomes from technology transfer activities were not significant despite the effort, and so there is room for improvement by member countries. The OECD report can be broken down into the following parts.

2. TTO (Technology Transfer Office) in Operation[12]

In most countries, most transfer technology offices were set up in less than a decade. In Italy, 40% of the universities had the TTOs established between the year 2000 and 2001. As for the number of personnel, most TTOs have less than five technology transfer officers. In Norway, only one fifth of the TTOs have more than one technology transfer officers; in Germany, the problem of technology transfer officer shortage also plagues many university TTOs. In most of the cases, administrative faculties take the place of licensing professionals to run TTOs. But shortage of TT-officers is

[10] *Id.*

[11] *See* Fong, *supra* note 5, at 138.

[12] ORG. FOR ECON. CO-OPERATION AND DEV. [OECD], TURNING SCIENCE INTO BUSINESS: PATENTING AND LICENSING AT PUBLIC RESEARCH ORGANIZATIONS 37-39 (2003); *see also* Fong, *supra* note 5, at 140.

not a problem in the U.S. Most universities in the U.S have on average 7 technology transfer officers in their TTOs.[13]

In addition to personnel shortage, most TTOs also have problems with maintaining industry contacts. A majority of networks between enterprises and professors are formed through seminars and other private connections, without the involvement of TTOs.[14]

Moreover, the fact that industry-oriented research is not the principal focus of most universities also explains the limited number of patents filed. The average number of patent prosecution in a TTO is below 50; 20-30% of the TTOs do not have at least one granted patent in a year.[15] Nonetheless, most TTOs did give priorities to small enterprises and new ventures when making license agreement; more licenses were granted to small and medium enterprises rather than to large enterprises.[16] As for the number of technology licenses, two third of the TTOs have less than ten contract deals a year. The remaining one third of the TTOs has slightly more contracts signed, with an average of 14.7 license agreements in TTOs in Holland, 19.1 in Germany, and 24.1 in the U.S.[17]

3. Royalties and other Benefits

Approximately 20% to 40% of the patents owned by academic institutes would be licensed to industry sectors. Among the licensed patents, about half of which can generate royalty fee.[18] One benchmark to gauge the performance of technology transfer is the number of spin-offs being set up. To most academic institutes, setting up one spinoff a year is by no means easy. Germany, for example, has no more than 1.12 university-based

[13] Lita Nelsen, *The Lifeblood of Biotechnology: University-Industry Technology Transfer*, *in* THE BUSINESS OF BIOTECHNOLOGY: FROM THE BENCH TO THE STREET 39-41 (R. Dana Ono ed., 1991).

[14] According to the research by Jansen and Dilution in 1999, inventors themselves were the deciding factor in successful technology transfers. Approximately 56% of the licensing cases were run solely by inventors, whereas only 19% of the cases were assisted by TTOs within the universities. Another survey on technology transfer directors conducted by Thursby in 2000 draws similar conclusion. *See* Fong, *supra* note 5, at 137-138. Private enterprises would contact the inventors directly through seminars and other private connections. TTO was not a platform where people generally network. *See* Kenneth Sutherlin Dueker, *Biobusiness on Campus: Commercialization of University-Developed Biomedical Technologies*, 52 FOOD & DRUG L.J. 453, 466 (1997).

[15] The average number of patents prosecuted is 22 in a single TTO; only TTO in the U.S. has more than 22 patents filed. *See* OECD, s*upra* note 12, at 51; *see also* Fong, *supra* note 5, at 140.

[16] *See* OECD, *supra* note 12, at 66; *see also* Fong, *supra* note 5, at 140.

[17] *See* OECD, *supra* note 12, at 60-61; *see also* Fong, *supra* note 5, at 141.

[18] *See* OECD, *supra* note 12, at 68-73; *see also* Fong, *supra* note 5, at 141.

spin-offs a year; Japan sees a mere 0.1 university-based spin-offs annually. Only U.S. and Korea perform better, with two spin-offs being set up by universities or academic institutes every year.[19]

Despite the effort to emulate the Bayh-Dole Act, many countries find the technology transfer policy fell short of initial expectations. Although Bayh-Dole Act encourages technology transfer to industry sectors by shifting ownership of patents to academic institutes, moving technology to public domain remains a convoluting exercise. A number of conditions are required to have a successful technology transfer.[20]

Outstanding performance of technology transfer in U.S. TTOs can be summarized into a few reasons; the top three reasons are: early implementation of Bayh-Dole Act, larger scale of applied-oriented research, healthy competition and entrepreneurship, which are not inherent in academia outside the U.S.[21] There is no foolproof way to have a successful technology transfer; strategic measures must be in place to have an effective framework for technology transfer between academia and private enterprises.

III. Taiwan's Performance

A. Overview

Since the Fundamental Science and Technology Act was announced in Taiwan in January 20, 1999, scholars have been discussing the effects generated from implementation of industrial technology transfers from academic institutions towards private sectors. Researches have been conducted regarding this issue, and major studies include "R&D Achievement Management and Popularized Mechanism of Universities and Research Institutions in Taiwan" and "2006 Personnel Forum of Technology

[19] *See* OECD, *supra* note 12, at 58; *see also* Fong, *supra* note 5, at 141. A spin-off is a company founded on the findings of a member or by members of a research group at a university that will have the goal to transfer technology developed in the laboratory. In most cases, the principal investigator would be in charge of consultative and administrative activities for further product development. Conflicts of interest can arise out of a surging of revenue from a successful product. Professors and researchers may easily sacrifice teaching for to their devotion to the spin-offs. General principles on conflict of interests are thereby proposed in most universities in the U.S. that members of the academic community should conduct their affairs so as to avoid or minimize conflicts of interest, and must respond appropriately when apparent conflicts of interest arise. *See* Wei-Lin Wang, *A Study of the Cooperation between the U.S. Academia and Private Industry – Reference for Taiwan's Science and Technology Basic Act*, 3 SHIH HSHIN L. REV. 1, 14-22 (2006) (in Chinese).

[20] *See generally* Laura G. Lape, *A Narrow View of Creative Cooperation: The Current State of Joint Work Doctrine*, 61 ALB. L. REV. 43 (1997).

[21] *See* Fong, *supra* note 5, at 146 (citing David C. Mowery & Bhaven N. Sampat, *Patenting and Licensing University Inventions: Lessons from the History of the Research Corporation*, 10 INDUS. & CORP. CHANGE 317-55 (2001)).

Transfer of Academic Institutions" by Prof. Paul C.B. Liu and Prof. Yun Ken in 2006 (thereinafter jointly referred to as 2006 Researches),[22] and interviews guided by Prof. Shiau-Huei Chen in 2007 about technology transfers with the National Taiwan University and other seven academic institutions involved in "National Research Program for Genomic Medicine" (thereinafter referred to as 2007 Researches).[23] In addition to scholar's studies, Taiwan government did some surveys regarding the effects of academia and industry cooperation in the past several years. The author will study and analyze the actual achievements of technology transfer from academic institutions towards private sectors ever since the passage of the Fundamental Science and Technology Act and related regulations based on the abovementioned and more recent researches.

In accordance with 2006 Researches, 63 universities, which constitute about 45% of 140 survey respondents out of Taiwan's total 164 universities,[24] have specialized technology licensing offices (TLOs) or personnel to be responsible for technology transfer affairs. It is a notable success that nearly half of the academic institutions surveyed have set up the TLO or personnel.[25] Nonetheless, a majority (72%) of the directors of TLOs are appointed to university professors, instead of professional technology managers. This phenomenon, on the other hand, indicates that most TLOs might not be equipped with enough professional personnel. For better understanding of this issue, in the aforementioned 2004 OECD report, OECD also pointed out that a TLO should be equipped with at least 5 staffs from various areas to achieve the standard for efficient patent application filing and the intellectual property management. However, only few Taiwan academic institutions keep up with the OECD standard – at least 5 staffs for a TLO.

This phenomenon has partially improved recently. Until 2010, 7 out of 31 best Taiwan's academic TLOs have more than 5 full-time staffs, while the

---

[22] *See* Paul C.B. Liu et al., *The Investment of Technology Transfers in Taiwan*, *in* SYMPOSIUM OF ACADEMIC AND RESEARCH INSTITUTES TECHNOLOGY TRANSFER DESIGNATED PERSONNEL FORUM (2006) (in Chinese).

[23] *See* Shiau-Huei Chen, *The Analysis of Current Situation of Biotechnology R&D Achievement Transfer in Taiwan Academia*, *in* SYMPOSIUM OF R&D, INNOVATION AND INTELLECTUAL PROPERTY OF GENOMIC MEDICINE (2007) (in Chinese).

[24] *See* Yun Ken, *The Investigation of Technology Transfers in Taiwan*, *in* SYMPOSIUM OF ACADEMIC AND RESEARCH INSTITUTES TECHNOLOGY TRANSFER DESIGNATED PERSONNEL FORUM 95 (2006) (in Chinese).

[25] Take the United States for example. After the passage of the Bayh-Dole Act for about ten years, the establishment of technology transfer offices has become a current trend. *See* LIU ET AL., *supra* note 3, at 299.

remaining 24 (approximately 77%) still comprise 5 or less staffs.[26]

B. Professionalization and Achievements of TLOs

The education background of the staffs in TLOs mainly lies in the field of science (47.86%), management (34.18%), or laws (11.11%), which more or less meets the requirements of the three necessary professionals of U.S. Technology Transfer offices.[27] Among various TLOs or staffs, 84.13% is capable of patent application filing, and 77.78% capable of technology licensing, indicating that they could process most of the patent application filing and technology licensing affairs, although only 50.79% is able to determine whether such new invention is patentable technology-wise.[28] Since it is too complicated for academic TLOs personnel to deal with company establishing problems, only 14.29% of the TLOs staffs have the capability to advise in the establishment of spinoff company and related affairs.

