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Abstracts listed in alphabetical order by last name

Adekola Tolulope ANTHONY, School of Law, City University of Hong Kong, HKSAR, China

Title: *Special Regional Treatment Under Trips Reforms: A Regional Model For Pooled Access to Generic Medicines in Southeast Asia*

Abstract

The United Nations 2030 Sustainable Development Goal agenda expressly recognizes sustainable access to medicines and vaccines as an integral component for the attainment of its global Health goals. 'Access to medicines' connotes equitable and unfettered access to pharmaceuticals for all, irrespective of gender, age, religion, class or race. While progress has been recorded in Southeast Asia in the drive for greater access to medicines, a lot still has to be done. According to the 2017 report of the World Health Organization (WHO) regional office for Southeast Asia, the procurement and supply chains for access to medicines are still very weak in the region. The report decries the low availability of medicines in most public hospitals and health centers. According to the report, about 65 million people in the region are 'impoverished because of out-of-pocket health spending, much of which is on medicines, while others even forego treatment.'

Of particular concern is the limited access to life-saving drugs for the management of non-communicable diseases such as cancer, diabetes, cardiovascular diseases and hepatitis. Although several factors have been ascribed to the conundrum of access to medicines in the region, the Trade Related Aspect of Intellectual Property Rights Agreement (TRIPS) of the World Trade Organization (WTO) has been identified as one of the key hampering factors. The patent standards imposed by TRIPS agreement has been argued to have far-reaching implications on access to new and effective on-patent drugs, particularly for cancer and hepatitis C. The grant of exclusive pharmaceutical patent rights has been proven to limit access while also increasing the cost of medicines beyond the reach of the poor. In recognition of this barrier to access, the SDG GOAL 3 on Health (Target 3.b) identifies the need for the effective utilization of the flexibilities embodied in the TRIPS agreement and the Doha Declaration on Public Health to drive access to medicines.

Of all the countries in South East Asia, only Thailand, India and Bangladesh, have to a certain degree, used some of the flexibilities in TRIPS agreement to enhance access to affordable medicines for domestic use and export. These countries are major global manufacturers of generic medicines. Other countries in the region have however continued to experience constraints in fully taking advantage of TRIPS flexibilities. Some of these constraints are the absence of markets large enough to attract foreign pharmaceutical investors, little or no local pharmaceutical manufacturing capacity, lack of technical expertise in the use of TRIPS flexibilities, technological deficiency, financial limitations and lack of political will. They also lack the sufficient purchasing power for "economies of scale" when procuring medicines.

The reforms made to the TRIPS agreement through the 2003 waiver and the 2005 amendment protocol envisaged these challenges and carved out a regional model for the collective use of TRIPS flexibilities. This regional collective mechanism is contained in Article 31bis and the Annex to the amended TRIPS agreement, which finally came into force in 23, January 2017. It provides a platform for the aggregation of the purchasing power and economies of scale of WTO members belonging to regional trade agreements, for the joint local manufacturing or importation of generic drugs produced under compulsory licensing. Medicines and diagnostic kits manufactured or imported under this regional trade mechanism can be distributed among members of the regional arrangement without the fear of intellectual property rights infringement. However, TRIPS agreement stipulates two criteria that must be fulfilled by the regional alliance. Firstly, half of the membership of the regional partnership must be categorized as LDCs according to the United Nations. Secondly, the members of the regional trade agreement must share similarities in disease burden.

Against this background, Part I of the paper advances a hypothesis of a five-country regional model in Southeast Asia for the use of the regional framework under TRIPS Amendment. The regional coalition is proposed to comprise of Bangladesh, Myanmar, Nepal, Thailand and India. The justification for the choice of Thailand and India is based on their accomplishment in the successful use of TRIPS flexibilities. The choice of Bangladesh, Myanmar and Nepal on the other hand is justified by their status of being the only WTO members with LDC status in the region. Part II of the paper shows how the regional coalition can harness its economics of scale and purchasing power to drive access to generic versions of on-patent drugs and pave the way for the development of regional supply center, patent pools and procurement systems. Part III investigates the current levels of incorporation of TRIPS flexibilities in the domestic laws of the proposed partner states to the regional framework and the extent to which the current global Intellectual Property regime can influence access to essential medicines in the projected regional arrangement.

Nazma Swastika ARIES, Law Faculty, Universitas Gadjah Mada, Indonesia

Eka Nanda Ravizki, S.H., Faculty of Law, Universitas Gadjah Mada

Title: *The Liability of Artificial Intelligence in The Intellectual Property Crime: The Legal Conceptual and Comparative Study in Asia*

Abstract

Technology that has progressed rapidly in recent decades has led to new discoveries that affect human life. One of the discoveries that changed the face of the world was Artificial Intelligence (AI). AI is different from other regular computer algorithms (programs) due to its abilities to rationally solve complex problems or take appropriate actions autonomously to achieve its goals in different circumstances. Numerous complex AIs are considered to be capable of generating works that are comparable to human creation. Currently, AI can be programmed to generate all

sorts of works, including literary works, musical works, motion pictures, and many other perceivable and reproducible works. However, the emergence of AI generated works has in fact caused a disruptive effect on Intellectual Property (IP) laws. IP laws in many jurisdictions are rather ambiguous on the copyrightability of AI generated works. Some potential issues may occur in the matter of AI's legal personality. In addition, when AI generated works can commit criminal act in IP laws and caused harm toward the IP right holder, could the AI be held liable? Hence, this research aims to understand the implications that might arise if AI is recognized as a new legal subject that can be ascribed criminal liability in IP crime and the challenges that will be faced when AI is recognized in Asia.

This research used doctrinal-comparative legal research, which desk study research and qualitative method. This research found several methods for determining the personality for a new entity, especially AI. These methods include: Entity-centric Method, Consequence-based Method, and Conditions-based method. All three methods, especially entity-centric and conditions-based, have provided sufficient explanation that AI under certain conditions and based on certain needs can be given status as a legal subject. It is important to note that, if AI is given a legal personality, it does not mean that the law is bound to give AI all legal rights and obligations possessed by general legal subjects, especially like those possessed by humans. The legal status given to AI must be in accordance with considerations and justification about the attribution of legal personality, as well as practical legal considerations arising from its natural nature. Because of that, now the question will arise who will be held responsible for adverse activities carried out by AI.

Regarding Criminal liability in IP laws, this research found several possible models of IP criminal liability committed by AI. Gabriel Hallevy has discussed how, and whether, AI entities might be held criminally liable. Criminal law normally requires both an actus reus (an action) and a mens rea (a mental intent), and Hallevy proposed the imposition of criminal liability on AI entities using three possible models of liability. What Hallevy proposed is still in the matter of individual liability, yet there is lack of discussion regarding corporate liability. Thus, it is also important to consider corporate liability as the possible liability model.

The Perpetration-by-Another liability does not consider the AI entity as possessing any human attributes. The AI entity is considered an innocent agent. In this version, the programmer and operator or user are the most relevant to be liable for the IP crime committed by AI. The Natural-Probable-Consequence liability model assumes deep involvement of the programmers or users/operators in the AI entity's daily activities, but without any intention of committing any offense via the AI entity. In this model, the programmer and the corporate are the most relevant to be liable for the AI crime. Direct liability model does not assume any dependence of the AI entity on a specific programmer or user. This model is not different from the relevant criminal liability of a human. Lastly, corporate liability opens the possibility to manufacturers/corporation can be liable for action or omission of its agent on its behalf.

From the four proposed liability, it can be seen that the most applicable liability model is The Natural-Probable-Consequence model. As consequence of Narrow AI only has medium

autonomous level, so if AI involve as physical perpetrator of the specific crime, but that very offense was not planned to be perpetrated, then AI is not merely legally accountable for its conduct. Then, we need to trace the criminal behaviour back to a human behind the AI. Hence, it is suggested that the programmer and operator or user are the closest liable actor for AI crime. In other hand, the several governments in Asia faced similar challenges in conceptualizing criminal liability for AI crimes. They decided to focus on making legal policy regarding AI which can monitor the safety and fairness of AI, and adapt regulatory frameworks to encourage innovation while protecting the public. Regarding liability, as AI is organized to directly affect the world, even physically, liability for harms caused by AI will increase in salience. The focus will be to find the liability of the human actor even when liability is better located on AI itself for reasons of the feasibility of AI personhood. Liability would then fall by default on the person behind AI, namely producers or manufacturers, programmer or supervisor, and user or operator.

Songyin BO, The Chinese University of Hong Kong, HKSAR, China

Title: *The Convergence of Patent Infringement Dispute Resolution of E-Commerce Platforms in China and US*

Abstract

INTROCUTION

Since the mid-nineties, legislators have been dedicated to providing online intermediaries, such as Internet service providers, with exemptions from liability for wrongful activities committed by users through their services, which is widely known as the “safe harbor rule” or “notice and takedown” rule. The United States was the pioneer first creating this rule in The Digital Millennium Copyright Act (“DMCA”) in 1998, in which intermediaries are sheltered from liability resulted from the copyright infringement information dissemination, as long as they take the information down after getting proper notice. China transplanted the rule in Regulation on Information Network Communication Right Protection in 2006 and expanded the scope of its application from copyright infringement to all civil right infringements in Article 36 of Tort Law (2009) and Articles 42 to 45 of E-Commerce Law (2018). Safe harbor legislation initially intended to oblige the intermediaries with a negligence-based liability, which was an attempt balancing the protection of intellectual property rights (China)/copyright (US) and not curbing the development of intermediaries. Therefore, the intermediaries used to focus on satisfying the legal requirements by taking down the infringement links only, but not deploying extra proactive measures in dealing with intellectual property right infringements which de facto requires them to take more responsibility. The giant e-commerce platforms in both China and US with mature in-platform complaint mechanisms and other unique procedures respectively, are excellent examples of how intermediaries nowadays are taking more responsibility in intellectual property right protection (especially patent right protection) by resolving the related disputes properly and efficiently. And these mechanisms show a convergent tendency in involving neutral third party experts in patent infringement disputes resolution.

RESEARCH QUESTION

What deployments do e-commerce platforms make proactively in China and US in resolving intellectual property right infringement disputes (especially patent ones) other than the requirements of law? What are the tendencies and implications of these deployments?

I. INTERMEDIARY LIABILITY OF E-COMMERCE PLATFORMS IN CHINA AND US

This section elaborates the intermediary liabilities of e-commerce platforms in China and US from the legal perspective. In China, e-commerce platforms are mandated to take down links of patent infringement products after receiving notices from the right owners. In the United States, by comparison, the safe harbor rule does not apply to patent infringement cases, which means that the e-commerce platforms are not required by law to react to the patent infringement complaints.

II. BUSINESS-DRIVEN OR JUSTICE-DRIVEN? AN EMPIRICAL ANALYSIS OF THE IN-PLATFORM PATENT INFRINGEMENT DISPUTE RESOLUTION MECHANISMS OF ALIBABA GROUP (CHINA) AND AMAZON (US)

A. COMPLAINT MECHANISM AND CROWD-JUDGING PROCEDURE OF ALIBABA GROUP

This part illustrates the complaint and crowd-judging mechanisms adopted by Alibaba Group, which shows its extra endeavor in having neutral third party experts and platform-users involved for professional or impartial opinion in resolving patent infringement disputes.

Firstly, through the examination of more than three hundred cases (from 2009 to 2019), the author finds that Alibaba Group has been seeking for professional assistance from neutral third party experts in a great amount of complicated patent infringement cases with potential large damages, especially since 2016. Alibaba Group is de facto conducting substantial examination, taking more responsibility in patent infringement dispute resolution and thus patent right protection, far more than the law requires.

Secondly, when both the right owners and infringers are platform users, the patent infringement disputes might be settled not by the platform itself, but by crowd-judging participants. As an vivid example of sharing economy, crowd-judging has been used to resolve a great number of disputes and it reduces criticism of lacking neutrality and professionalism when platform acting as the judge.

B. COMPLAINT MECHANISM AND PATENT NEUTRAL EVALUATION PROCEDURE OF AMAZON

This part explains the complaint mechanism and patent neutral evaluation procedure developed by Amazon.

Although Amazon is not required by the law to take down patent infringement links, it has also proactively developed a compliant mechanism in dealing with the complaints of patent infringement. Moreover, it recently enacted a new patent protection program named "patent neutral evaluation procedure" from April 2019. The initiation of the procedure requires bilateral agreement of both the right owners and infringers (sellers). After a certain amount was paid by each party as escrow, a qualified patent attorney will be selected by Amazon and she will be acting as the evaluator in deciding whether the patent infringement exists. Amazon also

proactively takes more responsibility by providing these extralegal in-platform dispute resolution approaches to patent infringement cases.

CONCLUSION

This article provides a creative viewpoint in how giant e-commerce platforms in both China and US are shouldering more responsibility in intellectual property right protection (especially in patent right protection) and the related dispute resolution despite of the legal requirements. This article concludes that it's a trend for them to involve professional third parties as judges/evaluators in patent infringement dispute resolution other than making the decisions arbitrarily on their own. These proactive actions being taken will likely reduce the impact of the restricted application scope of the "notice and takedown" rule, mitigate the potential damages resulted from the patent infringement while also satisfying the general requirements of neutrality and professionalism in dispute resolution.

Aafreen COLLACO, O.P. Jindal Global University, India

Title: *The Threshold of Data Protection Law in India: The South-Asian Perspective*

Abstract

In our digital data-driven economy, the intersection between data and privacy concern is inevitable. Over the last decade, there has been a rampant increase in online data sharing. With the growth of Artificial Intelligence and Data-enabled technologies, the storing, processing and sharing of data has become accessible and inexpensive. Individuals and various stakeholders are now realising the importance of their sensitive personal data. They are now cautious of how the same is being used. It has been estimated that the size of the Indian digital economy growing is manifold, with data being the critical and a crucial determiner.

The European Union (EU) is on the path to mobilizing a strong data protection regime. They are achieving the same by giving more control of personal data to their users in the digital sphere. The General Data Protection Regulation (GDPR) attempts to strengthen the data protection amongst the EU Member States. Its extraterritorial scope also applies to non-EU states and entities. Thus, impacting businesses outside the European Union. The GDPR also explores the privacy concern of personal data which is being shared on online portals with full control given to individuals in terms of storing, processing and sharing their personal data.

According to Klaus Schwab, Founder and Executive Chairman of World Economic Forum, one of the biggest challenges posed by the new information technology is privacy. This is the challenge the 4th Industrial Revolution brings to the table. Data protection and privacy laws should fit like hand in glove. These two concepts cannot be addressed separately. The question arises whether India is ready to tackle this implausible task of balancing data driven technology and privacy of individuals.

In Singapore, the Personal Data Protection Act 2012 (PDPA), establishes a strong authority to protect personal data. The recent amendment in February 2019, seems to have created a robust regime for data portability which allows the individuals to have greater control over their personal data. Despite the growing concerns related to privacy around the globe, the Indian government seems to be lagging when it comes to implementation and execution of the pending and existing statutory laws. The recent draft on the National E-Commerce Policy 2019 lays emphasis on the fact that data should be regarded as a sovereign resource. Furthermore, the draft also elucidates that the sensitive personal data cannot be shared with third party even with the consent of the customers. The access to such data shall lie with Indian authorities.

The new GDPR brings with it a colossal task for organizations inside and outside the EU to harmonize their privacy policies in accordance with the GDPR. The consequence of non-compliance of GDPR is quite hefty. The infringement includes a temporary or definitive ban on processing and a fine up to € 20 million or 4% of the business's total annual worldwide turnover, whichever is higher. An individual can also claim compensation if an organization infringes the GDPR for damages suffered such as financial loss or reputational loss.

Hence, there is a need to relook the existing laws which revolve around the privacy and data protection in India vis-à-vis South Asia. The paper seeks to address the property rights approach towards informational privacy which might allow individuals to have control over their personal data. The author will rely on certain intellectual property concepts of trade secrets and its overlap with competition law.

The author will also address the issue of data privacy through the historical, cultural and philosophical development of privacy rights in India in comparison with the South Asian viewpoint. The European's have a structure in place when it comes to data protection, as they value informational privacy as part of their fundamental right. However, India has just recently accepted "Right to Privacy" as an intrinsic part of right to life and personal liberty under Article 21 of the Indian Constitution. Therefore, the study will help one identify the right policy and best practices to protect the personal and private data of Indian citizens.

In the light of the above background, the paper has been divided into four parts, Part I deals with the introduction of informational privacy and the rising concerns of personal data protection in India; Part II will deal with the comparative analysis of data protection policies with special focus on the South Asian models of personal data protection regimes; Part III of the paper will churn out and examine the Personal Data Protection(Draft) Bill, 2018 and will study the same in light of the recently introduced draft National E-Commerce Policy 2019; Part IV of the paper will conclude with the opinion of the author while examining various doctrines in relation to protection and ownership of data i.e. traditional property right vis-à-vis intellectual property rights.

Adeet DOBHAL, Centre for WTO Studies, India

Title: *'Transferring the Tech': An Analysis of China's technology transfer regime and its compatibility vis-à-vis the TRIPS Agreement*

Abstract

INTRODUCTION

Technology transfer is typically the dissemination of technology (taking various forms of intellectual property such as patents, trade secrets and designs) from the holder of such technology to the recipient, allowing the recipient to benefit from the technology so transferred. This dissemination could be in the form of transfer of ownership, assignment or licensing and are usually facilitated foreign investment or joint venture agreements. The holder and recipient in most cases of technology transfers are either governments or corporates. In the current global scenario, the use of technology has shifted bases from merely providing a comparative advantage to the 'tech rich', to almost occupying an indispensable position in the value chain. Harnessing technology in a judicious manner would be in the best interest of businesses, providing them with a competitive edge over their rivals. It therefore comes as a little surprise that technology transfers are increasingly being resorted to by companies and many countries to boost their economies. Technology transfers provide companies and countries with finalized technologies without essentially investing in the innovation, research and development processes themselves. Such an approach could be leveraged by developing and least developed countries that are technologically challenged or lack the adequate infrastructure to engage in the development of such technologies, in comparison to their developed counterparts.

PROPOSAL BACKGROUND

The potential of technology transfer, however, also makes it a prime tool for misuse by governments. A Staff Working Document of the European Commission found that countries such as China and Indonesia have local working or forced technology requirements which adversely affect the rights of intellectual property holders. It is precisely in this context that China's foreign investment laws were recently faced with severe criticism from many countries, especially the EU and the US. These countries accused China of adopting measures such as performance requirements and ownership restrictions among others, to 'force' a foreign entity to transfer its technology in lieu for obtaining administrative approvals and operating businesses in China. A March 2018 investigative report undertaken by the United States Trade Representative (USTR) found that China used "discretionary and non-transparent administrative reviews and licensing processes" to pressurize US companies to transfer technologies to Chinese entities. While dismissing these concerns, China stated that the foreign investment law did not mandate any 'forced' technology transfers. Nonetheless, these concerns were escalated at the WTO, where the US, and subsequently the EU, filed dispute proceedings (China-Certain Measures Concerning the Protection of Intellectual Property Rights; DS 542, and China-Certain Measures on the Transfer of Technology; DS 549 respectively) against China. It was claimed that these Chinese

measures requiring forced technology transfers in its domestic laws violated China's Protocol of Accession to the WTO and several provisions of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Furthering the dispute, consultations was initiated by the US and the EU under the WTO dispute settlement rules. After an unsuccessful consultation process, the US requested for the establishment of a WTO panel in October 2018 to adjudicate the dispute. As a pre-emptive response to international backlash and the two pending WTO disputes, China in March 2019, announced the change to its investment regime aimed at addressing these outstanding issues. The new investment law that takes effect from 2020, was approved by the Chinese law makers and placed a prohibition on 'forced' or 'involuntary' technology transfers. Responding to the policy changes, the US requested to suspend the panel proceedings at the WTO. The dispute brought about by the EU is, however, currently underway at the consultations stage.

PROPOSAL OBJECTIVE

Given the importance of technology transfers in the current economic scenario, this paper intends to address and further the issues concerning technology transfers. The paper lays down the current position and jurisprudence regarding technology transfers as established by the TRIPS agreement. As a broader inquiry, the paper also examines and comments on whether the existing WTO framework provides for adequate protection and safeguard against forced technology transfers. Next, the paper specifically analyses the domestic regime regarding the transfer of technology in China from the lens of the TRIPS Agreement, both before and after the amendments to the foreign investment policy. The paper then examines the legal claims in the present dispute brought against China by the EU and the US, while further evaluating if the alleged contraventions of the TRIPS Agreement would be mollified by the changes in the foreign investment policy. Since technology transfers, in many cases, are a parcel of investment agreements, these are also evaluated from the perspective of the Agreement on Trade Related Investment Measures (TRIMs) as well to provide a complete and comprehensive picture. Keeping the foregoing analysis in view, the paper finally concludes by presenting the findings and suggestions.

Dashpuntsag ERDENECHIMEG, Law School, Otgontenger University, Mongolia

Title: *The Conflict between Trademark and Copyright and Its Resolutions*

Abstract

Background: In Mongolia, copyright infringement by registration of trademarks was acquired by using well known copyrighted works or any other unfair means has been occurred. The lack of legislation on this issue has created many difficulties for the practical use and protection of copyrighted works. A trademark consists of character, letters, figures, signs, three-dimensional shapes, or color combination, when its design incorporates a value as creative expression, such trademark itself may be an object of copyright at the same time. When someone is the copyright owner of such mark and another one is the trademark owner of the same mark or similar mark, it tends to give rise to conflict with each other. Hence, the growing trend of trademark creative works is an unwelcome development for the copyright regulation and the intellectual property system as a whole.

The first Law of Mongolia on Copyright was enacted in 1993 and its revision was approved as Law on Copyright and Related Rights (hereinafter Copyright law) in January 2006, in consistence with social and economic reform. The Trademark law of Mongolia was enacted in 1997 and later revision was approved as Law on Trademark and geographical indication in 2010. Trademark and copyright are independent types of intellectual property and their characteristics, nature, requirements and principle are differentiate them. However, if trademark is creative , it is overlap with copyright, in contrast the forms of copyrighted works (e.g. creative arts, movies and animations, literary works) may be registered as trademark and there have been instances of conflicts between trademark and copyright. For example, A trademark consists of character, letters, figures, signs, three-dimensional shapes, or color combination, when its design incorporates a value as creative expression, such trademark itself may be an object of copyright at the same time. When someone is the copyright owner of such mark and another one is the trademark owner of the same mark or similar mark, it tends to give rise to conflict with each other. It became evident throughout the course of this research that this served as a significant contributing factor to disputes.

This research was conducted in an attempt to identify the main factors contributing to the disputes in the realms of copyright and trademark with a view of formulating potential avenues through which to mitigate the impact of those factors. Also, this research delved into national and international legislation, agreements and judicial practice regarding the protection of trademark and copyright as well as the protection of copyright prior to the establishment of a trademark.

General research background and measures come based on guidance by World Intellectual Property Organization, Paris Convention for the Protection of Industrial Property, Madrid Agreement concerning the international registration of Marks and its protocol, Singapore treaty on non-traditional marks and other related international convention. On the other side, the research evaluates Canadian trademark law, considered best practice and included in common

law countries, in order to study practices that used in conflicts between trademark and copyrights in some countries. The research also compares rights of trademark and copyright in civil law countries like People's Republic of China, Republic of Korea and Japan with Mongolia as these countries are in same legal system. Also, made an analysis of court decisions on conflicts on copyrights and trademark, including court decisions of Mongolia, Japan and China.

Literature review: Independent types of intellectual property rights including trademark, copyright, and the conflicts between them and their legal regulations have not been studied yet in Mongolian civil law science and intellectual property rights regulation in Mongolia. However, researchers, Tsolmon.D, and Myagmardorj.D and a former researcher on invention, Dr.Namjil.S, Dr.Narangerel.S and Temuulen.N have made a study on legal aspects of intellectual property rights and multiple issues on copyright, trade mark. Even though there are some studies made, those studies and works have mostly focused on laws, legal arrangements and its practice of former legal system in Mongolia. In 2017, researchers, Tsolmon.D and Zolzaya.E have discussed about dispute resolution on "Intellectual property law" publishing during the judicial training course on the commercial law project. All in all, above-mentioned works did not cover the conflict between copyright and trademark rights and it concluded that there was not any study done on this subject in the country yet.

Prof. Irene Calboli urges the needs for study on Intellectual property rights and its conflicts between copyright and trademark in her work "Overlapping Copyright and Trademark Protection: A Call for Concern and Action". Even though there is limited works cover this subject internationally, a few works done by Irene Calboli, Craig S. Mende, Jane C. Ginsburg, Mark P. McKenn, Viva R. Moffat from USA, Singh, Snehlata from India, and Samuel Oddi from UK, and Tamotsu Hozumi from Japan, were helpful for the summary and comparative study on the research. Moreover, this research covers comparative researches done by Chinese researchers since there are several cases related to the conflict between copyright and trademark which were solved at the court in the People's Republic of China.