Moreover, we can also take a closer look at the growth of the number of patent applications filed and approved. From 2003 to 2008, the filed patent applications of research results funded by the National Science Council has had increased to 4,734, and approved patent applications achieved 1,584. Among them, there were 1,117 applications filed in 1999, making the approval ratio to be 93.9%, significantly more mature than the approval rate of 51.9% before 1999, when the Fundamental Science and Technology Act was passed.[29] Additionally, the increase in licensing deals within academic institutions has been phenomenal. The number of licensing deals was only 25 in 1999, increased to 924 in 2011,[30] with a historical high number of 1244 in 2007.[31] The patent licensing took a majority of all licensing deals. For example, in 2007, there were 312 licensed patents out of total 344 licensing

---

[26] *See* Huei-Jen Su, *The Strategy to Promote IP Management in University*, in THE 30TH CONFERENCE OF SCIENCE AND TECHNOLOGY ADVISORY GROUP OF EXECUTIVE YUAN, *available at* http://www.bost.ey.gov.tw/Upload/UserFiles/%E8%AD%B0%E9%A1%8C%E4%B8%80%EF%BC%9A1.2%E5%A4%A7%E5%B0%88%E6%A0%A1%E9%99%A2%E6%99%BA%E8%B2%A1%E7%87%9F%E9%81%8B%E7%B6%AD%E6%96%B0%E7%AD%96%E7%95%A5%20.pdf (last visited Nov. 14, 2012).

[27] *See* Nelsen, *supra* note 13, at 39-41.

[28] *See* Ken, *supra* note 24, at 100.

[29] *See* PAY-LIN CHEN, THE RESEARCH OF UNIVERSITY TECHNOLOGY TRANSFER-ESTABLISH A MANAGING MODEL FOR TECHNOLOGY TRANSFER OFFICE IN TAIWAN 45 (Master Thesis, National Taipei University, Department of Business Administration 2004) (in Chinese).

[30] *See* NATIONAL SCIENCE COUNCIL, EXECUTIVE YUAN, 2011 NATIONAL SCIENCE COUNCIL REVIEW 75 (2012) (Chinese).

[31] *See id.*

deals, accounting for 90%, while the rest of technology transfers were insignificantly dispersed in other various types, such as computer program, copyright and material transfer, etc.[32]

In addition, according to recent researches of 2008 and 2009,[33] the research team investigated into the applied effect of R&D results management and university-industry cooperation in 2008 by surveying 164 universities. It indicated that the total R&D costs of these universities in 2008 are 46.325 billion NTD, of which 3.187 billion NTD come from industrial funds, accounting for 6.88% of the total R&D costs and also a 0.7% growth in comparison with the percentage in 2007.[34]

According to the research report of AUTM, the total R&D expenditure of investigated American universities in fiscal year 2008 was 45.7 billion USD, license income was 2.3 billion USD, accounting for 5% of the R&D expenditure; the total R&D expenditure of colleges in Taiwan was 46.3 billion NTD, and license income was 456 million NTD, accounting for 0.98% of the R&D expenditure.

In addition, the license income also has considerable growth. Before the passage of the Fundamental Science and Technology Act, only 15.6 million NTD came from license income in 1999.[35] In contrast, the license income in 2005 was 145 million NTD, and rose to 456 million NTD in 2009. It is noteworthy that the license income of academic institutions in Taiwan is still unparalleled with that of academic institutions in the United States after the passage of Bayh-Dole Act.

C. Taiwan's Problems and Suggestions

1. Overview

Despite the growth in numbers of TLOs and amount of license income, certain problems are still encountered in promoting technology transfers

[32] *See* Scientific& Technological Resources, Information, and Knowledge Exchange, Table: Technology Transfers cases and Table: Technology Transfers Royalty Income, Scientific & Technological & Resources, Information, and Knowledge Exchange of National Science Council, https://nscnt12.nsc.gov.tw/ai/AP_TOP.ASP (last visited Nov. 14, 2012). It also indicates that each academic institute overemphasizes patent licensing but ignores the licensing opportunities in other areas. *See infra* text.

[33] *See* PAUL C.B. LIU ET AL., The Commission Plan of Science and Technology Advisory Group of Executive Yuan, Industrial Manpower Package "Innovation System and Industry-University Linkage" University-Industry Cooperative Effect Investigation in 2008 (in Chinese), and "University-Industry Cooperative Effect Investigation in 2009" (in Chinese).

[34] *See* PAUL C.B. LIU ET AL., UNIVERSITY-INDUSTRY COOPERATIVE EFFECT INVESTIGATION IN 2009 197-198 (2009).

[35] *See* Fong, *supra* note 5, at 144.

from academic institutions. Some of them are universal problems not only applied to us. For example, to professors, patent application and technology transfer play relatively insignificant role than academic publications, especially in terms of tenure review, resulting in lack of interest for professors in such matters. Nonetheless, we do encounter other problems arising mainly from the flaw of the Fundamental Science and Technology Act.

It is noted that currently, most of the licenses of research results are non-exclusive while the industries actually demand exclusive licenses or even assignment of research results. As Article 6 of the Fundamental Science and Technology Act states "the intellectual property rights and results derived from projects in scientific and technological research and development to be subsidized, commissioned, or funded by the government may be conferred, in whole or in part, to the units executing research and development for ownership or licensing for use, and are not subject to the National Property Act;" however, according to the view of the administrative bureau governing the National Property Act, the exemption offered by the aforementioned Article 6 from the National Property Act is limited in its extent, and funded academic institutions are not entitled to the full ownership of the project results. As a result, if any funded academic institutions are to license the project results to any private third party, only non-exclusive licenses can be usually granted because of the philosophy that everyone should have the access to government-sponsored research. Even the in case of exclusive licenses, the effective period and scope of use, etc. are usually specified.

As abovementioned, the industries actually demand exclusive licenses of research results to invest capital into commercialization of such transferred technology with the protection of exclusive license. This problem affected the commercialization of government-sponsored research and further posed negative impact on the economic competitiveness of Taiwan.

In addition, the Fundamental Science and Technology Act and eight other related administrative regulations, including the Government Scientific and Technological Research and Development Results Ownership and Utilization Regulations respectively drafted by seven government departments: the Executive Yuan,[36] the Council of Agriculture,[37] the Atomic Energy

[36] Government Scientific and Technological Research and Development Results Ownership and Utilization Regulations [政府科學技術研究發展成果歸屬及運用辦法].

[37] Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Council Of Agriculture of the Executive Yuan [行政院農業委員會科學技術研究發展成果歸屬及運用辦法].

Council,[38] the Ministry of National Defense,[39] the Commission of Labor Affairs,[40] the Department of Health,[41] the National Science Council,[42] and also the Government-Commissioned/Sponsored Scientific and Technological Research and Development Results Ownership and Utilization Regulations drafted by the Ministry of Economic Affairs and Subordinate Agencies[43] (the "MOE Regulation" hereinafter) construct a complete legal system for academia-industry technology transfers; however, redundant restrictions of licensing and royalty distribution lead to great limitations in this system.

To address those flaws, the Legislative Yuan amended the Fundamental Science and Technology Act at the end of 2011, to give academia institutes more room in the acquisition, management, utilization, disposition and revenue accrued from the sponsored research results.[44] The Act was also amended to allow researchers to acquire more than a 10 percent stake in a company when using technology as investment capital to such company, and to double as a member of a board of directors or supervisors at a company.[45]

Nonetheless, certain hurdles remain unmoved. In the author's point of view, the current amendment did very little in response to the criticisms of the old version of the Act, and further amendments are thus still necessary to be made in further amendments or in the 8 regulations of the Act. Hence, some insights and suggestions are proposed as the following.

---

[38] Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Atomic Energy Council of the Executive Yuan [行政院原子能委員會科學技術研究發展成果歸屬及運用辦法].

[39] Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Ministry of National Defense [國防部科學技術研究發展成果歸屬及運用辦法].

[40] Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Council of Labor Affairs of Executive Yuan [行政院勞工委員會科學技術研究發展成果歸屬及運用辦法].

[41] Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Department of Health and Subordinate Agencies of Executive Yuan [行政院衛生署及所屬機關科學技術研究發展成果歸屬及運用辦法].

[42] Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the National Science Council of Executive Yuan [行政院國家科學委員會科學技術研究發展成果歸屬及運用辦法].

[43] The Government-Commissioned/Sponsored Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Ministry of Economic Affairs [經濟部科學技術研究發展成果歸屬及運用辦法].

[44] *See* Fundamental Science and Technology Act § 6.

[45] *See* Fundamental Science and Technology Act § 17. With regard to news report about this amendment, please *see* Shih Hsiu-Chuan, *Patent Regulations Eased to Try to Halt 'Brain Drain'*, http://www.taipeitimes.com/News/taiwan/archives/2011/11/26/2003519267. (last visited 2012/10/28).

2. Eliminating Non-Exclusive License Preference

First, the author suggests eliminating the restriction on exclusive license. As stated, most of the eight administrative regulations of the Fundamental Science and Technology Act preferentially require non-exclusive licensing to contractors. However, most of industrial firms request exclusive license. Exclusive licenses are often deemed necessary to secure the industrial contractors' investment and market competitiveness. Consequently, the allowance of exclusive licenses may elevate the licensing flexibility, broaden the technology transfer opportunities in academia-industry cooperation and increase the amount of license income.

In this regard, the MOE regulation did a good job. It just stated that technology transfer from academia to the industry shall be for consideration and the procedure shall open to the public, without restricting the type of exclusive or nonexclusive licensing at all.[46] Obviously, the authority in charge of economic development of our country has noticed and realized the importance of exclusive license, which should be a role model for other agencies.