However, at present and in near future reform stage, there is still need to develop scientific theoretical and methodological background which regulate if case happens that a trademark registered and protected by public agency of Intellectual property conflicts with copyrights or other types of intellectual property rights .

Research purpose: This work aims to explore internal and external factors for conflicts between trademark and copyright and to describe precaution and theoretical and methodological background on conflict regulation as below.

- Theoretically conclude coherence of international law norms and national law for conflict between trademark rights and copyrights and its practices;
- To study potential factors which influence to the conflicts between trademark and copyright and to determine causes and conditions;
- To determine scientific ways to improve legal arrangements of intellectual property violations based on the potential factors;

- To make contribution to establish useful legal practice in this subject.

Shalini JHUNJHUNWALA, Legalite, Nepal

Title: *Cross-border Measures For Trademark Infringement In Nepal And India : Measuring Its Effectiveness Through Case Studies*

Abstract

The research is based on current cross border protection of trademark in India and Nepal . At present Nepal has recently drafted an IP policy which includes the part of better penalty for infringement and India has formed various groups to identify the counterfeits and prevent the piracy.

Cross border measures play important role in protecting the trademark from counterfeit and piracy as most of the counterfeits are imported through the border. Both of the nations have been dealing with high level of counterfeits which are mostly imported and the remedies as well as preventions against the counterfeit. The research also presents the status of counterfeit in both nations and their impact on the economy.

Nepal and India have 1950 India-Nepal Treaty of Peace and Friendship which enforce free movement of people each other which results in a high level of border transaction between the nations. The research will also highlight the impact due to the 1950 India-Nepal Treaty of Peace and Friendship treaty.

In the end, I will analyze some case studies in both jurisdiction to showcase the effectiveness of cross border measures.

Mohammad Ataul KARIM, East West University, Bangladesh

Title: *A Comparative Analysis on the Legal Status of 'Text Data Mining' under Copyright Laws of Bangladesh and India*

Abstract

In 'Big Data', the five V's (volume, velocity, variety, value and variety) determine the significance and implications of such data in knowledge generation. The value of the apparently isolated data or texts increased to a great extent when they are accessed, extracted, mined and consequently generate new knowledge. 'Text Data Mining' (TDM), with application of machine learning and/

or Artificial intelligence, is emerging as one of the reliable means of undertaking research or extracting new trends, patterns or correlation of knowledge from 'Big Data corpora'. The process of TDM involves, to some extents, copying of 'works' or transforming XML format (TDM friendly format) of 'works' which potentially may infringe the exclusive rights of the author and/or publishers unless fall within any of the copyright exceptions. The traditional copyright model, that exhibits the control of access, use and reproduction of 'protected works' at the hands of the right holders, may eventually be challenged by TDM. Undeniably, academic publishers are facing formidable challenges to their business model and globally renowned publishers are taking diametrically opposite positions, for example, Elsevier allows TDM with licensing fees whereas Oxford University Press and Springer allow TDM without licensing for non-commercial or research purpose. Thus, the uncertainties concerning the legal status of TDM exist and there remains a genuine question on the extent and scope of copyright exception at the age of burgeoning digital technologies. Moreover, TDM inherently imparts critical issues in situations where it is used over unauthorizedly accessed 'works' or 'orphan works' or where question remains "whether TDM exception would be applied to 'reproductions' only or equally be applied to other copyright exceptions as well, such as adaption or derivatives? Arguably, TDM is used for research or educational purpose, however, the nature and extent of 'educational use or research exception' are also not beyond the disputes due to, inter alia, competing interpretative approaches of 'fair use' or 'fair dealing' doctrine or other 'closed lists of copyright exemptions'. Moreover, there remains the issue of 'three steps test' which is transplanted into the copyright legislations of many jurisdictions, including Bangladesh and India.

This contribution will employ hermeneutic and comparative approaches to explore and compare the normative jurisprudential basis along with its counter narratives relevant to legal status of 'TDM' under copyright law of Bangladesh and India. In doing so, it will review the existing literature on this area, case laws and practice of advanced jurisdictions such as EU and USA and relate them to those of Bangladesh and India. It will collect data from primary sources by consultation of international legal instruments on copyright law to which Bangladesh and India are parties. It will also collect data from secondary sources- journal articles, books, conference papers, study reports, online materials and other resources. As case studies, it aims at investigating the TDM project of 'JNU Data depot' in India, world's largest TDM project which recently initiated in India. India is the leading country in South Asia and often other countries in the region take the 'legal borrowings' from India. Again, new approach of 'legal orientalism' in copyright exception for 'educational or research purpose' has been reflected in the decision of "The Chancellor, Masters & Scholars of the University of Oxford & Ors. v Rameshwari Photocopy Services & Anr. (CS(OS) 2439/2012/2016)". Both the countries share the similar legal provisions such as 'fair dealing' and/or 'fair use' in their respective copyright legislations and often many decisions of Indian courts have persuasive jurisprudential value in Bangladeshi courts and vice-versa. However, the legal status of 'TDM' remains unclear under copyright regimes of both jurisdictions. Thus, a comparative analysis on the legal status of 'TDM' in both the countries is justified and may further shed some lights on the relevant legislative reformations, if any. This paper will explore a central research question: what is the legal status of 'Text Data Mining' under copyright laws of Bangladesh and India? And it will also address a sub-research question: what would be the nature and extent of copyright exception, if any, in the 'Big Data'? In doing

so, it will briefly outline 'TDM' with its potential ramifications to copyright law at the age of 'Big Data'. This paper will then present an analysis of relevant legal provisions of copyright laws of Bangladesh and India. It will further explore with hermeneutic and comparative approaches on the legal status of 'TDM' under copyright laws of Bangladesh and India. In dealing with the legal status of 'TDM', this contribution will also undertake an analysis on 'JNU data depot' of India as a case study. Finally, it will conclude on the research findings and draw some suitable recommendations, if any, for both jurisdictions.

Jingjing HU, Southwest University of Political Science and Law, China

Title: *Signals or Pictures: A Doctrinal Analysis of the Sports Broadcasting Rights in China*

Abstract

In recent years, there are increasing lawsuits claiming tort damages with regard to the so-called "sports broadcasting rights" in China. Undoubtedly, legal protection should be provided to shield such rights as it contains enormous economic benefits. However, the crux of the problem is rooted in the approaches of the captioned legal protection. As shown in many judgments, the legal issue largely lies in whether continuous moving pictures on screens, which are following the transmission of broadcasting signals, constitute a "film work" as per the criteria of "creativity" and "fixation" under the Chinese Copyright Act. If the answer is definite, there exists an infringement to copyright; otherwise, the ensuing question is, "does the alleged infringement act constitute unfair competition under the Chinese Anti-Unfair Competition Act?".

Nevertheless, the approach to focusing on "pictures" displayed on screens in cases of infringing a sports broadcasting right deserves a second look. In business, a contract licensing a sports broadcasting right grants the licensee an exclusive entitlement of transmitting broadcasting signals from sports spots to other places for local audiences to watch the game. Technically, the contracted object refers to a broadcasting signal rather than pictures displayed on screens. Therefore, the constitution of infringement to the sports broadcasting right depends on whether an alleged infringing behavior conforms to the transmission of a broadcasting signal, rather than continuous moving pictures, without permission.

Yet broadcasting signals are not protected by the Chinese Copyright Law. First, a broadcasting signal does not constitute a copyrighted work because it cannot meet the criteria of "fixation" and "originality". Second, continuous moving pictures may form a film work, whereas there is no assured ground for analogizing continuous moving pictures to a broadcasting signal. Third, it seems that the rights of broadcasting organizations related to the sports broadcasting rights. But it is not. The Chinese Copyright Law (1990) provided that the rights of broadcasting organizations protect "broadcasting and television programs produced by radio and television stations". However, under the Chinese Copyright Law amended in 2001, such phrase was changed to "broadcasting and television broadcasted by radio and television stations". On the

surface, the object of the rights of broadcasting organizations changed from “picture” to “signal”. As Professor Qian Wang has pointed out, the legislation of the rights of broadcasting organizations in China takes a “pseudo-signal protection mode” that focuses on pictures resulting from signal transmission, rather than signal per se. Therefore, the Chinese Copyright Act does not regulate “signal theft” and does not apply to the illegal utilization of sports broadcasting rights.

This paper proposes two alternative legal grounds on tort remedies for the sports-broadcasting rights holder. The first is Article 2 of the Chinese Tort Law, which provides that “When civil rights and interests are infringed, legal liabilities shall be borne in accordance herewith; For this law, civil rights and interests include ... and such other personal and property rights and interests”. In theory, “such other property rights” are non-statutory rights carrying attributions of absolute civil rights; the formation of such rights premises upon meeting triple criteria: 1) identifiable ownership; 2) exclusion effect; 3) typically social publicity. In this regard, the development of the “Rahmenrecht” (the framework right) in German Civil Law makes a reference. As licensing sports broadcasting rights have long become an important income resource for sports events organizers, sports broadcasting rights no doubt satisfy the criteria of “identifiable ownership” and “typically social publicity”. Hence can sports broadcasting rights be identified as “such other property rights” depends upon whether they meet the criterion of “exclusion effect”? Sports broadcasting rights do not have a legislative definition in most countries and are generally considered as commercial interests or business opportunities. In Italy, broadcasting rights are generally deemed as “enterprise rights”. In China, some scholars consider sports events as “tradable non-material commodity”. In line with the theory of “intangible property right”, the right of broadcasting can essentially be categorized as private property, right holders can use it exclusively, and exclude other people's interference. That is to say, sports broadcasting rights meet the criterion of “exclusion effect”. Accordingly, Article 2 of the Chinese Tort Law can apply to sports broadcasting rights.

The same conclusion can be drawn from the perspective of “contract right”, in which case the sports broadcasting right is analogous to a franchising right. In a contract licensing the sports broadcasting right, a relative legal relationship is formed between parties on the one hand; meanwhile, the de-facto absolute legal relationship is established between the licensee and any third person because the contract endows the licensee with a right excluding inference from others. In this sense, a sports broadcasting right represents an absolute civil right.

However, this approach is improper under some circumstances. For instance, illegally utilizing other's broadcasting signals violates Article 2 of the Chinese Tort Law and constitutes unfair competition at the same time. In this condition, the Chinese Unfair Competition Law shall prevail. The reason lies in the doctrine of “the prohibition of escaping from specific law to general law”.

Weijie HUANG, Law School, Shenzhen University, China

Title: *Platform-Created IP Laws in China*

Abstract

China has achieved impressive progress in protecting intellectual property (IP), but it has climbed a ladder different from the West. Western countries have constantly expanded IP laws through IP barons' lobbying. Whereas, IP interest groups have not yet grown up in China due to the lack of historical basis for IP right and the prevalence of privacy for decades. Rather than driven by powerful IP industries, the development of Chinese IP law relies more on another party : online platforms. Many of the services online platforms provide involve the use of IP. To improve services to users and to facilitate transactions, online platforms have developed a variety of measures to protect IP, such as enforcing contracts, resolving disputes, filtering infringement and obtaining licenses. In other words, online platforms have created IP law as a byproduct of their ordinary business. Compared with the top-down state law enacted by the large-size legislature, the platform-created law emerged through a bottom-up, trial-and-error approach that is more adaptable to technological changes. Harnessing the flatness of the Internet and the low transaction cost, platform-created law can take into account more market information and deliver on what the state law failed to achieve. To facilitate cross-provincial/regional transactions, online platforms have the incentives to overcome local protectionism and pave the way for the harmonization of IP law. Nevertheless, the platform-created law also raises antitrust concerns about the monopoly of platform market and monopoly of user-generated data.

Priyal JAIN, ICFAI Law School, India

Title: *John Doe: Knowing the Unknown*

Abstract

In the recent years, the fashion industry has bolstered and so have the IP infringement issues along with it. The imitation game is being strongly played by a multiple number of sellers in the market who bank on the owner's creativity, thereby, violating the owner's absolute right on his design. The moment an exclusive piece of creation is showcased by the top notch designers like Sabyasachi in the fashion weeks, the very next week, multiple copies of the same is out for sale in the markets. This does not only encourage infringement but also demoralises the designer's passion towards building a myriad of creativity in his designs. The Indian fashion markets are augmenting each day with a growing number of fashion weeks and budding designers who develop a bond with customers on the basis of their brand equity. But the infringement in this sector remains a burning issue and has been plaguing the markets fettering the growth of the fashion industry ever since.