3. Eliminating License Income Contribution to Funding Agencies

Secondly, in accordance with all the related regulations, funded institutions should contribute 20% to 50% of all research result derived income back to funding agencies, including royalty, license fee and equity, etc.[47] It is suggested that, from the experience in the Bayh-Dole Act, funded academic institutions shall only contribute license income to further education and researches expenses rather than to funding agencies. This self-beneficial allocation of research result-deriving income will considerably motivate academic institutions to engage in technology transfer and licensing, while the income are used to promote science and technology development.

It seems that the government agencies also notice the existence of income contribution will hinder the willingness of academia institutes to

[46] *See* MOE Regulation § 15.

[47] *See* Government Scientific and Technological Research and Development Results Ownership and Utilization Regulations § 10; Government-Commissioned/Sponsored Scientific and Technological Research and Development Results Ownership and Utilization Regulations Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Ministry of Economic Affairs of Executive Yuan § 24; Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Atomic Energy Council of Executive Yuan § 21; Government Scientific and Technological Research and Development Results Ownership and Utilization Regulations of the Council Of Agriculture of the Executive Yuan § 21.

promote technology transfer; therefore, some agencies recently amend their regulations to decrease the percentage of income contribution to the funding agency. For example, the Executive Yuan recently amended Article 10 of its "Government Scientific and Technological Research and Development Results Ownership and Utilization Regulations" on June 11, 2012, to decrease the percentage of income contribution from 50% to 40%.[48] Nonetheless, the 40% contribution still looks too high, and further reduction is recommended.

4. Detailing Statutory Instructions and Regulations regarding March-in Right

Additionally, the Fundamental Science and Technology Act grants government agencies the "march-in right", which allows the funding agency, on its own initiative or at the request of a third party, to effectively ignore the exclusivity of an exclusive patent license under the law and grant additional licenses to other "reasonable applicants."[49] This right is strictly limited and can be exercised only if the agency determines, following an investigation, that a failure by the licensed contractor to take "effective steps to achieve practical application of the subject invention" or a failure to satisfy "health and safety needs" of consumers, but mainly to prevent commercial competitors and secure its current market without further product development and economy facilitation. Nonetheless, the exercise of the march-in right may conflict with the intent of funded academic institutions, and it is unclear whether and how civil or administrative remedy could apply to the affected academic institutions.[50] Therefore, more detailed statutory instructions and regulations shall be specified accordingly to prevent disputes and controversies.

5. Preventing from Conflicts of Interest

In the United States, there is a debate that because the Bayh-Dole Act encourages cooperation and interaction between academia and private industry, the university-industry relationship will create the problem of

[48] *See* Government Scientific and Technological Research and Development Results Ownership and Utilization Regulations § 10.

[49] *See* Fundamental Science and Technology Act § 6: "Projects in scientific and technological research and development to be subsidized, commissioned, or funded by the government shall be selected through a process of evaluation or review, and the results thereof shall be justified with reasons. The intellectual property rights and results derived from such a project may be conferred, in whole or in part, to the executing research and development units for ownership or licensing for use, and are not subject to the National Property Act."

[50] *See* Wang, *supra* note 19, at 26.

conflicts of interest and thus undercuts the primary mission of academia: research and education.[51] It is undeniable that after the passage of the Bayh-Dole Act, the academic-industry relationship has influenced some researchers. Sometimes even the professional judgment of some researchers might be so unduly influenced by their private interests as to cause them not to perform their official responsibilities in a professional manner.

In 2010, a top scientist, Chen Yuan-tsong, at the Academia Sinica is embroiled in a scandal. Prosecutors accuse of illegally transferring state-funded research to a company run by his wife.[52] Although prosecutors did not indict him at the end, this case exposed the danger of conflicts of interest arising out of the interaction between academia and industry.

Legislators noticed this problem and requests the Executive Yuan as well as each competent authority shall arrange "recusal and disclosure of relevant information" in the amendment of Fundamental Science and Technology Act this time.[53] Nonetheless, as discussed before, the way that each competent authority implements its own regulation will further complicate the situation. Moreover, lots of different administrative regulations will hinder the development of academia-industry relationship. In the author's point of view, conflicts of interest shall be governed by each academic institution, namely by academia's self-regulation, as the institution itself will better understand its situation than the government agency who are far away from daily practice of academia-industry relationship. The author believes that the Executive Yuan and the three authorities concerning academia-industry relationship, Ministry of Education, Ministry of Economic Affairs, and National Science Council, shall bring the attention of each university and research institutes to the importance of conflicts of interest, while leaving the

[51] *See* COUNCIL ON GOVERNMENTAL RELATIONS, TECHNOLOGY TRANSFER IN U.S. RESEARCH UNIVERSITIES: DISPELLING COMMON MYTHS 2 (2000), *available at* http://www.wvu.edu/~research/techtransfer/news/myths_of_tech_transfer.pdf (last visited Nov. 14, 2012).

[52] Chen Yuan-Tsong is the director of Academia Sinica's Institute of Biomedical Science and is largely credited as the person who found the cure for Pompe disease. Chen was embroiled in charges involving National Science Council funded research and the transfer of drug technology to a company run by his wife. Prosecutors, in the first instance, believed that Chen earned NT$15 million in illicit profits, but confirmed later that Academia Sinica's technology-transfer process followed official bidding protocol, and thus no illegal profits was involved. *See Chen Yuan-Tsong Accused of Illegally Profiting from Drug Technology Transfer*, FORMOSA ENGLISH NEWS, June 23, 2010, http://englishnews.ftv.com.tw/read.aspx?sno=8B0B10DBE89AC6E16A17CBEE114EA0C4 (last visited Nov. 14, 2012).

[53] *See* Fundamental Science and Technology Act § 6.

autonomy in the hands of each institutes, and allowing them to establish their own tailor-made regulations.[54]

6. Other Suggestions

According to the OECD standard, every TLO should be equipped with 5 specialized staffs. However, insufficient academic institution funding in Taiwan make it difficult to establish independent TLOs and specialized units in every university, unlike the situation of the United States after the passage of the Bayh-Dole Act. The same problem also occurs in other countries, and the Japanese government for example, adopts different technology transfer operation, in which 7 outstanding technology licensing organizations (TLO) are promoted as Super TLO obligated to existing technology transfer affairs and additional education and consultancy to similar units. Moreover, the British government tries to integrate different medical centers in a neighborhood into one large TLO, and the South Korean government coordinates numerous TLOs of the same industrial field.[55] The author suggests the operations in Japan and other countries could be duplicated and adjusted accordingly, to use economies of scale to solve general problems of insufficient manpower and funds in every TLO in Taiwan.

IV. Conclusion

Since the passage of the Fundamental Science and Technology Act, observable performance and growth of patent applications, technology transfers and license income are satisfactory in comparison with many other countries, although large room for improvement do exist owing to some inappropriate restrictions set up by the Fundamental Science and Technology Act. Although the Fundamental Science and Technology Act has been amended to further loosen restrictions and complete legal framework, certain problems still remain unsolved. To specifically address numerous restrictions and resulting problems, all the suggestions mentioned above may hopefully enhance the legislative system related to the Fundamental Science and Technology Act, and improve the current technology transfer operations between academia-industry cooperation.

Cited as:
Bluebook Style: Wei-Lin Wang, *Review of the Legal Scheme and Practice of*

[54] For further discussion, please *see* Wei-Lin Wang, *A Study on Conflicts of Interest in Academia-Industry Co-Operation: The Defense for and Modification to the Bayh-Dole Act Part 1 & Part 2*, EUROPEAN INTELLECTUAL PROPERTY REVIEW (forthcoming on Dec. 2012 and Jan. 2013, respectively).

[55] *See* Fong, *supra* note 5, at 142.

Technology Transfer in Taiwan, 1 NTUT J. OF INTELL. PROP. L. & MGMT. 200 (2012).

APA Style: Wang, W.-L. (2012). Review of the legal scheme and practice of technology transfer in Taiwan. *NTUT Journal of Intellectual Property Law & Management*, *1*(2), 200-216.

A CASE STUDY OF PATENT DEVELOPMENT OF CHUNGHWA TELECOM IN THE DIGITAL CONVERGENCE ERA

Po-Ching Lee*
Assistant Professor
Graduate Institute of Intellectual Property Right,
Shih Hsin University (Taiwan)

ABSTRACT

This study investigates Chunghwa Telecom for its patent activities in Taiwan, China and the U.S. and explains its patent development with the business strategy in the digital convergence era. After the privatization of Chunghwa Telecom in 2005, facing the competition in the telecommunications market, three factors are considered by Chunghwa Telecom in patent filing strategy for innovation: 1) whether to remain as trade secrets, 2) commercialization of the technology, and 3) the scale of the commercialization, especially in the decision for foreign filings. The patent portfolios are established in the fields of data switching networks, secure communication, positioning, ticketing, and digital TV. The filing strategy is directionally aligned with the business development of Chunghwa Telecom in the vision of "multiple screens and a cloud" in digital convergence. Given the advantages in telecommunications technology, this study recommends that the patent portfolio of Chunghwa Telecom can be enhanced with more innovations in interactive services cross devices in the digital convergence era.

Keywords: Digital convergence, telecom, patent, Chunghwa Telecom

* Ph.D. in Soil, Crop & Atmospheric Sciences, Cornell University; LL.M., National Chengchi University, Taiwan. The author would like to thank National Science Council for its financial support to this research (Project title: A Study of the Industry and Legal Systems in the Digital Media Convergence Age: Co-opetition, Intellectual Property Rights, and Cultural Rights, NSC 99-2632-H-128-001-MY2), and to Chen-Ming Lin [林辰明], graduate student in the Department of Information and Communications, Shih Hsin University, for the assistance in data processing. The author is also grateful to Jia-Yang Guo [郭嘉陽], Assistant Engineer of Interactive Multimedia, and Jing-Ming Chen [陳鏡明], Managing Director of Multimedia Department, Chunghwa Telecom, for sharing their valuable knowledge during the in-depth interviews.