The problem is harder to address when such an infringer is unknown. Thus, an alternative remedy to such an issue has been the introduction of the “John Doe” order, also known as the “Ashok Kumar” order in India that addresses the issue of unidentifiable defendants. But in India this concept has been applied only to the field of “Media” and “Software-ISPs domain”, and was first imported in the year 2002 in the case of “Taj Television Limited vs. Rajan Mandal” where an order was passed against the unknown cable operators to provide relief to a TV channel.

This paper addresses the need for application of “John Doe” order in the field of fashion to curb the infringement of such exclusive designs and covers the jurisdictional aspect of India, Japan and China for research and analysis.

Qi Jun KWONG, Graduate School of Law, Nagoya University, Japan

Title: *Territoriality and Comity in WesternGeco: Should Extraterritorial Damages be Granted?*

Abstract

Territoriality has long been a fundamental concept in the prosecution and enforcement of patent rights. The principle stems from a broader notion of state sovereignty, affirming that each state has absolute sovereignty over a particular territory. A corollary of this is the principle of comity in respecting the sovereignty of another state, which leads to states limiting its own power to within its territorial borders. It thus follows that patent law is restricted to acts occurring within the boundaries of the state. The extent to which the above principles are implemented however, differs across jurisdictions. The case of *WesternGeco LLC v. ION Geophysical Corp.* before the United States Supreme Court broaches two of such questions: (i) whether jurisdiction may be asserted over an infringing act occurring overseas; and (ii) whether subsequent downstream sales occurring overseas may be recovered as damages.

Under the aforementioned conception of territoriality, the answer to both questions would result in the negative. However, customary international law no longer emphasises absolute state sovereignty as strongly, and has developed several permissive rules that allows states to assert jurisdiction. One of such rules relevant to patents is objective territoriality, which provides that states may exercise authority where the effects of the act is felt. Nevertheless, most states have opted to limit the construction and operation of patent statutes by citing the principle of comity, and the resulting approaches differ greatly across different aspects of patent law such as the scope of infringement inquiries and in the calculation of damages. This contrast is most evident in the supplying of an essential means of an invention for assembly abroad. Countries such as Germany and the United States affirm such an infringement as long as the means originate from within its territorial boundaries, but Asian countries seem to demonstrate greater reluctance. Malaysia for instance stipulates that a granted patent only has effect within the boundaries of the state, and does not provide for indirect infringement. Even for Japan that has indirect infringement provisions in place, past rulings and scholarly opinions have demonstrated the unlikelihood of holding such acts as infringing, not to mention the calculation of damages from downstream sales occurring abroad.

The legal issues raised by WesternGeco is not just a matter of statutory interpretation, but involves questions of a universal nature relevant to all jurisdictions. With the rise in transnational patent dealings and ease in breaking down production processes, the value of obtaining a patent is diminished without some form of cross-border enforcement mechanism. To provide relief for patentees in such situations, states may opt to introduce laws that govern the exportation of components and provide for relevant damages. However, the extent to which comity should in turn be respected raises further practical questions, such as the double recovery of damages. Accordingly, this research first analyses the case of WesternGeco and explain the reasoning of the Supreme Court. It then seeks to ascertain the application of the territoriality principle in various aspects of patent law, and demarcate the different levels of territoriality across jurisdictions. With the current shift in customary international law from state sovereignty to a greater concern on “humanity,” this research argues that interpretations of jurisdiction in patent law should follow suit. Drafting laws that include foreign acts to accommodate the internationalisation of trade would actually enable sovereignty to be better understood as a “responsibility” rather than a “right” as provided under international law.

Next, this research proposes that countries should consider instituting indirect infringement provisions that allows cross-border infringing activities to be held accountable, and raises several alternatives for the calculation of damages that may be adopted. To do so, analyses is made to the prescriptive, adjudicative, and enforcement jurisdiction of select Asian jurisdictions in comparison with countries such as Germany and the United States.

In addressing the comity concerns, this research notes that patent regimes of other countries may embody separate policy judgments, such as the patentability of certain subject-matter, and that granting extraterritorial damages might result in inconsistencies with the place where the infringing act was conducted. While such considerations are important, the state rendering the judgment would have established sufficient jurisdiction prior to deciding on the merits. This means that a connection has been identified and the state has a legitimate interest in regulating the matter, and more so if enforcement of the decision does not involve other states. Thus, the already expanded notion of territoriality should not be held hostage in such cases. As for the double recovery of damages, the rendering state may take into consideration of any parallel or subsequent proceedings, and limit the damages as deemed appropriate. Any subsequent rulings in other states should also take into account of any foreign decisions rendered.

Ultimately, this research affirms that states are free to express its own notion of territoriality, but argues that the interpretation should evolve to accommodate cross-border concerns. Despite some arguments against the rulings of WesternGeco, the circumstances of the case and the questions posed should be evaluated in finding better solutions for cross-border patent infringement cases.

Sujin LEE, School of Law, Seoul National University, South Korea

Title: *Data Capitalism and 4th industry revolution: Focusing on the Studies of GDPR and Its Effect on Asian Countries*

Abstract

GDPR(General Data Protection Regulation) has come into effect on May 25, 2018 and applicable to 28 European countries. GDPR encompasses privacy protection guidelines and private information laws and regulations, and CJEU rulings.

The GDPR not only applies to organisations located within the EU but also applies to organisations located outside of the EU if they offer goods or services to, or monitor the behaviour of, EU data subjects. It applies to all companies processing and holding the personal data of data subjects residing in the European Union, regardless of the company's location. Companies subject to GDPR(regardless of its geographical location) should modify its private information policies and in consideration of 4th industry revolution which would come with Data Capitalism, a lot of companies especially in Asian countries are expecting to be experiencing difficulties in keeping the GDPR.

I would like to discuss what kind of difficulties are expected from Asian companies, focusing on the cases of Korea, covering all the changes made in GDPR - Increased Territorial Scope (extraterritorial applicability), Penalties, Consent, Data Subject Rights(Breach Notification, Right to Access, Right to be Forgotten, Data Portability, Privacy by Design, and Data Protection Officers).

I will briefly introduce Key topics as follows and will introduce some examples which could be found in Asian countries and companies;

Increased Territorial Scope (extraterritorial applicability): Arguably the biggest change to the regulatory landscape of data privacy comes with the extended jurisdiction of the GDPR, as it applies to all companies processing the personal data of data subjects residing in the Union, regardless of the company's location. Previously, territorial applicability of the directive was ambiguous and referred to data process 'in context of an establishment'. This topic has arisen in a number of high profile court cases. GDPR makes its applicability very clear – it applies to the processing of personal data by controllers and processors in the EU, regardless of whether the processing takes place in the EU or not. The GDPR also applies to the processing of personal data of data subjects in the EU by a controller or processor not established in the EU, where the activities relate to: offering goods or services to EU citizens (irrespective of whether payment is required) and the monitoring of behaviour that takes place within the EU. Non-EU businesses processing the data of EU citizens also have to appoint a representative in the EU.

Penalties: Organizations in breach of GDPR can be fined up to 4% of annual global turnover or €20 Million (whichever is greater). This is the maximum fine that can be imposed for the most

serious infringements e.g. not having sufficient customer consent to process data or violating the core of Privacy by Design concepts. There is a tiered approach to fines e.g. a company can be fined 2% for not having their records in order (article 28), not notifying the supervising authority and data subject about a breach or not conducting impact assessment. It is important to note that these rules apply to both controllers and processors – meaning ‘clouds’ are not exempt from GDPR enforcement.

Consent: The conditions for consent have been strengthened, and companies are no longer able to use long illegible terms and conditions full of legalese. The request for consent must be given in an intelligible and easily accessible form, with the purpose for data processing attached to that consent. Consent must be clear and distinguishable from other matters and provided in an intelligible and easily accessible form, using clear and plain language. It must be as easy to withdraw consent as it is to give it.

Data Subject Rights: Breach Notification Under the GDPR, breach notifications are now mandatory in all member states where a data breach is likely to “result in a risk for the rights and freedoms of individuals”. This must be done within 72 hours of first having become aware of the breach. Data processors are also required to notify their customers, the controllers, “without undue delay” after first becoming aware of a data breach.

Right to Access: Part of the expanded rights of data subjects outlined by the GDPR is the right for data subjects to obtain confirmation from the data controller as to whether or not personal data concerning them is being processed, where and for what purpose. Further, the controller shall provide a copy of the personal data, free of charge, in an electronic format. This change is a dramatic shift to data transparency and empowerment of data subjects.

Right to be Forgotten: Also known as Data Erasure, the right to be forgotten entitles the data subject to have the data controller erase his/her personal data, cease further dissemination of the data, and potentially have third parties halt processing of the data. The conditions for erasure, as outlined in article 17, include the data no longer being relevant to original purposes for processing, or a data subject withdrawing consent. It should also be noted that this right requires controllers to compare the subjects’ rights to “the public interest in the availability of the data” when considering such requests.

Data Portability: GDPR introduces data portability – the right for a data subject to receive the personal data concerning them – which they have previously provided in a ‘commonly use and machine readable format’ and have the right to transmit that data to another controller.

Privacy by Design: Privacy by design as a concept has existed for years, but it is only just becoming part of a legal requirement with the GDPR. At its core, privacy by design calls for the inclusion of data protection from the onset of the designing of systems, rather than an addition. More specifically, ‘The controller shall... implement appropriate technical and organisational measures... in an effective way... in order to meet the requirements of this Regulation and protect the rights of data subjects’. Article 23 calls for controllers to hold and process only the

data absolutely necessary for the completion of its duties (data minimisation), as well as limiting the access to personal data to those needing to act out the processing.

Data Protection Officers: Under GDPR it is not necessary to submit notifications / registrations to each local DPA of data processing activities, nor is it a requirement to notify / obtain approval for transfers based on the Model Contract Clauses (MCCs). Instead, there are internal record keeping requirements, as further explained below, and DPO appointment is mandatory only for those controllers and processors whose core activities consist of processing operations which require regular and systematic monitoring of data subjects on a large scale or of special categories of data or data relating to criminal convictions and offences.

I also would like to discuss with the fellow scholars how these changes are in keeping in the line with 4th industry revolution and what kind of changes in laws and regulations should be made in Asian countries, especially in Korea, where a lot of technology companies are present.

Jingze LI, School of Law, Tilburg University/SMU, China

Title: *Legal Constraints on Standardization Activities in The EU and The US: A Study on IPRs Licensing Rules in Utilizing Open Source by ETSI, OASIS and IETF*

Abstract

The value of Intellectual Property Rights (IPRs) does not only appear in the existence of IPRs, but also in exercising the rights. In the real world, private ordering agreements concerning IPRs are common. Standard Setting Organizations (SSOs) rules governing IPRs are a sort of private ordering that bridge IPR owners and IPR users to facilitate the transformation of the existence of IPRs to the exercising of IPRs. It is revealed through some well-known patent cases concerning Standard Essential Patents in the smartphone industry, that IPRs rules in SSOs can influence how some key IPRs in the industry will be exercised. However, unlike other private ordering mechanisms such as patent pools, standardization activities are in first place to develop technical standards other than purely for IPRs licensing. Therefore, IPRs rules can not often be studied separately from technical activities.

This paper looks at IPRs license rules in a specific standardization activity, utilising open source software into standardization process in SSOs. We study three organizations, including the European Telecommunication Standards Institute (ETSI) from the EU, the Organization for the Advancement of Structured Information Standards (OASIS), which is accredited by the American National Standards Institute (ANSI) and the Internet Engineering Task Force (IETF) from the US.

Although SSOs are industry-based organizations, the operation of their activities is subject to several legal constraints, including international trade laws and competition/antitrust laws. These laws may directly address IPRs license issues or influence indirectly by constraining the standardization work. To what extent these laws influence standardization activities depends on

several factors, including the relationship between the organization with the EU/US public authority and the difference in specific rules between the EU and the US. We compare the approaches in the three organizations, in order to see how these legal constraints from the two territories have been reflected on the IPRs license scheme in SSO's approach towards open source software. We try to find out what are the IPRs license scheme in their approach of utilizing open source software in standardization work and to understand the legal, cultural and business considerations that shaped the approach.

The following sections are arranged as follows: in Part I, legal constraints from the EU, the US and international law regime will be introduced. The Regulation 1025/2012 depicted the framework for EU standardization work and authorized three SSOs to be European Standardization Organization (ESOs). In the US, SSOs are under accreditation by a private organization called ANSI. Internationally, the Agreement on technical Barriers to Trade (TBT), as part of the larger WTO agreement, requires standardization activities to follow principles such as transparency, openness, impartiality and consensus, etc. These principles are adopted (adjusted or partially adopted) in the EU and the US. In addition, standardization activities are largely shaped by competition and antitrust rules. The Horizontal guidelines sets principles for standardization activities which resemble WTO principles. In the US, through case laws, standardization activities are justified by the "rule of reason" for being activities among competitors. We summarize that, the US provides a more industry-steered environment for standardization activities, which offers competitors more room to design around license schemes on IPRs.

In Part II, we will introduce the standardization activity, utilizing open source software in standardization process by the three SSOs. It starts with a focus on a recent move from the ETSI to launch an open source project called the Open Source MANO (OSM) under the open source license Apache v.2. we observe that it will likely to bring changes to ETSI standardization work and particularly affect its IPR policies and cause less participation from IPRs owners. Secondly, the OASIS has in 2019 launched its first two similar "Open Projects" initiated by members of OASIS that provide a multiple choice license scheme. The IETF had a longer history of dealing with open source, its BSD license scheme allows incorporation of source code into standard specifications. We went through 4000 specifications from IETF and find empirical evidence on how the license scheme is used among members.

Part III compares our findings and reflects on legal constraints of EU and US. The approaches reflect the difference in the tradition of standardization work between the EU and the US. The legal constraints that apply to the ETSI have limited its ability to utilize open source software with a more liberal IPRs license scheme and may not be effective for IPRs licensing through standardization work. Nevertheless, the conclusion is not decisive. We also find that other reasons may be accountable for the disparity between approaches by the three SSOs, such as the culture of the industry and the business model of the SSO. Therefore, the suggestion comes in Part IV for IPRs owners/users are more than one conclusion, a more reasonable way is to compare the license scheme provided by the organization with their own interests in a specific technical fields with regard to IPRs before they join the open source project in a SSO.

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Title: *Copyright Limitations and Exceptions Policy towards Text and Data Mining*

Abstract

Text and data mining (TDM) is generally defined as an automatic process of accessing, extracting certain text or data for analyzing in order to discover the potential patterns or knowledge for improving the operation of certain systems. TDM has become an essential process for the implementation of artificial intelligence (AI), big data, and other automation technologies. The use of TDM has brought about important copyright issues because such process inevitably involves access and extraction of copyrighted works. Academic and policy discussions have shed light on whether the traditional copyright law is an inducement or barrier for the evolution of TDM and relevant technologies.

TDM activities are exempted from infringement liability by the fair use doctrine in the United States, and the European Commission has proposed several exceptions for TDM in recent years as well. Additionally, Japan is the first and the only Asian country introducing explicit TDM exceptions in its Copyright Act. However, it remains unclear what is the optimal copyright limitation and exception policy toward TDM. This paper first introduces the technologies of TDM, followed by its relationship with copyright limitations and exceptions. We also conduct a comparative study of the US, EU and Japan copyright laws toward TDM. The paper aims to provide law and policy implications of the TDM, which is valuable for both copyright scholarship and copyright reform.

Jianchen LIU, ARCIALA, School of Law, Singapore Management University, Singapore

Title: *Rethinking the Applicability of Compulsory License in the Data-driven Economy*

Abstract

Compulsory license, as provided by international treaties and most countries' patent and copyright law, has been widely used as an instrument, probably the last resort, to strike a balance between right holders and the general public. As a restraint to intellectual property right ("IPR"), it provides potential users with the freedom to use IPR without obtaining prior consent from right holders, even though they still need to pay royalties. We are so familiar with such instrument that it is quite natural for us to advocate its applicability, especially when we have reason to believe that general public may benefit more therefrom, without contemplating whether it will work in practice. A case in point is that for the legal protection of big data, some scholars argue compulsory license, such as FRAND terms, shall be exploited by legislators to

restrict data controllers, because if competitors in the industry have access to big data, consumers will benefit more as more products and services at reasonable price will be provided to them. Appealing as it may seem, compulsory license may not function as expected.

This paper, however, holds a negative attitude towards applying compulsory license to big data because of both theoretical and practical concerns. Theoretically, compulsory license, as law and economics scholars believe, falls into the scope of liability rules which, according to an established model, are more efficient than property rules based on average expected harm. Right due to this reason, it can hardly achieve as much efficiency as property rules do in the context of big data, since the license fee will vary as the volume and nature of big data differ. Another concern is that empirical study reveals that compulsory license has limited efficiency in practice. Not only are potential users reluctant to pay royalties, there also exists a gap between right holders and those intermediaries barring the former from collecting royalties efficiently. In this sense, property rules, such as granting data controllers an IPR-like right, will allow data controllers to contract into liability rules and thus are more efficient than applying compulsory license.

Jesse Chien-Chih LU, College of Communication, National Chengchi University, Taiwan

Title: *The Economics of Digital Creativity: Copyright, SVOD and New Technologies*

Abstract

This research believes that economic incentives are fundamental stimulations for musical artists' creations. Typically, sufficient financial support makes creators focus on their working process and attempt to complete masterpieces. The arguments above reveal the music intermediaries in the Mandarin music market may be focusing on something other than on strengthening music licenses and facilitating financial transactions. Because the different proportionality of licensing types exists in the Mandarin music market, the inefficiency results in distribution issues in several jurisdictions. Especially, to reconstruct proportionality in the Mandarin music business will be helpful in defending the creator's profit. Many scholars believe current music scene might need a new licensing infrastructure such as compulsory licensing to handle the music revenue on streaming services.

The establishment of a compulsory licensing system can be traced back to the 1900s, as the pianola (also called player piano, a self-playing piano) was starting to thrive. Before, the market of handwritten or printed form of music notation (Sheet music) had served as the main income for the copyright holders of musical composition and lyrics. At the beginning, the manufacture of pianola music sheet rolls and phonorecords did not pay any licensing fee when incorporating the musical creation in the sheet reels and copies. After a failed suit in the U.S. Supreme Court dealing with this unreasonable custom in the music industry, the U.S. Congress passed an amendment to approve the reproduction rights of the mechanical use to the copyright holder of musical works. Nevertheless, because the Congress was distrusting of the only Aeolian player

piano company's dominant market power, and initially applied the involuntary licensing system to the music industry. This action actually initially brought compulsory licensing mechanism into the Copyright Act.

In the present day, the compulsory license keeps approving the authorization of mechanical reproduction from recording artists to produce "cover songs", in other words, musical creations composed by other creators and already published through other labels. Systematized by the Section 115 of the US Copyright Act, not just the music sheet rolls of the player piano can be reproduced through the compulsory licensing model, but also the compact disc, cassette tape and other forms of "phonorecord" which mechanically duplicates voices and sounds containing in the musical creation.

Regarding the Section 115 of the US Copyright Act, "Anyone wishing to make and distribute phonorecords of a nondramatic musical work can negotiate directly with the copyright owner or his or her agent. But if the copyright owner is unwilling to negotiate, or if the copyright Compulsory License for Making and Distributing Phonorecords owner cannot be contacted, the person intending to record the work or make a DPD can use the compulsory licensing provisions of the copyright law".

Actually, §115 of the U.S. Copyright Act has been comprehended into the Chinese copyright law. However, the Chinese version allows the creators to opt out from the rigid compulsory license model. Owing to this exception, the Chinese edition's compulsory license system is actually similar to the Extended Collective Licensing (ECL) operation and has a substantial difference with the conventional compulsion and inflexibility of the U.S. practices. In reality, since, generally, Chinese musical creators choose to opt out from the compulsory license mechanical rights, the Chinese model has not brought essential influence and further discussions to the music market until the 2012 version proposal of Copyright Amendment emerged.

Therefore, the initial proposal of 2012 Chinese copyright amendment advocated getting rid of the existing opt-out exception regarding to the compulsory license of mechanical rights. Overwhelming and excessive criticism was triggered and supported by massive musical professionals and talents. In particular, crowds of musical artists spoke out about their anxiety and worries that compulsory licensing could become an approval of unlawful uses and stimulate more music adaptations with a low price.

The fundamental issue of music composers, lyricists and publishers is that the compulsory license does not empower them to overmaster the use of their copyrightable works, or look for an unreasonable price in the negotiation. On the other hand, rights holders also grumble about the shortage of an audit power and pragmatic inability to enforce reporting or payment obligations under section 115, resulting in inefficiency and vagueness in the licensing process.

One critical issue thus revealed is should section 115's compulsory licensing be carried out on a musical work's license? Can the compulsory license rate only be executed on sound recording licensing, when the current blank in section 115 is just left to the musical work's licensing? Music

publishers and writers keep arguing for the lower price on the regulated sound recording market and urge they should benefit more from a free market system. That is why most musical work owners hope to avoid the regulations of section 115 designed by recording labels. From the US Copyright Office's perspective, the compulsory licensing should be merely applied to tackle "market failure". Therefore, U.S. Copyright Office's research report actually disagrees to apply the section 115 regulation to musical works. For the Chinese music market, whether the U.S.'s section 115 can be applied to musical works remains a critical and questionable issue.

Specifically, like the U.S., China is one of the biggest countries in the world. China's huge territory brings the inefficiency and impossibility of collecting vast revenues from each division. The same problem happens to China's music industry- "Could the compulsory license be a useful and pragmatic measure for this disparity?"

Tran Van NAM, Faculty of Law, National Economics University, Vietnam

Title: *Situation and Challenges on Valuation of Intellectual Property Assets for Start-Up: A Comparative Study from Vietnam and India*

Abstract

Nowadays, innovation is the key growth factor for any developing country. Based on the 2018 Amway Global Entrepreneurship Report, dated on March 14, 2018, conducted by Amway Group through interviews with 48,998 people in 44 countries worldwide, Vietnam is the leader in entrepreneurship, with a high Entrepreneurship Index, and the next two positions are India and China respectively.

However, according to Bloomberg, the majority of start-up entrepreneurs often fail in the early stages, with 8 out of 10 business projects failing in the first 18 months. A recent research shows that only half of businesses survive in the first 5 years and only one-third of these businesses survive in 10 years. On average, over 90% of startups fail (Marmer, Hermann & Berman, 2011) and most are due to businesses spending too much time and money on products and services that are not as expected (Nobel, 2011).

In Vietnam, the start-up of innovation has recently become an important content in the nation economic development strategy, is concerned and developed by the government, with the aim of creating a favorable environment for promoting and supporting the process of formation and development of startups. The Ministry of Science and Technology of Vietnam recently issued a guide for elaboration of the Plan for implementation of the scheme to support the national ecosystem of innovation, attached to Official Dispatch No. 1919/BKHCN-PTTTDN on June 13, Hanoi 2017. Statistics of Topica Founder Institute (2016) on successful start-up models in Vietnam show that only about 28 startups are considered successful.

To connect startups and potential investors, valuation of intellectual property from a third party would be a fundamental factor. It is not extravagant to say that, intellectual property valuation service for start-ups is a driving force for the development of science and technology market. However, it is a real challenge for Vietnamese startups to approach IP valuation service providers, due to several critical reasons.

Looking at another developing country- India, the Government recognized the same and issued National IP Policy in 2016 with core 6 objectives covering (i) IP awareness, (ii) generation of IPS, (iii) legal framework for IP, (iv) management and commercialization of IPRs, (v) enforcement and adjudication and (vi) human capital development. The Department for Promotion of Industry and Internal Trade (DPIIT) under Ministry of Commerce and Industry had initiated startup India campaign and working aggressively in this direction to build up a healthy eco system for startups. The Government as well as private agencies are working towards identifying and encouraging the innovations and ideas for betterment of society through many campaigns.

On the other hand, like in Vietnam, IP assets valuation and IP commercialization is still a challenge in India as there is lack of authentic and synchronized IP valuation system or agency. IP assets valuation methodology used for an established business can not be suitable for IP assets valuation of a startup, as there are many factors including market penetration, market reputation and goodwill which may not fall in favor of startup. Indian startups are also facing the same challenges and it can be a one of the several reasons for failure of few startups.

This paper recognizes the legal problems in valuation of intellectual property rights for start-up in Vietnam and in India. Major findings from this comparative study are:

- (1). Valuation of IP assets is always debatable subject both in India and in Vietnam.
- (2). Valuation of IP assets is normally based upon sales turnover and profit ratio.
- (3). The calculation of reputation and goodwill or brand value is challenging issue where different opinions presented.

Regarding valuation of IP assets for startup; there are common challenges for both Vietnam and India, such as:

- (1). Being a start-up enterprise, it is admitted that its IP assets are yet not much known in public.
- (2). Start-up companies have not established an image and trust of their IP assets in minds of people so future growth is unpredictable. By this reason, valuation of IP assets is becoming unrealistic.
- (3). Valuation of IP assets mainly based upon profit or sales turnover and for start-up, that is still in progress stage.
- (4). The brand image is not created and therefore, questions of reputation or goodwill of IP assets in the market or public is also uncertain to evaluate.