I. Introduction

Digital convergence, in its simplest form, means the union of the functions of the computer, telephone and television, thus representing a massive reorganization of businesses with a value of a trillion dollars.[1] A unification of such scale alters the positioning and core innovation for corporations in the media and communications industries.[2] The development of digital convergence has caused structure changes in the media and communications markets in Taiwan.[3] For example, the UDN Group, one of the top news groups, has become a cross-channel and cross-device content service provider; the Want Want China Times Group has stepped from news business and TV programs into the operation of cable TV system.[4] On the other hand, Taiwanese telecom groups have also developed their strategies for digital convergence. For example, Chunghwa Telecom,[5] the largest telecom company in Taiwan, has expanded its services from telecommunications into interactive multimedia.

Since patents are a critical factor in the technological and industrial development process as well as corporate competitiveness,[6] through patent

---

[1] David B. Yoffie, *CHESS and Competing in the Aging of Digital Convergence*, *in* COMPETING IN THE AGE OF DIGITAL CONVERGENCE 1, 3-4 (David B. Yoffie ed. 1997).

[2] Po-Ching Lee, *Empirical Study on the Digital Convergence Strategy and Patent Activity of Taiwanese Media Groups*, 1 NTUT J. of INTELL. PROP. L. & MGMT. 121 (2012).

[3] *See id*. *See also* Mei-Ching Chen & Niann-Chung Tsai, *The Study of the Transition of Taiwan Media Group's Value Net under Digital Media Convergence*, *in* CONVERGENCE IN MEDIA MARKETS, INTERNATIONAL TELECOMMUNICATIONS SOCIETY ASIA-PACIFIC REGIONAL CONFERENCE, Taipei (International Telecommunications Society 2011).

[4] *See* Lee, *supra* note 3.

[5] *See* Chunghwa Telecom Co., Ltd., http://www.cht.com.tw/en/ (last visited Dec. 10, 2012).

[6] *See e.g.*, Zvi Griliches, *Patent Statistics as Economic Indicators: A Survey*, 8 JOURNAL OF ECONOMIC LIRERURURE 1661, 1661-707 (1990), *available at* http://www.nber.org/chapters/c8351; Zhen Deng, Baruch Lev & Francis Narin, *Science & Technology as Predictors of Stock Performance*, 55(3) FINANCIAL ANALYSTS JOURNAL 20, 20-32 (1999); Holer Ernst, *Patent Information for Strategic Technology Management*, 25 WORLD PATENT INFORMATION 233, 233-242 (2003); Po-Ching Lee & Roger Kang, *Cong IC Zhi Zao Ye Zhi Zhuan Li Zhi Biao Tan Qi Ye Chuang Xin Jing Zheng Li [從 IC 製造業之專利指標談企業創新競爭力]*, 208 ACCOUNTING RESEARCH MONTHLY 67, 67-72 (2003) (in Chinese); Po-Ching Lee & Roger Kang, *Ru He Yun Yong Zui You Xiao Lu De Zhi Hui Jin Kuang-Liao Jie Zhuan Li Jia Zhi Chuang Zao Qi Ye Li Ji [如何運用最有效率的智慧金礦-瞭解專利價值創造企業利基]*, 204 ACCOUNTING RESEARCH MONTHLY 85, 85-92 (2002) (in Chinese); Chun-Chieh Wang, Dar-Zen Chen & Mu-Hsuan Huang, *Technological Innovative Capacity of Taiwan and South Korea from 1987-2006-A Perspective of Patents*, 5(2) NCCU INTELLECTUAL PROPERTY REVIEW 31, 31-51 (2007) (in Chinese); Mu-Jun Wang [王睦鈞], *Tou Shi Tai Wan Zi Tong Xun Ji Shu Guo Jia Jing Zheng Li [透視臺灣資通訊技術國家競爭力]*, 32(7) TAIWAN ECONOMIC RESEARCH MONTHLY 43 43-52 (2009) (in Chinese).

analysis, this study investigates how Chunghwa Telecom has committed in innovation. Relying on empirical inquiries, including in-depth interviews with high-level managers[7] and patent analysis,[8] this study also intends to explain the patent activity in relation to the business strategy of Chunghwa Telecom in its vision of digital convergence.

II. Business Development of Chunghwa Telecom

A. From Voice/Data Transmission to Video Service

The history of Chunghwa Telecom is inextricably bound to the telecommunications development of Taiwan. The Directorate General of Telecommunications (DGT), Ministry of Transportation and Communications, has been responsible for the provision of telecommunications services and administrative oversight since it was established in 1943. In 1996, according to the new laws and regulations,[9] the DGT was divided into two separate entities: one, the DGT, supervises administrative activities; and the other, namely Chunghwa Telecom, owned by the government, provides telecommunications services. In 2005, Chunghwa Telecom privatised by decreasing government's shares to less than 50%.

Refer to Figure 1, illustrating the positioning change and value network of Chunghwa Telecom in digital convergence.[10] Chunghwa Telecom originally provided data and voice services via fixed phone-line infrastructure. HiNet Internet service officially started in 1995; since then it remains as the number one ISP (Internet service provider).[11] Following the liberalization of telecommunications, Chunghwa Telecom also obtained the licenses related to mobile telecommunication network. Therefore, the telecommunications services of Chunghwa Telecom can be provided over

---

[7] The research team of this project interviewed with Jia-Yng Guo [郭嘉陽], Assistant Engineer of Interactive Multimedia, Multimedia Department, Chunghwa Telecom, Taipei (Jan. 1, 2011) (in Chinese). The author interviewed with Jing-Ming Chen [陳鏡明], Managing Director of Multimedia Department, Chunghwa Telecom, Taipei (May 4, 2012) (in Chinese).

[8] *See* Lee, *supra* note 3, for detailed methodology.

[9] *See* Telecommunications Act § 30 (1996), Organizational of the Directorate General of Telecommunications, Ministry of Transportation and Communications Act (1996), abolished on July, 4, 2007, and Chunghwa Telecom Co., Ltd. Act (1996).

[10] This study uses a four-horizontal-segments model, 1) Content, 2) Platform, 3) Transmission, and 4) Terminal, for the value structure of the converged media environment suggested by Lee, *supra* note 3, to analyze the market expansion, positioning change, and value network for the telecom group in the digital convergence era.

[11] *See* HiNet Internet Service, *Company Profile*, http://www.hinet.net/footer_aboutus.htm (last visited Dec. 10, 2012) (in Mandarin Chinese).

fixed-line and mobile telecommunications networks to the phones, computers and mobile phones of customers, as illustrated in Figure 1. In 2002, Taiwan government permitted fixed-line network service providers to offer IPTV (Internet protocol television). With the advantage of last-mile access to households, "MOD" (multimedia on demand) of Chunghwa Telecom was officially launched in 2004 to provide IP TV service and VOD (videos on demand) to household subscribers. Besides, to facilitate media services for MOD, Chunghwa Telecom was once a shareholder of ELTA,[12] a media provider, until 2003 when Chunghwa Telecom was forced to sell off its shares in ELTA because there was a campaign to drive government influence out of the media.[13] However, Chunghwa Telecom still maintains friendly relations with ELTA.

[12] ELTA Technology Co., Ltd. was founded in 2000 and launched the first broadband media portal of HiNet, the Internet service provider under Chunghwa Telecom. *See* ELTA Technology Co., Ltd., *About Us*, http://www.elta.com.tw/eng/about_1.php (last visited Dec. 10, 2012).

[13] There have been campaigns for political powers out of media in Taiwan. The legislative landmark was made on December 9, 2003; the Legislative Yuan passed amendments to the Broadcasting and Television Act, Cable Television Act, and Satellite Broadcasting Act, to prohibit the government, political parties, party affair personnel, appointed government officials, and elected public officials from investing in the broadcasting and television industries. *See* Public Television Service Foundation, *About PTS*, http://web.pts.org.tw/~web02/ptsenglish/history.html (last visited Dec. 10, 2012).

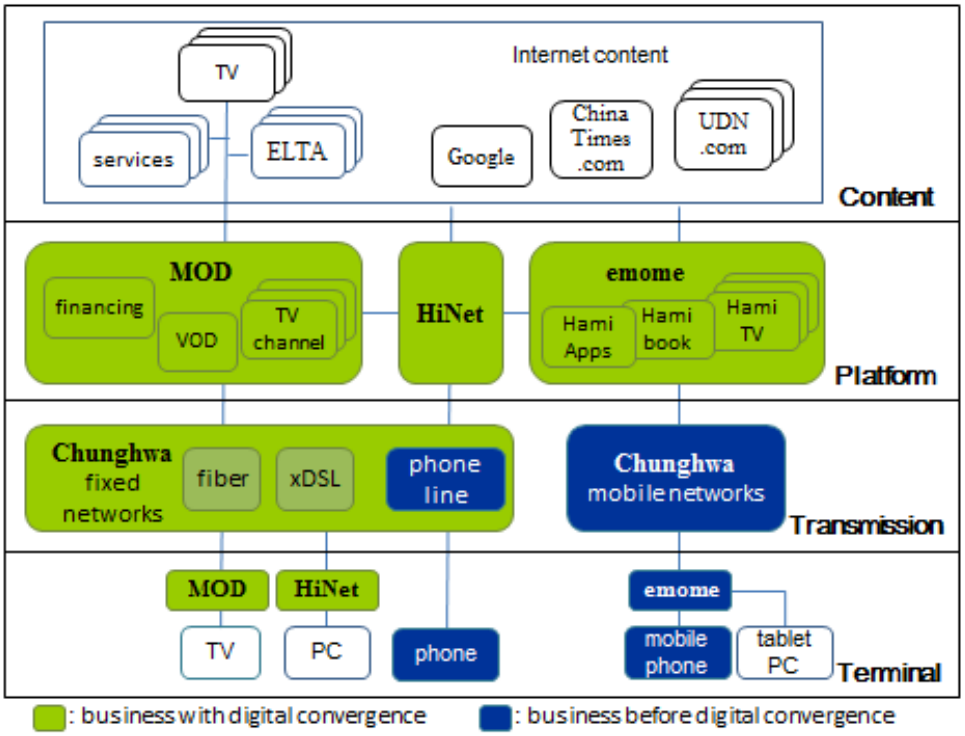

Figure 1: Positioning change and value network of Chunghwa Telecom in digital convergence.

The business of Chunghwa Telecom covers three main segments: 1) fixed network, 2) mobile communication, and 3) data communication services, for providing voice, private wire circuit, wireless, broadband access, intelligent network, virtual network, e-commerce, enterprises integration services, and other value-added services. [14] Furthermore, Chunghwa Telecom Laboratories, [15] a research and development institution of Chunghwa Telecom, focuses on the creation of innovative products and advanced information and communications technologies to meet the demands of the constantly evolving communications market.

B. Converged and Interactive Content Services

Broadband and data streaming technologies enable the transmission of digital and interactive content through a bilateral network, xDSL or FTTx, the infrastructure owned by Chunghwa Telecom, as illustrated in Figure 1. Chunghwa Telecom's MOD aggregates television channels, VOD and other applications, e.g. karaoke, TV-based e-commerce, teletext, and financial

[14] *See* Chunghwa Telecom, http://www.cht.com.tw.
[15] *See* Chunghwa Telecom Laboratories, http://www.chttl.com.tw.

services, to appear on users' television via the MOD set-top box[16].

> MOD is a new media. We started testing this system in 2000 and officially get the permit on March 3, 2004. Since then, we have been defined MOD as a platform. Moreover, it is an open platform and welcome domestic [content] providers to get on this platform……We tried to manifest the interactive characteristic of this multimedia.[17]

As described above, MOD is a converged content platform; MOD subscribers can enjoy broadcast TV channels, cablecast TV channels, and many other types of on-demand programs anytime. MOD household users can also pay their utility bills via MOD financial services. Following the advance of smart phones and increase of smart phone users, Chunghwa Telecom has expanded its content business of MOD on to the mobile services platform, namely "emome", while rolling out Hami value-added services which target smartphone users, as illustrated in Figure 1. For example, Hami Bookstore offers an e-book service; Hami Apps enable subscribers to download a variety of applications and games; and Hami TV allows subscribers to watch TV programs on their mobile phones anytime and anywhere.[18]

C. Challenge and Vision of "Multiple Screens and a Cloud"

If Chunghwa Telecom remains a content provider with a single platform, it will be hard pressed to compete for consumers' attention given all of the competition from domestic and foreign media in Taiwan's content market, such as Want-Want Media Group,[19] Fubon, Apple and Google. In the era of digital convergence, Chunghwa Telecom's core vision is to arrange their businesses according to the concept of "multiple screens and a cloud", allowing customers to link to their computers, televisions or mobile phones through the communication cloud. The front-end of the converged content services is represented by an integrated platform, for example, the household users can receive services via MOD and the smart phone users can receive services via "emome" platform.

> We look forward to making a breakthrough with a more agile business strategy and expanding our platform beyond TV to different devices to reach a broader customer base that can not only

[16] *See* Chunghwa Telecom MOD, http://mod.cht.com.tw/.
[17] Interview with Chen, *supra* note 8.
[18] *See* Chunghwa Telecom emome, http://hamiweb.emome.net/.
[19] *See* Lee, *supra* note 3.

> enjoy the content on TV offered by our platform but also through different devices……Chunghwa Telecom will provide a very competitive cross-device platform, rather than just a product to replace cable TV.[20]

> Actually, we spend a great deal of time thinking about what the environment will be like with multi-screens. Do consumers really need to see the exact same content on a TV, cell phone and PC? What kind of content will be so attractive that consumers will demand to see it across several devices? Or, do we need to develop different designs to fill the gap and what is the gap?[21]

With the vision of "multiple screens and a cloud", there are many challenges in the digital content convergence and services integration of Chunghwa Telecom that must be overcome. For example, how to incorporate on-line content like YouTube into MOD? The first step is a license to obtain the desired content. The second step is the introduction of a revolutionary new platform to resolve technical issues, so that the users just need to upload the new platform and restart the set-top box without needing a replacement box, just like updating a new OS for a mobile phone. Third, the content being viewed via MOD also involves complicated legal regulations. Furthermore, faced with the dilemma of a growing complexity of services and interface limitations, how to develop a user-friendly interface for MOD is a problem pressing for a solution.

> Chunghwa Telecom is committed to a strategy of supplying differentiated content … Content will come from a wide range of providers, enabling Chunghwa Telecom to become a strong brand which channels all types of content to consumers.[22]

> The MOD user environment and interface cannot be compared to the PC, since many functions must be integrated into a remote controller which is much more complicated than the simple control of TV volume and channel. There is a learning curve, since some time is needed to become familiar with the device, but we work very hard to streamline the user interface to reduce the number of clicks a user must make to reach the selected content.[23]

> We have developed an application for an interface, so users can

[20] Interview with Guo, *supra* note 8.
[21] *Id.*
[22] *Id.*
[23] *Id.*

> operate MOD through their iPhone or iPad. The user only needs to download a free application to turn their iPhone or iPad into an MOD remote control. All of the remote control functions are represented by an icon with a theme which makes it an intuitive interface for the end user.[24]

III Patent Analysis

A. Patent Development beyond an Emerging Stage

Chunghwa Telecom has granted 896 patents in Taiwan, China and the United States till May, 2012, as shown in Table 1.[25] In addition, it has many patent applications still pending (data not shown in tables). Figure 2, 3, and 4 show the distributions of Chunghwa Telecom's patents in Taiwan, China, and the United States, respectively, each year by their filing years and issue yers.[26] Chunghwa Telecom was granted its first patent in Taiwan in 1987. Nearly twelve years later, Chunghwa Telecom started filing patents in China, and the filling activity was growing from 1998 to 2004, but at low in the period between 2005 and 2006. The filing activity in the Unites States slightly increased from 2000 to 2004, but dropped in 2005 and 2006.

Table 1: The number of patents of Chunghwa Telecom issued in Taiwan, China and the United States (till May, 2012).

Patent Type	Taiwan patent	China patent	U.S. patent
Invention	498	44	24
Utility model	293	3	-
Design	34	0	0
Total	**825**	**47**	**24**

In Figure 2, by observing the number of patent granted each year, there are two trough periods in the overall increasing trend: one is the years between 1997 and 1999; the other is the years between 2006 and 2009. These may be traced back to two downward trends by observing the number of patents representing by their filing years: one is around 1996; the other is around 2005 and 2006. The year of 1996 was the time that Chunghwa Telecom split from the DGT to become a business entity; it may be explained

[24] *Id.*

[25] This research did not intend to include all of Chunghwa Telecom's patents granted in different countries. Chunghwa Telecom's patents granted in China and the Unites States were analyzed to study its foreign filing strategy.

[26] Those patent applications eventually not allowed are not included in Figures 1-3. Nevertheless, the filing trend of the granted patents may still indicate the trend of overall filing activities.

that most of resources and management attentions have been paid to the transition of the company.

The second downward trend of filing patents is around 2005 and 2006, the time that Chunghwa Telecom further transformed from a government-owned to private-owned company. There are two causes likely resulting in declining in patent filing activities in that period of time. First, as Taiwan liberate the telecom market since 1997 and then Chunghwa Telecom was not the solo telecom player in the market, given other career opportunities in the industry, in the transition period from government-owned to private-owned company there were some talents switching to other companies. The second cause, and the main one, is that since Chunghwa Telecom becomes private-owned, facing the competition in the telecommunications market, it adopted different guidelines in its patent management system to file patents. Therefore, an unstable growth of patent activities is resulted in the years around 2005 and 2006. These two reasons also contributed to the decrease in filing activities in China and the United States in the period between 2005 and 2006, shown in Figures 3 and 4.

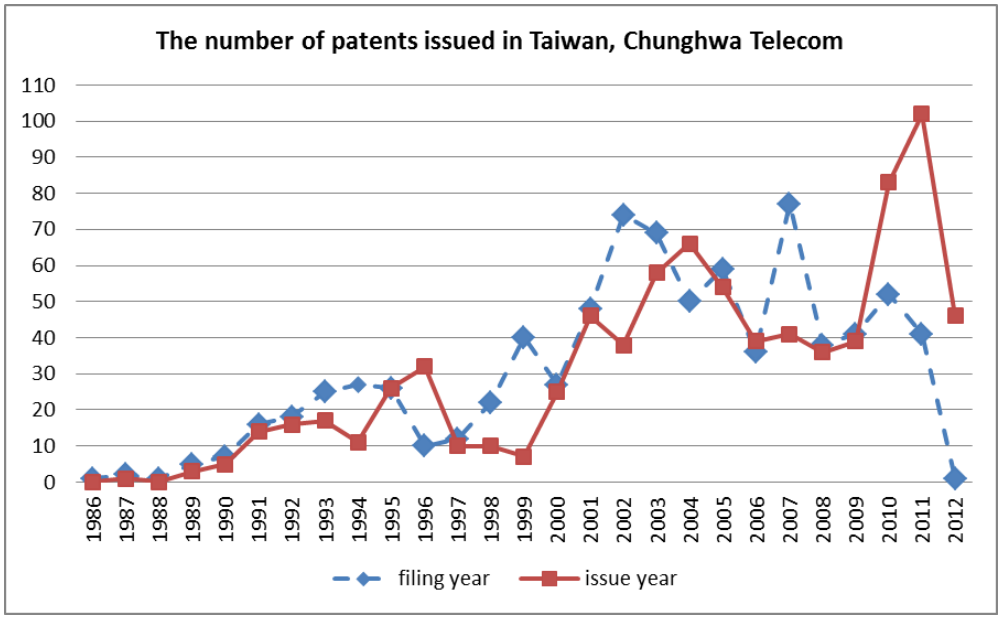

Figure 2: The distribution of Chunghwa Telecom's patents issued in Taiwan, analyzing and presenting by filing dates and issue dates (till May, 2012).