This study also proposes the solutions for supporting and promoting innovative start-up enterprises in accordance with the conditions and circumstances of Vietnam and India.

Keywords: Startup(s); Intellectual Property Rights; Commercialization; Valuation of Intellectual Property Assets

Stefan PAPASTEFANOU, Bucerius Law School/SMU, Singapore

Title: *“Machine Learning” in Patent Law – Legal Challenges regarding The Term “Invention” and “Inventor” in The Context Of Genetic Breeding Algorithms*

Abstract

Artificial Intelligence (AI) is an interdisciplinary field of computer science with the aim of creating intelligent machine behavior. Early approaches to AI focused on rule-based systems. Such systems have been configured to operate in very constrained environments where the behavior of the AI system was previously determined by formal rules. Knowledge was presented as a set of rules that allowed the AI system to determine the results for specific problems; as a structure of if-else rules that could be traversed to find a solution to a particular problem or question. However, such rule-based systems typically have not been able to generalize beyond the knowledge provided. All over the world and especially in IT-heavy industries such as the United States, the European Union, Singapore and China, machine learning has developed to be an immense assets and its applications are becoming more and more significant and relevant from everyday life to high-profile economic and even military interests. By realizing the significance of machine learning, it has to be examined how such products of machine learning models can and should be protected by IP law and for the purpose of this paper patent law specifically, since it is the closest IP law regime with regard to technical inventions and computing methods in technical applications. The significant resources and investments necessary to execute efficient machine learning mechanisms raise claims for legal protection of such investments.

Genetic Breeding Models are currently less popular than Recursive Neural Network Method and Deep Learning, but this approach can be more easily described by referring to the evolution of natural organisms, and with increasing computational power, the Genetic Breeding method as a subset of the Evolutionary Algorithms Models is expected to be regaining popularity. In addition, it is one of the oldest approaches to machine learning. Therefore, this research will focus on the arising legal problems in the context of Genetic Breeding Algorithms.

The research method focuses on the patentability (according the world’s most significant patent law regimes such as China, Singapore, the European Union and the United States) of AI inventions and machine learning in the three common three categories of AI: basic algorithms, platforms, and applications.

Inventions within the category of basic algorithms relate to the AI and machine learning algorithms themselves, without considering the application to a particular problem. Machine learning algorithms are usually excluded from patentability. For example, in European patent law they are considered to be mathematical methods and mathematical methods as such are considered non-inventions according to Article 52 (2), 3 EPC.

Inventions considered to be within the platform category are those that go beyond the mere algorithms and seek to provide a platform from which to solve a problem without explicitly limiting the scope of the invention to a particular application. However, it is not disclosed that the invention relates to a particular application, such as retrieving and analyzing medical images. The technical nature of the disclosed invention results from the fact that the AI is trained over several distributed local platforms. Therefore, the application itself is not a basic algorithm. Inventions found in the Applications category are those that want to use machine learning or artificial intelligence to solve a particular problem, often without limiting the solution to a particular algorithm. Inventions within this category are typically characterized by the fact that they focus more on the application area than the machine learning or artificial intelligence algorithms.

Questions of the technical nature of the problem to be solved, the inventive step as such and the question of the state of the art and the associated obviousness of the solution arise in the current patenting processes.

Most importantly and key focus of this paper is the problem of patenting inventions which themselves are developed through machine learning. The inventor of a patent application must be a natural person or a group of persons according to the current legal situation in most patent law regimes. In order to be considered an "inventor", a person must actually have developed part of the inventive concept. The mere application of machine learning or an AI algorithm to a particular problem should not be construed as the algorithm that contributes to a part of the inventive concept. However, when machine learning or the AI algorithm has contributed to a part of the inventive concept, there is currently a lack of clarity regarding the ownership of artificially created inventions. Since not only all European patent law regimes but also the Chinese and Singaporean patent law approaches include identical terms, this paper ultimately offers a comparative analysis of the most relevant patent law regimes.

Keywords: patent law, machine learning, patentability, software, algorithms, inventor, genetic breeding algorithms

Meghana Tushar PARIKH, M/s Nanavati Associates, India

Title: *Bioprinting: Evaluating disruptive technology using open source patent database and decoding it into patent insight*

Abstract

Bioprinting is creative disruptive technology that is set to revolutionize the healthcare sector by providing customized solutions to medicine industry. It has been almost two decades since the term 'bioprinting' has been coined and regarded as promising extension of tissue engineering and regenerative medicine. This research aims to understand the path-breaking technology by

extracting patent data from open source databases viz. Lens.org, espacenet, patentscope and patents.google. It is attempted to convert patent data into meaningful insights useful in academics and industries. Patents are retrieved by searching in open source databases and the raw data is concentrated to a list by manually checking and eliminating irrelevant patents. The relevant patents are tagged using master keywords that reflect the concepts in the patent document in addition to type of applicant and status of patent. The claims of granted patents are analyzed to observe trend of various jurisdictions and grounds for objection of abandoned or withdrawn applications. Having this information on platter, the research delves into preparedness of patent offices of Asian countries like India, China, Japan and Singapore for catering the innovations in bioprinting patent, procedure for examining these patents under existing law and whether standing laws could be hindrance to bioprinting patents. Patent thicket and standard essential patents for sector of bioprinting are identified with help of assigned master keywords. Important factors to be addressed during valuation & licensing of bioprinting patents for commercial transactions are discussed. The research aims to validate that patents are an invaluable source of information on a subject-matter, in this case bioprinting, when the patent data is decoded to patent insight (PatIn) and open source databases can be a reliable source for searching relevant data.

The patent data was extracted from open source database using keywords. These keywords were identified from randomly picked published patent document on the subject matter 'bioprinting'. The search strategy was refined several times in order to retrieve patents most relevant to subject matter and restrict the number of patent hits for easy handling of dataset. The primary database used for patent search was lens.org and the dataset was cross-checked using other free databases viz. espacenet, patentscope and patents.google to obtain a comprehensive list of patents. The search was limited to patent published on and before August, 2019 and patent list was refined by one patent per patent family to concise dataset and remove duplicate records. Dataset was further filtered manually by eliminating patents not relevant to topic, bioprinting, by inspecting title, abstract and if necessary, claim of the listed patent. The consolidated patents were tagged with master keywords that would summarize the information in the document including status of the patent i.e. granted (in force), granted (abandoned), withdrawn/rejected, under prosecution or design; type of applicant i.e. university or corporate; type of invention i.e. bioprinter, bio-ink, process, etc.; application of bioprinting i.e. scaffold printing, organ printing, diagnostic, implant, prosthetics, cosmetics, wound dressing, food production etc. Various trend study is done based on master keyword tagging, IPCR codes, patent assignees, priority countries, patent family number and forward citations.

The claims granted in the major jurisdiction like US and EP were analyzed to understand the examination methodology and standards adopted by patent offices of these countries and what are the typical objections or reason for rejection stated by the examiner of patent applications in domain of bioprinting. Since, bioprinting is amalgamation of inter-disciplinary fields of technology it becomes necessary to understand whether current patent laws implemented in Asian countries like India, China, Japan and Singapore would facilitate or hinder innovations in bioprinting identified from the patent data. The patent dataset is further scrutinized to identify the areas wherein patent applications are crowded and the areas that are orphan and may have

future potential in research. The patent crowding would help in identification of patent thicket in bioprinting and technology that would not be freely accessible for next few years. The patent data would further assist in highlighting standard essential patents for bioprinting that would be critical for commercial exploitation of the relevant technology.

Bioprinting technology is quickly commercializing due to its varied advanced application in tissue engineering and allied medical field and future will witness increase in commercial aspects such as licensing patent rights for monetization. Patents rights are valuable intangible asset for person or organization possessing it and subject to valuation for business strategies. The research further attempts to provide factors that are essential for drafting of agreements during technology transfer and valuation of a patent.

Thus, the research completes the cycle from gathering the information using open source databases to providing PatIn including trend study, identification of patented technologies and applications, summarizing patentable claims in bioprinting, finding areas of opportunity and barriers for commercial activity and aspects to be considered for technology transfer and monetization, thus providing basis for translating information in patents to competitive patent intelligence.

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Title: *Perceptions of and Attitudes towards Plagiarism among University Students in Asia-A Review of Literature*

Abstract

Plagiarism, a form of intellectual theft is defined as the appropriation of another person's ideas, processes, results or words without giving appropriate credit (Smith, 2006). It has become a growing issue in the academic world. Intellectual property rights serve protection for authors who have transformed their ideas into property from obtaining credits by imitating or plagiarizing the original creator's work (Intellectual Property Rights and Plagiarism, 2019). Significant attention should be given to study different aspects of plagiarism due to increased use of digital resources worldwide. Among the factors that affect plagiarism, perceptions, and attitudes toward plagiarism have received researchers' attention because those can be influenced by the conceptualization of plagiarism within students. (Husain, Al-Shaibani & Mahfoodh, 2017). Appreciation of student perceptions and attitudes is necessary for designing effective strategies.

This article presents a critical review of studies that have been conducted to examine students' perceptions of and attitudes toward plagiarism in the Asian context. To undertake this review, relevant literature was searched from 2009 to 2019 using a range of keyword combinations such

as plagiarism, students, perception, attitudes, intellectual property, academic dishonesty and scientific misconduct. Inclusion and exclusion criteria were implemented to choose abstracts and then full papers.

A study was conducted in Malaysia using postgraduate students to find out how university students in a non-native context perceive different aspects of plagiarism and what aspects seem to be more problematic for them. The Study has revealed that students possessed misconceptions regarding some aspects of plagiarisms such as borrowing ideas, understanding conclusions and citation rules as well as they had a wrong assumption that copying one or two sentences are not problematic (Ahmad, Mansourizadeh & Ai, 2012).

A qualitative study which was conducted in China has concluded that students perceived their poor language proficiency which will let them for borrowing others' ideas. The study further found that students believe borrowing others' ideas without respective referencing or acknowledgment acceptable for at their level (Mu, 2010). Lei and Hu have conducted a study among 270 Chinese university EFL students and 142 teachers in mainland China and found that the majority of participants did not regard unacknowledged copying as plagiarism as well as did not identify unattributed paraphrasing as misconduct (2014).

An exploratory comparative study was conducted in Indonesia and Sri Lanka to compare perspectives on plagiarism. Five university academics who were following their postgraduate studies have participated from each country for the study. All the participants believed that plagiarism has become a common and habitual practice among both undergraduates and postgraduate students and plagiarism as an offense to be addressed by relevant authorities. Indonesian participants have believed that linguistic difficulties affect the possibility of plagiarism. But Sri Lankan participants believed that plagiarism took place even in first language writing as well (Jansz and Sari, 2015). A cross-sectional survey figured out that there was an extensive lack in understanding towards plagiarism across all 6 academic disciplines in selected 35 universities in Pakistan. They have concluded that the students possessed misconceptions as plagiarism is not a serious issue to end up with academic penalties during student period (Murtaza, Zafar, Bashir & Hussain, 2013).

According to reviewed literature, it shows that Plagiarism has become widely spread and very easy task for the students as anyone can download the desired data and copy it through one click especially in contexts where non-native speakers of English are prominent such as Asia. Although perceptions and attitudes towards plagiarism similar across the Asian context, there can be some differences across the cultures. Students have confused about acceptable academic writing practices especially when sophisticated levels of writing are involved. Literature found that there is a perceived poor linguistic ability among students for language expressions where students are expected to learn in the second language (Mu, 2010). Attention should be paid to enhance their writing literacy in an academic setting as a contribution to raising the understanding level of plagiarism which leads to prepare them for their academic writing career (Ahmad, Mansourizadeh & Ai, 2012).

In this review, most of the studies highlighted that there are misconceptions among students that copying one or two sentences are not problematic and acceptable for at their level as they were just learning as well as forgivable without any academic penalty. Therefore, instructions should be provided to enhance the awareness regarding the Intellectual Property Rights related to plagiarism and academic penalties (Cheema, Mahmood, Mahmood & Shah, 2011). Moreover, specific training programs should be organized on how to follow accurate documentation and un-plagiarized paraphrases, and how to avoid plagiarism (Ahmad, Mansourizadeh & Ai, 2012). Students should be guided for techniques on time-saving and how to keep a research notebook, how to use referencing and citation software to store research notes and materials, especially how to use open-source anti-plagiarism software like turnitin, viper, ithenticate, plagiarism checker, and plagia (Partap, Kumar & Singh, 2019).