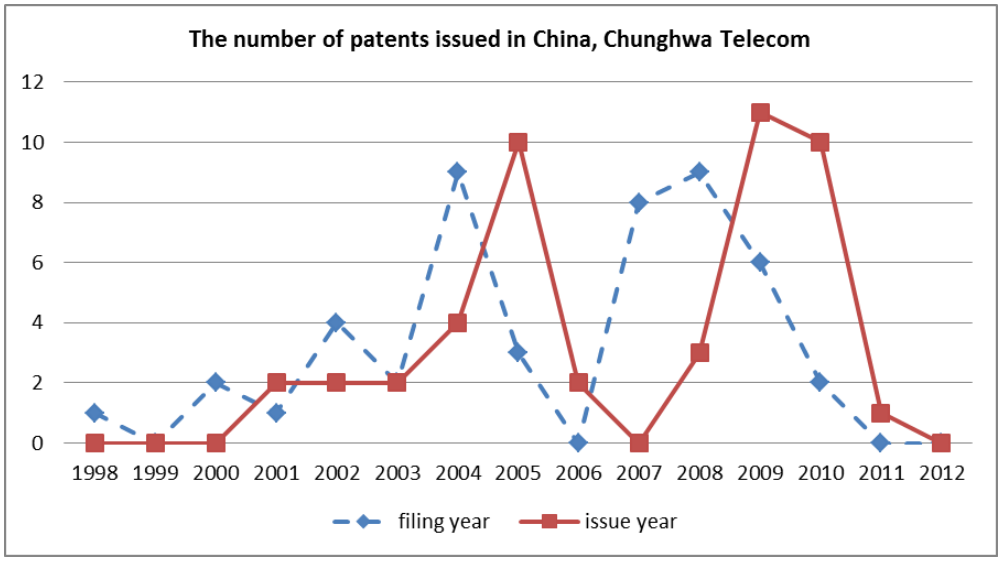

Figure 3: The distribution of Chunghwa Telecom's patents issued in China, analyzing and presenting by filing dates and issue dates (till May, 2012).

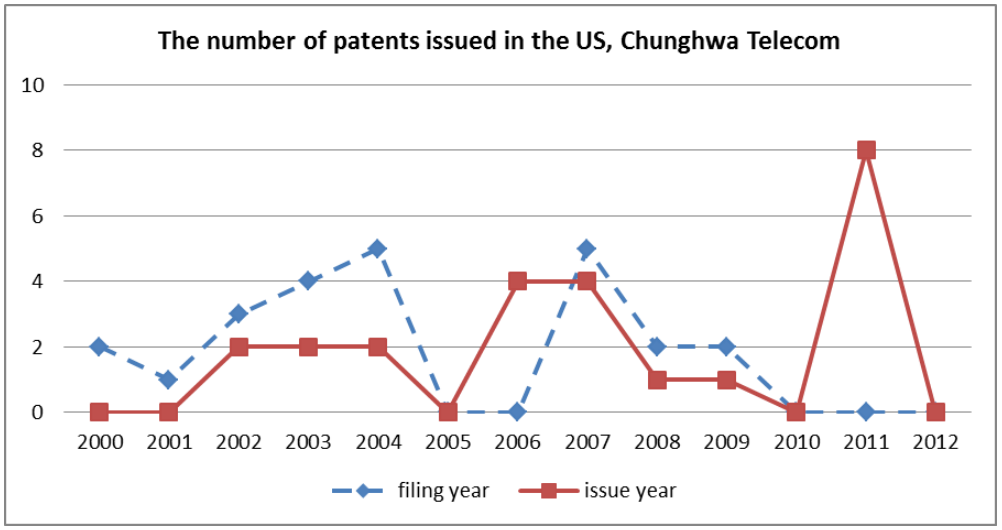

Figure 4: The distribution of Chunghwa Telecom's patents issued in the Unites States, analyzing and presenting by filing dates and issue dates (till May, 2012).

Many of Chunghwa Telecom's patents are co-owned with Chunghwa Telecom Laboratories. Since Chunghwa Telecom has become private-owned, Chunghwa Telecom Laboratories focuses on advanced technologies to empower Chunghwa Telecom staying in a leading role in the market. With

nearly 3.2 billion NT dollars of R&D investments each year,[27] it does not reflect in a rapid growth of patents in recent years. That is because many R&D achievements remain trade secrets, other than filing patents to disclose technological details.[28] In addition, only those R&D achievements with considerable business opportunities may be qualified to apply for patents.[29]

> More than 80% of Chunghwa Telecom Laboratories' resources are contributed to the development and business of Chunghwa Telecom …. In early years, Chunghwa Telecom Laboratories seemed more emphasis on "research"; that was the role it should be. However, it is now part of the real-life business. For those [technologies] preferred being kept as trade secrets, it is better not to disclose to the public. Therefore, technologies will be evaluated to decide whether it is appropriate to file patents.[30]

Overall, the filing activity and the numbers of patent granted in Taiwan show increasing trends except the low around years 2005 and 2006. Chunghwa Telecom also has more than ten years experiences in foreign filings, although the quantity of patents is less than that in Taiwan. Considering the quantity of patent assets, increasing trend of patent activities and evaluation guidelines for patent filings, the patent development of Chunghwa Telecom have grown beyond the emerging stage.

B. Increasing Patent Activities in Data Switch, e-Commerce, Secure Communication, and Digital TV

The International Patent Classification (IPC) of each patents[31] were analysed in order to investigate the trend as well as specific focus of Chunghwa Telecom's innovation. Figure 5 shows the important IPCs of Chunghwa Telecom's patents issued in Taiwan. To study the development of innovative activities of Chunghwa Telecom, IPCs at the third level of two groups of patents in Taiwan are analyzed by taking the year 2000 as a dividing line; one group are patents issued before 2000 and the other group are patents issued in and after 2000. Before 2000, the top three IPCs were:

---

[27] *See* Chunghwa Telecom Laboratories, *About CHTTL*, http://www.chttl.com.tw/web/ch/aboutus/aboutus_01.html (last visited Dec. 10. 2012).

[28] Interview with Chen, *supr*a note 8.

[29] *Id*.

[30] *Id.*

[31] Patents are systematically classified according to the areas of technology to which they pertain. The most common system is the International Patent Classification (IPC). *See* World Intellectual Property Organization [WIPO], International Patent Classification (IPC), http://www.wipo.int/classifications/ipc/en/ (last visited Dec. 10. 2012).

H04L (transmission of digital information, e.g. telegraphic communication), H04M (telephonic communication), and G06F (electric digital data processing). Patent activities focused in telegraphic and telephonic communications before 2000 is in consistent with the positioning and business Chunghwa Telecom as a telecommunication carrier.

After 2000, the top three classifications mentioned above still maintained important. In addition, there are two noticeable IPCs, which were less important before: G06Q (data processing systems or methods, specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes; systems or methods specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes, not otherwise provided for), and G07B (ticket-issuing apparatus; fare-registering apparatus; franking apparatus). G06Q is an IPC relating to data processing for doing business and e-commerce, is a so-called business method or e-commerce patent. G07B relates to the application apparatus or system for ticketing and fares. That is to say, in recent years, Chunghwa Telecom's research not only focuses on telegraphic and telephonic communications and digital data processing, but also extends to the fields of e-commerce and apparatus for specific application.

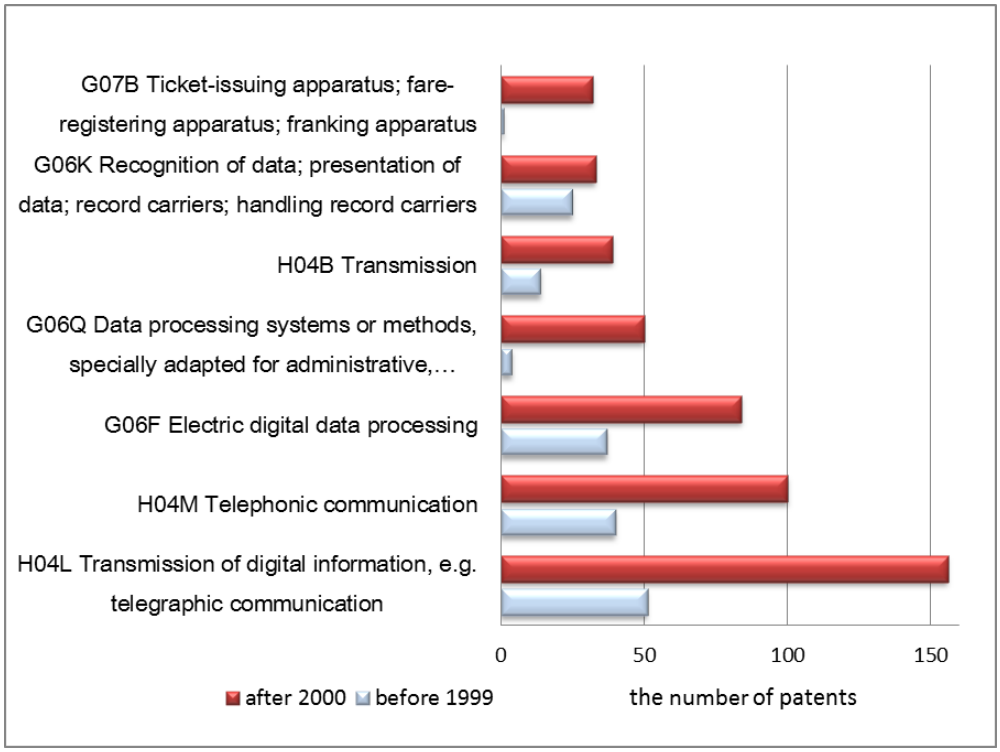

Figure 5: The important IPCs at the third level of Chunghwa Telecom's patents in Taiwan in different periods, representing the trend of innovation (till May, 2012).

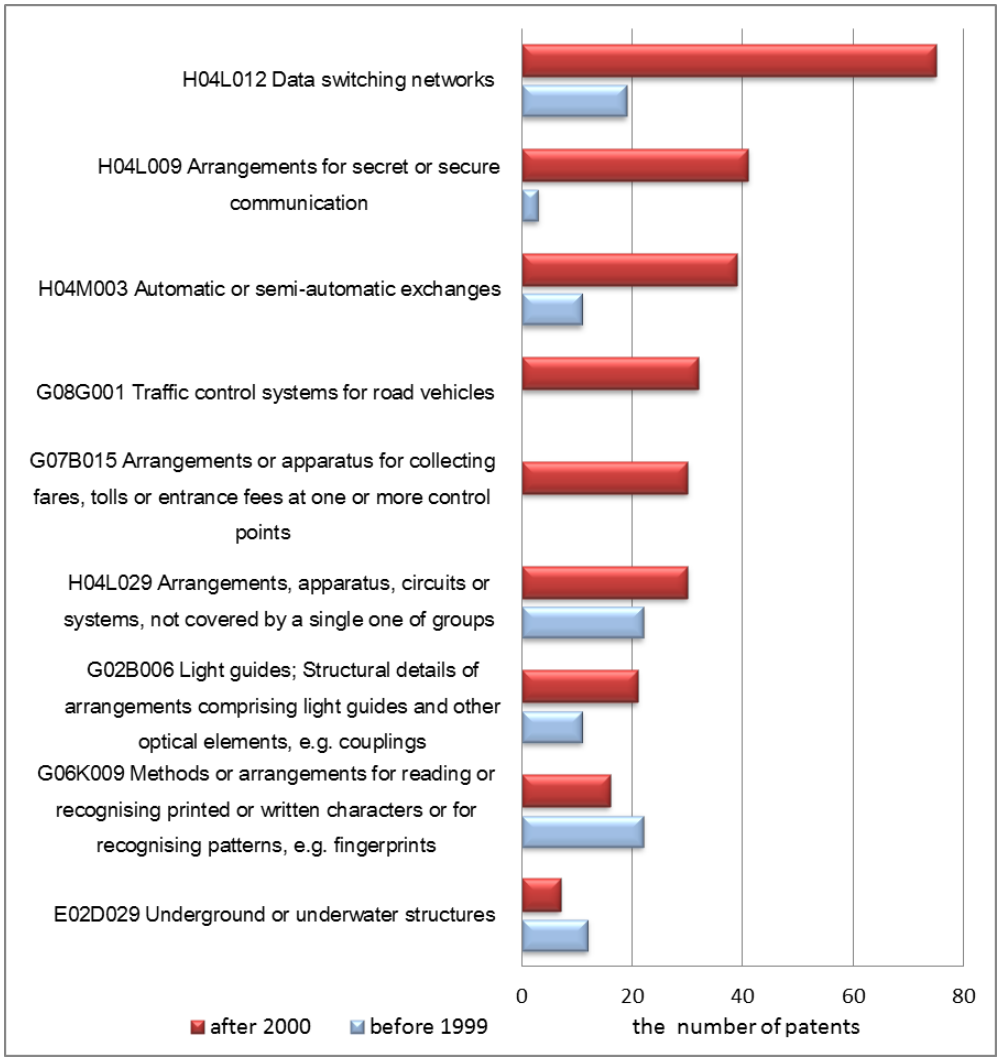

Figure 6: The important IPCs at the fourth level of Chunghwa Telecom's patents in Taiwan in different periods, representing the specific technology of innovation (till May, 2012).

More specifically, Figure 6 shows the top IPCs at the fourth level of two groups of patents; one group are patents issued before 2000 and the other group are patents issued in and after 2000. As demonstrated in Figure 6, the most important subclass after the year of 2000 is IPC H04L012 (data switch network), which also ranks the third IPC before 2000. It reveals that Chunghwa Telecom, as a telecommunications company, is strong in the technology of data switch network. A noticeable increase after 2000 is H04L009 (arrangements for secret or secure communication). Since Chunghwa Telecom's services become more interactive and diversified,

security and personal identification system hence become more important; patent portfolios in these areas therefore are established.

The other noticeable IPCs are G08G001 (traffic control systems for road vehicle) and G07B015 (arrangements or apparatus for collecting fares, tolls or entrance fees at one or more control points), both subclasses not shown in the top IPCs during the period before 2000. The above two subclasses reveal Chunghwa Telecom's recent research and development in the apparatus and application system applying communications technologies in positioning, identification, as well as ticketing. Specifically, some of these patents are related to e-motor vehicle and driver system and ticketing system, services provided by HiNet internet service by Chunghwa Telecom.

In addition, Table 2 lists 27 Taiwan patents related to digital TV and video transmission, highlighting the innovation and technological achievements of Chunghwa Telecom in set-up boxes and MOD systems. It is worthwhile to mention that the first digital-TV-related patent was filed in 1992[32] and then slowly built up the patent portfolio. In other words, Chunghwa Telecom started innovation in the field of digital-TV-related technology in 1990s, much earlier than the launch of MOD in 2003. Recent technological developments include set-up boxes resulting in many utility model patents after the year of 2006. The increased number of utility model patents in recent years also implies that Chunghwa Telecom intends to accumulate patent assets in a relatively shorter period of time after it became a private-owned company.[33]

Table 2: Taiwan patents of Chunghwa Telecom related to digital TV (till May, 2012)

	Patent No.	Title	IPC	Filing Date Issue Date
1	191908	Image communicating system	H04M011/00 H04N007/00	1992/06/30 1992/10/01
2	240837	Testing apparatus for video signal	H04N007/24 H04N017/00 G06T001/00	1993/04/21 1995/02/11
3	243035	Interactive video-on-demand device on telecommunications network	H04N007/10 H04L012/28	1994/04/20 1995/03/11

[32] Taiwan Patent No. 191908 (Image communicating system).

[33] Utility model does not require the substantive examination, therefore the prosecution time is shorter than that of the utility patent application and the allowing rate is higher.

4	231829	Optical distribution network architecture for distributed Video supplier	H04N007/10	1994/04/29 1994/10/01
5	292469	SBS noise reduction by spontaneous oscillation single-mode laser	H04N005/21	1995/07/26 1996/12/01
6	370332	Simulated multi-channel digital TV signal	H04N007/169	1998/06/22 1999/09/11
7	451590	Digital image law-enforcement monitoring system primarily using digital watermark to avoid editing and distorting	H04N007/16	1999/08/07 2001/08/21
8	451583	Automatic monitoring method and device of fiber cable TV transceiver	H04N017/00 H04N005/14	1999/10/05 2001/08/21
9	I220634	Wireless projection gateway system	H04N005/38	2003/03/24 2004/08/21
10	I286027	Integrated image-registration multiple lane free flow vehicle law enforcement system	H04N005/225	2003/09/10 2007/08/21
11	M244684	AV signal converting device applied in integrating image telephone and image monitoring system	H04N005/232 H04N007/18	2003/11/03 2004/09/21
12	I246321	Remote video-on-demand digital monitor system	H04N005/225	2004/01/28 2005/12/21
13	I242380	Digital image monitoring system for motion detection	H04N007/18 G06T007/20	2004/08/12 2005/10/21
14	I248310	Continuous image compression method	H04N007/24	2004/11/12 2006/01/21
15	I295539	Method for color	H04N007/26	2005/05/26

		image data compression and decompression		2008/04/01
16	I317584	Time measurement method for multimedia streaming packet	H04L012/26 H04L012/24 H04N007/24	2006/07/06 2009/11/21
17	M382674	Image monitoring system of integrated mobile communication device	H04N005/225	2006/09/28 2010/06/11
18	I346507	Interactive video on demand service	H04N007/173	2007/09/14 2011/08/01
19	I348294	System for providing and installing image monitoring	H04L012/26 H04N005/232	2008/02/25 2011/09/01
20	M379946	Internet protocal TV (IPTV) interactive advertising apparatus	H04N005/76	2009/08/31 2010/05/01
21	M382675	Video camera control device based on gesture recognition	H04N005/232	2010/02/09 2010/06/11
22	M390625	Device for changing boot-up screen of internet TV terminal device	H04N007/16	2010/04/23 2010/10/11
23	M390626	Media sharing device constructed under Internet Protocol television environment	H04N007/16	2010/04/26 2010/10/11
24	M415527	IPTV Interactive watching behavior Recording device	H04N007/00	2011/04/01 2011/11/01
25	M416283	Entrance machine image/video transmission system	H04N005/91 H04L012/56	2011/07/13 2011/11/11
26	M424549	Monitoring and recording system for road security checkpoint	G06K019/00 H04N005/232	2011/10/18 2012/03/11
27	M428608	Personal video recorder human interface on	H04N007/00	2011/12/29 2012/05/01

		IPTV platform		

C. Foreign Patent Filings with Different Strategies

Chunghwa Telecom's 47 patents in China relate to 27 IPCs at third level. 43% patents are classified under H04L (transmission of digital information, e.g. telegraphic communication). Other important IPCs include G06K (recognition of data; presentation of data; record carriers; handling record carriers), H04N (pictorial communication, e.g. television), G06F (electric digital data processing), and H01L (semiconductor devices). Chunghwa Telecom's patents in China are not limited to technology related to telegraph communication and data processing, but also include image communication technology.

Although starting relatively late in the United States, Chunghwa Telecom has 24 U.S. patents, related to 22 IPCs at third level. 30% patents are classified under H03F (amplifiers). Other important IPCs include H01S (devices using stimulated emission), and G05B (control or regulating systems in general; functional elements of such systems; monitoring or testing arrangements for such systems or elements).