Finally, this review suggests to conduct more studies related to all aspects of plagiarism including knowledge, perception and attitudes on plagiarism, how much students turn in to plagiarism and whether the act of plagiarism is intentional or unintentional. These kinds of studies will help to figure out problematic issues in academic writing among university students. Development of effective educational programs is required to improve academic writing skills of students and those should be focused to enhance students' understandings of plagiarism as well as to teach appropriate and effective methods to write without plagiarising. Further, such studies may need to adopt mixed-method research designs in order to gain an in-depth understanding of how various groups of students and staff members view the discourse of plagiarism.

Brinda PAULRAJ, The Tamil Nadu Dr.Ambedkar Law University, India

Title: *Traditional Knowledge As Commercial Asset of the State: Issues relating to Trans-border Exploitation*

Abstract

Knowledge is recognized as property. 'Traditional knowledge' refers to the knowledge, innovations and practices of indigenous and local communities around the world. Traditional knowledge (TK) not only plays an important role in vital areas such as food security, the development of agriculture and medical treatment but also on cultural values. Biological resources and related traditional knowledge are often of great commercial value to business corporations in developing commercial products. Due to pressure for better protection for traditional knowledge, WIPO taken steps and created an Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore. The protection is also discussed by Convention on Biological Diversity (CBD), World Health Organization (WHO), Food and Agricultural Organization (FAO) and UNESCO. In Doha, the WHO Ministerial Declaration emphasized the need for further work in the TRIPS Council on protecting traditional knowledge. Further, Article 29 of The Declaration on the Rights of Indigenous Peoples addresses Cultural and Intellectual Property rights and provides that the Indigenous peoples have the right to own and control their cultural and intellectual property. They have the right to special

measures to control and develop their sciences, technologies, seeds, medicines, knowledge of flora and fauna, oral traditions, designs, art and performances.

IPRs are based on the protection of individual property rights and these are also exclusive rights of the owner in preventing others from using the right of the holder. But 'protection' of traditional knowledge is really meant to protect the knowledge generally held by tribes, nations and different independent communities. The use and the sharing of this knowledge is guided and regulated not by any individual but by complex collective systems and customary laws of traditional communities. Even if the knowledge is held by any individual, the right to use that knowledge vests collectively as per their customary law. The IPR system seeks to privatize ownership and is designed to be held by individuals or corporations. But the ownership upon traditional or indigenous knowledge is collective. CBD adopted Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising out of their Utilization (the Nagoya Protocol). Accordingly, there must be procedural requirement for access of genetic resources and it can be done only with the prior informed consent (PIC) and mutually agreed terms (MAT).

Though the people in Asian countries know the medicinal properties of neem as disinfectant and turmeric as antiseptic it is evident from the patent on neem, turmeric and Basmati rice that due to the lack of TK Documentation and the new market promotion in the name of globalization, the tribal community faces potential loss and misappropriation of Traditional knowledge. Another lacuna is the concept of "ownership of the land". Even though different legal and political instruments recognized that indigenous people have special relationship with the natural resources, ownership of land and access to resources itself is a complicated concept for indigenous people as most of them only have possessory right.

Nowadays, people are very much redirected towards the early man lifestyle and 'natural food', organic agricultural and body products which increased the research activities into traditional knowledge system. Although trade in medicinal plants from developing countries has increased in the past few decades with more drugs developed, few if any benefits accrue to the source countries and the traditional communities. Multi-national companies exploit indigenous knowledge and biodiversity and make huge profit out of it. Out of total trade in herbal and natural products, only less than 0.001% of profit is shared with the indigenous communities who provided technical leads for the research. Indigenous people have not been afforded with right to protect their land property as well as intellectual property. Only few countries recognizes the cultural knowledge of the indigenous and the rest of the nations are focusing only on promotion of trade and profit by leaving to recognize the valuable asset of the indigenous people.

Therefore it is evident that the fundamental defect is in the existing national and international IPRs regime as it has failed to acknowledge and recognize the customary laws and systems developed and used by traditional people to protect, safeguard and perpetuate their heritage and traditional knowledge. Developed countries used to extract knowledge from developing countries like India and converting same into a commodity with the help of their highly manipulated technology. As a result, industries belonged to developed countries are

commercially exploiting this kind of traditional knowledge without sharing benefits to the knowledge holders belongs to developing countries are unjustifiable in the context of TRIPs Agreement. This issue is yet to be settled. This issue is not at all effectively addressed in any international forum happened subsequent to TRIPs Agreement. Hence the researcher would like to deeply analyse this subject matter at issue with the help of both domestic as well as international legal frameworks.

Yayuan PENG, Fudan University Law School, China

Title: *Fill the regulatory gap: Rethinking the March-in Right in Chinese government funded projects*

Abstract

I. Introduction

Over the past decades, Chinese government had made great efforts in technology development. China wants to reduce its dependence on technologies from other countries and move up the value chain, advancing from low-cost manufacturing to become a “global innovation power in science and technology.” Made in China 2025 plan clearly shows that China would make a huge government investment in high-tech industry.

However, as most of public-funded inventions belongs to universities and other entities, how does Chinese government make sure such inventions use in right way? After China- United states technology transfer WTO dispute, Chinese government becomes very careful in technology policy to avoid “forcing technology transfer”. As for now, China is considering using March-in rights which empowers the government to grant a license to another manufacturer if the holder of public funded inventions has not made the invention available to the public on reasonable terms.

II. March-in rights in China

A. March-in rights under China’s Bayh Dole system

As the need to commercialize public-funded inventions increased, China issued Law of Scientific and Technological Progress (also called China’s Bayh-Dole Act) in 2007. Such law provides that the universities have the titles of public-funded inventions while the Chinese government enjoys royalty free license and march-in rights. Chinese government can use march-in rights under 4 circumstances, such as the right holders failing to implement intellectual property rights, for the purpose of national security, national interests or important public interests.

B. Differences of March-in rights between China and United states

As for the march-in rights, there are four difference between China and United States.

Frist are subject matters. United states march-in rights only applies to invention patent. However, Chinese march-in rights are much more broader which applies to invention patent, computer software copyright, exclusive right to layout-design of integrated circuits and new variety right of plant.

Second are preconditions. United states want to use march-in right only in the situation that university or small enterprise refused to grant license as federal agency's instruction. But such precondition does not exist in Chinese law.

Third are procedures. Bayh-Dole Federal Regulation stipulated the procedure of exercising march-in right in Art 401.6. According to such regulations, the federal agency has the obligation of notice and IP right holders , assignee and licensee have the right to appeal. Sadly, China does not provide any procedure related to march-in rights.

The fourth are substantive Rules. March-in Rights in Bayh-Dole Act can be triggered when public-funded inventions were used in a way violating "Preference for United States industry" policy. But China do not have such rule.

III. The challenges of March-in rights in China

A. The overlaps and conflicts between March-in Rights and Compulsory license

Due to the similarity of legal language, People always become confused about the march-in rights and compulsory license in Chinese law. They both relate to the IP license, need government intervention and IP right holders would be asked to make sacrifice.

Although such two legal mechanisms have close connections in china, but their objects are totally different. March-in rights come from fiduciary duty while compulsory licenses are used to balance public interests and private rights. Chinese government uses a large amount tax money to do R&D but the intellectual rights were owned by universities and other entities. In order to making best use of public fund paid by taxpayer, the the government should make sure public-funded inventions available to the public. Therefore, the government, on behalf of it's people, should have the right to supervise and see whether the IP rights were put into practical application or used in effective ways. According to America legal practice, the march-in rights are a kind of contractual obligation. However, compulsory licenses mean that the government is exercising its executive power if it is necessary to protect public interests.

Besides, the relationship between march-in rights and compulsory licenses is not very clear in China, sometimes may have conflicts. For example, march-in rights can be triggered if project undertaker fails to implement intellectual property rights within reasonable time. However, according to Patent Law, only 3 years after obtaining the IP rights or 4 years after patent application, could the government assign the IPRs to other people if the owner fails to implement.

B. Market failure in public-funded inventions commercialization

China has never used march-in rights because other factors hindered the public-funded inventions commercialization process. March-in rights would lose its value if technology transfer is very limited.

In terms of finance, state-owned assets restrict universities and R&D department selling or licensing public-funded inventions. Some people were put in prison because of violating criminal law (one of the accusations is distributing state-owned assets privately).

China also lacks a specialized agency to deal with march-in rights disputes. The substantive and procedure rules of such rights is very ambiguity. March-in rights is not a panacea. Its design needs to take into account fairness and procedural justice. Excessive use of "intervention rights"

will harm the interests of intellectual property rights holders, thereby affecting research investment and hindering innovation ability of china.

IV. Suggestions and conclusion

A. March-in rights legislation

China's march-in rights are very inadequate and immature. Lots of things can be done. China can issue "Technology transfer regulation on public-funded intellectual property " and incorporate "march-in rights " as an important component. The "Regulations" should clarify the competent authority for the march-in rights, refine the procedure rules, and improve the supporting mechanisms (such as, financing).

B. standard contract provisions related to March-in rights

Under the current legal system, the government may require universities or scientific research institution to add "march-in rights" in standard funding contract.

Ramesh Kumar R, The Tamilnadu Dr. Ambedkar Law University, India

Manicka Priya S, The Tamilnadu Dr. Ambedkar Law University, India

Title: *Study on Intellectual Property Rights in the Current Geopolitical Scenario*

Abstract

The Intellectual property which is the child of human brain, which constantly creates or searches for the new form of solutions for any problems or obstacles it faces in its journey of life. These intellectual property of the individual or the group need to be protected, for the well-being of the society as well as for encouraging the individuals to innovate or discover more for the betterment of life in this world. Protection of the innovation or discoveries etc., varies based on the geopolitical situation prevails around the world.

Innovations, discoveries etc., are not new to human, from the day human started to live in this world, they started to innovate or discover from the resources available around them. But the awareness to protect their innovations and discoveries came few centuries back, before that the exploitation of the inventors or punishing them for their innovations which changed the world were the scenarios prevailed. Current study will be dealing on the intellectual property rights in the current geopolitical conditions. Geopolitical situation is currently influenced by the globalization, economic crisis, unilateral actions, rising popularity of far-right, growing populism, protectionism, growth of asymmetrically powerful states, non-state actors etc., are adversely affecting the international order and global imbalance of power, its effect can also be seen in the protection of intellectual property rights.

Francis Gurry in his 'Re-thinking the Role of IP', stated the new wealth during the 18th and 19th century was being created through the process of industrialization, great ideologies like Capitalism, Marxism, Communism, Socialism etc., shaped the world during this period. Current

early 21st century ideologies like Neoliberalism, Protectionism etc., has created new wealth, in new ways like the intellectual capital and virtualization.

Geopolitical scenarios around the world, plays a very important role in the registration, acceptance, protection, renewal etc., of the intellectual properties. The International Property Rights Index through which it can be clearly traced the impact of the current political scenario in the countries, bilateral treaties, geopolitical situations and regional arrangements reflect in their index. In, Venezuela, the Venezuela Patent and trade mark office in the recent years has increased the renewal fees to a greater extent (US\$3000 fees, plus US\$3000 a year on top of it), this move of the Venezuelan Government make the patent system unappealing to the inventors, discoverers etc., the Government also allows the local companies to copy inventions without any risk of infringement.

US Chamber International IP Index in the annual edition highlighted that the protection of Intellectual Properties(IP) lies at the heart of current trade dispute between the US and China. Brexit impact was not much reflected immediately on IP but it will have some implications down the road. Even other regional and other trade groupings are playing an important role in the IP protection, ASEAN has created an encouraging environment of IP protection which can be traced in many areas. Countries like North Korea the protection of IP is not much know to the external world due to the closed trade policy which the government is following, this can be seen clearly in the statistics that is available in the WIPO which shows after 2012 the details of the IP protection were not disclosed much. Countries in the Middle East which are affected by various internal disturbances has very least rankings in the different indices, these are due to the poor environment for the innovation, no proper statutes for protection, instable government which makes the inventors vulnerable to anti-social elements. The non-state actors play a crucial role in these part of the world which directly impact the front end innovations and discoveries, due to involvement of non-state actress the infringement on the rights of IP are protected properly. Only when the country is in peace and have good trade relationship with the external world are abiding to the principles laid down by the international conventions. This can be noticed even in the part of Intellectual Property protection.

Current study will use the secondary data from various sources like various indices of WIPO, International Property Right Index, US Chamber International IP Index etc. Along with various current trade negotiations, treaties, agreements etc., around the World which changes the geopolitical situation which affects the protection of IP.