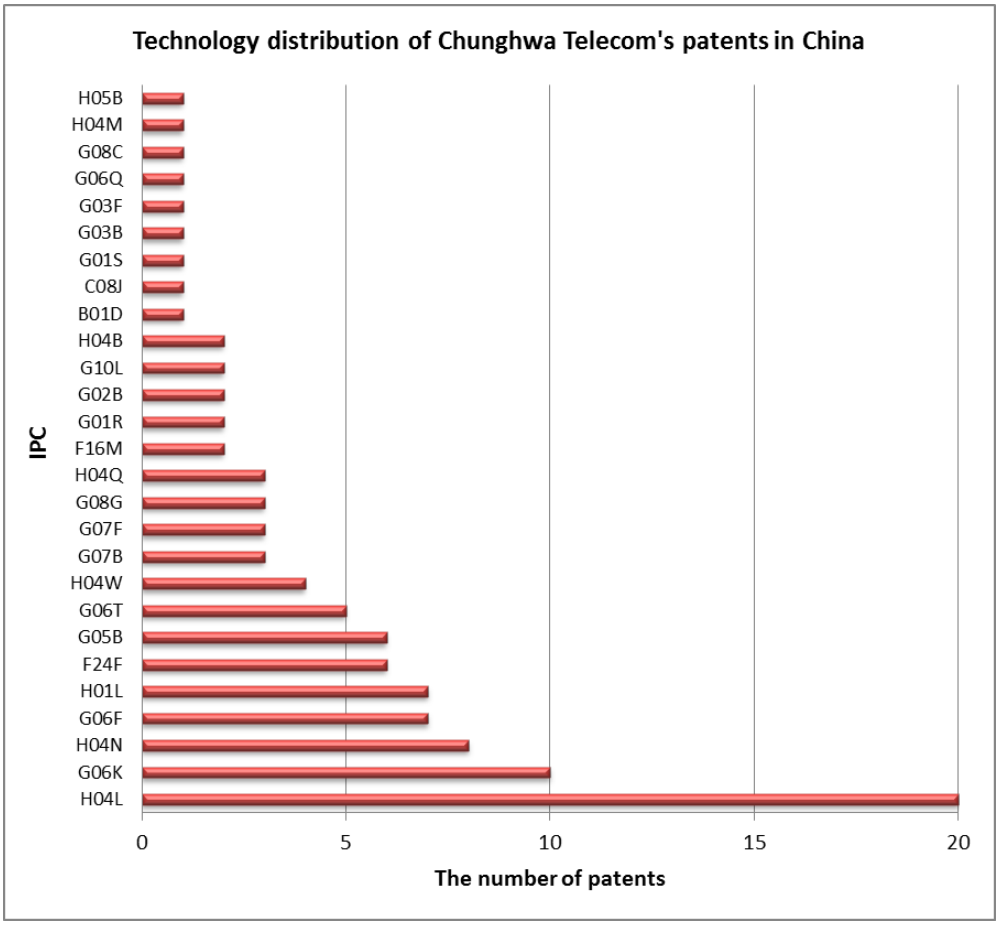

Figure 7: The technology distribution Chunghwa Telecom's patents in China according to the IPC at the third level (till May, 2012).

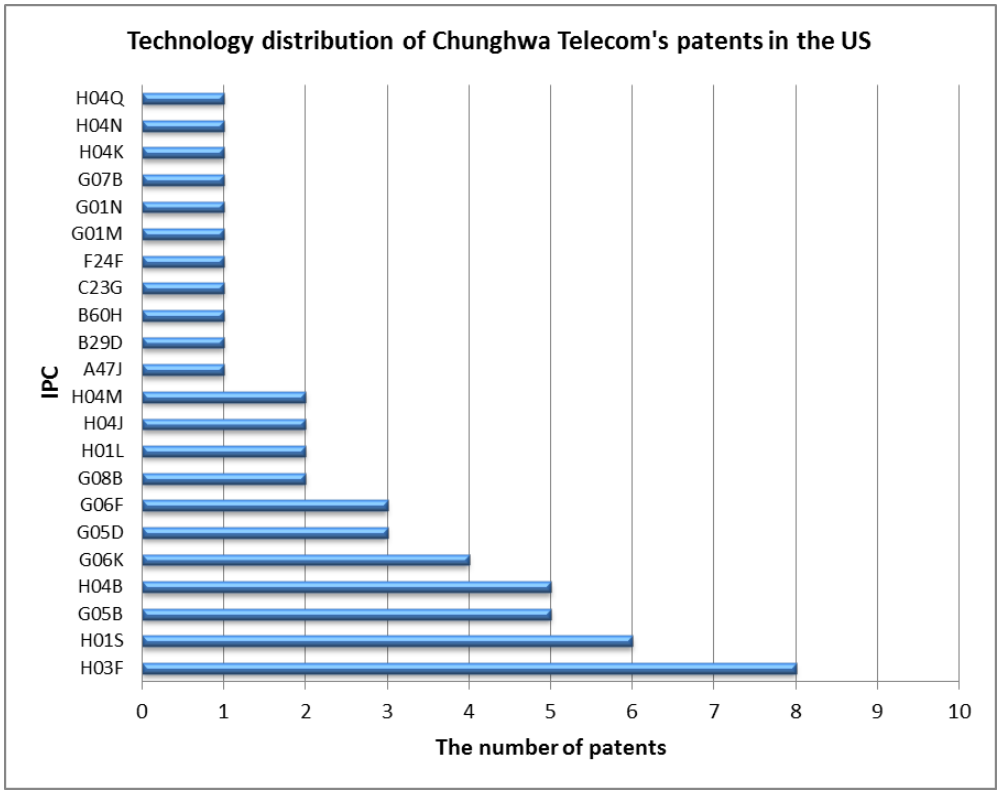

Figure 8: The technology distribution Chunghwa Telecom's patents in the United States according to the IPC at the third level (till May, 2012).

Compared with the technology distribution of Taiwanese patent activities after the year of 2000 (Figure 5), patent activities of Chunghwa Telecom in China (Figure 7) show two important IPCs which are the same as the top IPCs in Taiwan: H04L and G06F. Such similarity is not observed in comparing Taiwanese and U.S. patents. The patent portfolios in China and the United States are different. With a small quantity of patents, Chunghwa Telecom has expanded their U.S. patent portfolio into a diverse range of fields with no specific focus on application apparatuses or systems. It implies that taking market demand into account, the U.S. is not the focus market of Chunghwa Telecom. Chunghwa Telecom seems view U.S. patents as an indicator of R&D. On one hand, the application of fundamental or innovative research for patent is more important in the United States, since such technologies may have broader scope of utilities. On the other hand, those technologies with less effort in localization may be applied for patents in foreign countries.

IV. Conclusion

It is fair to say that the historical development of telecommunications in Taiwan makes Chunghwa Telecom a leading role in the market; MOD allows Chunghwa Telecom to step from the telecommunications into interactive multimedia service and to further realize digital convergence. In the integrated strategy of Chunghwa Telecom, the concept of “multiple screens and a cloud” is executed by providing MOD service on mobile phones, televisions, and computers for subscribers.

Since the telecommunications industry was a government monopoly in the past, Chunghwa Telecom viewed their patent portfolio as an indicator of performance or a defensive strategy. With Chunghwa Telecom laboratories, patent activities of Chunghwa Telecom grow steadily since 1986, except the transit period from the DGT to Chunghwa Telecom in 1996. After the privatization of Chunghwa Telecom in 2005, the patent filing strategy with the technological and business strategies can be summarized: First, facing the competition in the telecommunications market, the R&D focuses on the creation of innovative products and applications of telecommunications technology. Second, for these innovations, there are 3 factors to consider in patent filing strategy for innovation: 1) whether remaining as trade secrets a better option, 2) commercialization of the technology, and 3) the possible scale of the commercialization, especially in the decision for foreign filings.

Chunghwa Telecom has been granted a considerable number of patents with patent activities in China and the United States during the past ten years. Chunghwa Telecom's patent portfolios seem more specific focused in China than in the United States; it reveals the business priority of Chunghwa Telecom in the China market over the U.S. market. The majority of Chunghwa Telecom’s patents relate to the technologies of telegraphic and telephonic communications, digital data processing, and data switching networks. The patent portfolios have been established in the fields of secure communication, positioning, ticketing, and digital TV, especially innovative apparatus and devices. These are directionally aligned with the business development of Chunghwa Telecom in the vision of “multiple screens and a cloud” in recent years. Given the number of e-commerce patents, the efforts toward service-type innovation are also observed. Considering the increasing trend in patent activities, the number of patents accumulated and the patent filing strategy with business consideration, the patent development of Chunghwa Telecom has grown beyond the emerging stage and gradually reached the growth stage.

It is recommended that the company with technical advantages in communications may employ their foundation in communications and data processing techniques to reinforce the patent portfolio in the area of service-type innovation, which will enable the company to carve out a niche in new markets and new services with the tide of digital convergence.

Chunghwa Telecom has great strengths in telecommunications technology and related patents. Given these advantages, the patent portfolio of Chunghwa Telecom can be enhanced with more innovations in interactive services cross devices to further develop cross-strait markets in the era of digital convergence.

Cited as:

Bluebook Style: Po-Ching Lee, *A Case Study of Patent Development of Chunghwa Telecom in the Digital Convergence Era*, 1 NTUT J. of INTELL. PROP. L. & MGMT. 217 (2012).

APA Style: Lee, P.-C. (2012). A case study of patent development of Chunghwa Telecom in the digital convergence era. *NTUT Journal of Intellectual Property Law & Management*, *1*(2), 217-238.

ISSN 2226-6771

VOLUME 1 June 2012 NUMBER 1

TABLE OF CONTENTS