Key Words: Intellectual Property, Innovations, Discoveries, Geopolitical situations, globalization, populism, global imbalance, protectionism, non-state actors

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Title: *Does Celebrity Likeness Really Matter on The Internet? An Attempt to Decode Publicity Rights In The Context of Social Media In India & Singapore*

Abstract

In August this year, pop star Ariana Grande decided to sue the American fast fashion retailer Forever 21 for allegedly using a look-alike model to endorse the brand on social media, especially Instagram, right after reports of Ariana declining an endorsement deal with Forever 21 hit the newspapers. Did Ariana not have protection over her own image? But hasn't she been in the limelight and has consented to be photographed publicly?

The existence of the concept of publicity rights came into being when McCarthy in 1987 proposed that right of publicity needs to be chalked out from the broader umbrella of right of privacy. Accordingly, the celebrity needs to have commercial control over the use and reuse of any content which is related to the celebrity brand value and likeness which has been earned after years of being in the public eye. But understanding the conflicts between publicity rights and intellectual property protection becomes more important in today's age because according to a recent study, twenty-five percent of consumer purchase decisions involved brand cultural involvement, versus forty four percent on price and quality and thirty one percent on brand perceptions.

But most of these law suits are never able to reach arguments as they are settled outside Court, usually without spilling out the figures, which is just another example of how valuable public image can be for brands and parties are willing to go to greater extents to protect the same. While it may be beneficial to the parties, the Courts are stripped off of the opportunity to create binding precedents on such conflicting legal issues, leaving the floor open for interpretations. While a few scholars contend that the celebrity has ideally consented to his/her likeness being freely accessible by being in the public eye, others go the Lockean way of arguing that the acquired fame and brand value attached to a celebrity is primarily a result of years of labour and hard work due to which the celebrity rightly deserves a compensation for the same in addition to the right to control as to who else gets benefited off his/her likeness, either monetarily or popularity in the relevant market.

In India, the closest statute to protect personality rights is Article 21 of the Indian Constitution under right to privacy and right to publicity. Albeit the lack of dedicated legislation, Indian Courts are trying to venture out of their comfort zones in order to search for a solution. Famous Kollywood actor Rajnikant's legal action back in 2005 was the first public claim regarding the right of publicity in the Indian jurisdiction following which time and again Delhi High Court has appreciated the importance of publicity rights by increasing the grants of injunctions in the past few years but also not going in depth of the legislative intent and policy making.

On the contrary, Singapore constitution does not contain any explicit right to privacy or publicity. Interestingly, Singaporean law makers have chosen to appreciate the law of defamation

approach as Singaporean Courts have adjudicated on issues of privacy under the law of defamation. Additionally, the common law passing off action is the claim relied upon by celebrities in Singapore. Despite the similarities between right of publicity and passing off claims, given the due importance to protection of valuable commercial goodwill attached to a celebrity's brand value, the essential ingredients still have humongous differences. This is one of the major issues faced by Indian legislators as well.

The laws revolving around right of publicity is yet to find the perfect balance, even in the developed jurisdictions. In such a scenario, adding the unavoidable millennial element of social media in the already chaotic situation makes it an interesting as well as a challenging area of research for legal scholars. Cultural Studies scholar Professor Tan has pointed out that fame in the 21st century is very different from the traditional fame defined by one's distinguished achievements, which is why bringing legal actions in the ever changing world of technology is going to get even more difficult to untangle for Courts of Law. Unlike the United States or the European Union, South East Asian countries are only starting to appreciate the potential boisterous dilemma which can be a result of the lack of legislation and develop the same in harmony with the more mature laws around the globe, if not similar.

This paper shall attempt to understand the conflicting legal issues with commercial appropriation of fame in India and Singapore given the larger ambit of entertainment industry in the age of Facebook and Twitter and propose a fresher approach, taking inspiration from the more framed jurisdictions in this branch of law.

M. SAKTHIVEL, School of Law & Legal Studies, Guru Gobind Singh Indraprastha University, India

Title: *Withering away Broadcaster from Copyright Regime: Emerging technological paradigm strengthens Authors' Right*

Abstract

Copyright has always been accommodating technological advancements by express inclusion of the authors' right of dissemination of their works for the enjoyment of public over the new medium both at the international and national level. These technological advancements have led to the emergence of the concept of authors' right of Radio broadcasting, TV broadcasting, etc., which have been now compressed under the authors' right of 'communication to the public'. It was the broadcasting industry at first flourished and paved way for the expansion of authors' right of 'communication to the public'. The socio-economic analysis of the development of broadcasting industry clearly indicates that considerable investment is required for the dissemination of works through broadcasting. It is also evident in the past that unauthorized rebroadcasting of content carrying signal of the broadcasting organizations by their competitors created considerable revenue loss not only to broadcasting organizations but also to the authors of the copyright works. The major reason for the unauthorized rebroadcasting was the legal gap

that existed in the authors' right of broadcasting, as the same was restricted only to the expression of contents and not to the signals generated by the broadcasting organisations. This has led to the emergence of the concept of neighbouring rights protection including that of broadcasting organizations. In order to address the economic interest behind the broadcasters' role in generating the signal for disseminating the authors' works to the public, the concept of 'broadcast reproduction right' was conceived and accepted by the Rome Convention in 1961. The same has been recognized in a limited way in the TRIPS Agreement as well.

Even though the level of legal protection for the protection of broadcasters' signal has been remaining constant, the technical advancements in signal protection i.e., signal encryption techniques have been improved considerably in the recent years. As a result of the improved techniques in encryption for signal protection, there is a need to examine whether the program carrying signal in digital broadcasting still requires any additional legal protection? In the digital context, it is also inevitable to understand the scope and extent of authors' right in live streaming and to further examine whether there is any legal gap similar to that of unauthorised access of traditional broadcasters' signal while transmitting the work of authors through live streaming. This research work attempts to answer these questions.

Key Findings:

While tracing the evolution of the concept of the authors right of communication to the public internationally, it is evident that as and when a new technology is commercially exploited, the authors' right over the same has been extended. The language used in the Berne Convention even today stands as a techno-specific model which has the limitation of covering the newly emerging technologies. Even analysis of the scope of Article 8 of WCT (1996) dealing with the right of communication to public also reveals that it is technology specific like the Berne Convention. Article 8 of WCT does not expressly intend to accommodate live streaming transmission and thus the authors' position over live streaming needs to be read into this provision for countries to recognize it as and when needed.

While examining the recent practices followed in developed countries, especially in US and EU where live streaming technology has been a commercial success, it is noticed that the judiciary, by interpretation of the technology neutral language in the domestic legislation, has recognized live streaming as part of authors' right of communication to public. The courts have further emphasised that live streaming being a separate technology facilitating commercial exploitation of copyright works in a new market which is different from broadcasting, specific permission from the owner of copyright is required before enjoyment of the works over this medium.

Many countries which are parties to Berne Convention are yet to become members of the WCT. Considering the fact that live streaming is a fast emerging medium of future communication industry of the globe, it is advisable to clarify that live streaming is covered under the existing international copyright regime by revisiting the Berne Convention.

By studying the technological nature and the scope of broadcasting and live streaming, the research work clearly demonstrates that there are substantial differences between the live

streaming and the broadcasting. As the differences are substantial, the live streaming cannot be considered as broadcasting since contents are delivered using the streams i.e., packets rather than signal. With these technological insights, when the socio-economic behaviour of the broadcasting as of today is examined, it is found that the broadcasting industry as such has not been subjected to signal piracy issue due to the technological advancements such as encryption of signal and digitalization of signal. As a result, the unauthorised use of signal (signal piracy) issue has been substantially addressed in the broadcasting industry which causes no economic loss neither to the broadcasters nor to the authors. Hence, there is no need for further expansion or extension of any rights to the broadcasters in the digital context. Even with respect to simultaneous transmission of content received from signals through live streaming, as the medium and the mode of communication differ from the broadcasting, the broadcasters' right should not be extended over the live streaming as the authors' right of live streaming would be sufficient to address the problem if any.

As the existing Rome Convention model along with TRIPS can address the unauthorized access of signal of the traditional analogue broadcasters, there is no need for having any new international legal instrument expanding the rights of broadcasting organizations. Hence, it is suggested to abandon the ongoing WIPO's discussion on the protection of broadcasters.

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Title: *The Electronic Personal Data Protection in The Intellectual Property (IP) Perspective: A Comparative Study on Asian Legal Policy*

Abstract

In the modern technology era, the electronic personal data become a valuable-commodity for some people or organization. This kind of data is an intangible object that contains private information. Thus, it is dangerous if people or organization use this data for their own advantages and it can disserve the owner. There are some cases about data protection where an information leak is being taken advantages by some people or organizations. Example in 2018, there is a case where around 87 million data from the most popular social media were leaked and being misused by a Politic Consultant for an election and a case of personal data from social media user's data can be accessed by third party freely for years without any prevention action taken by the social media provider. Regarding of how Asian countries are handling the data protection, it can be seen from the example from Singapore and Indonesia. Singapore government has stipulated the regulation regarding the personal data protection (PDPA) in 2012, while the act of protection personal data in Indonesia has been regulated in The Communication Ministry decree number 20 of 2016 regarding data protection in 2016. Although both countries enacted the regulation for personal data as a part of confidentiality of information, they still have difference in the law substance.

This research will propose an idea that the electronic personal data should be considered as an intangible object, so it should be protected within The Intellectual Property (IP) Right Laws. In addition, this research will elaborate about the scope of electronic data protection from IP laws perspective and also identify this issue within Information and Technology (IT) laws. To strengthen the proposed idea, this research will also identify the shortcoming of developing countries in terms of legal data protection to be specific in Intellectual property. In addition, this research will compare the existing legal policy considering the legal protection for electronic data from intellectual property perspective in Asian countries.

Keyword: Data Protection, Personal Data, Intangible object

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Title: *Impact of Discontinued Patents on Pharmaceutical Firms in India Post-TRIPS*

Abstract

Theoretical Background

Intangible assets, in the form of Intellectual Property (IP henceforth), are increasingly important in present knowledge-based economy as a valuable corporate asset and strategic business tool. Firms are thus emphasizing on strategic management of IP to build and protract competitive advantage accrued out of the exclusive rights that an IP ensures. To evaluate innovation which conversely affects firm performance, identification of innovation indicators is quintessential . A product innovation indicator, product concept is denoted by IP rights, in particular patents, citations, applications, licenses. Patent has been recognized as an indicator of:

- a) innovation and
- b) R&D output of firms

“Patenting is no longer an administrative burden or a peripheral concern but a vital source of competitive advantage in the knowledge economy where value is generated from protected ideas, knowledge, skills and methods” .A firm's strategic investments in knowledge-based assets through research and development (R&D) can generate economic rents for the firm, and thus are expected to affect positively a firm's financial performance .

However, firms do not exercise IP in exclusion of conditionality of the external environment; be it legal or others. India ratified Trade related Intellectual Property Rights (TRIPS) and consequently amended the Patent Act to morph from a process to a product patent regime. The ramifications can be arguably considered to be more pronounced in specific sectors like pharmaceuticals where India’s strategic shift from process to product brought a plethora of challenges and opportunities.

While prior literature has studied many different factors that can influence R&D outcomes few studies have investigated learning from examining failed innovation attempts as a determinant of a firm's subsequent R&D performance . Failed innovation attempts (at products), comprise prematurely discontinued patents i.e. patents which are not allowed to complete their standard twenty-year protection term.

Linking patents to firms' financial performance, mostly positive but in some cases negative, I argue that firms which have a greater number of failed innovations attempts as measured by discontinued patents will have weaker links between R&D output and financial performance.

Purpose of Study.

To find how patents are related to firm performance, measured by profitability. This study specifically aims to explore how, in a post-TRIPS era, patents, especially prematurely discontinued ones, impact profitability of listed Indian pharmaceutical firms that patent.

Sample, Variables, Method

This study analyses the impact of patents on firm performance in a post TRIPS world. The analysis focuses on the Indian Pharmaceutical sector and is based on all BSE500 listed pharmaceutical firms, i.e. 57 firms, 11912 patents and 26519 patent citation data. Since the legal mail box provision date cut-off for examining patents in India (post accession to TRIPS) is 2005, therefore sample was built for the years 2005-15 for patent data and 2005-18 for patent citation data. Constant citing periods of 3 years for each patent was ensured which guarantees that a patent from, for example, 2008 has the same probability of being cited as a patent from 2011 . All indicators have been taken from prior literature. The main variables of the hypotheses model are firm's R&D performance and profitability relationship, and moderator is quantity and relative importance of discontinued patents.

Theoretical Contribution

Prior literature links patents to profitability but prematurely discontinued patents comprise successful R&D accomplishments on the part of firms but with no considerable returns as a result. This study aims to delve into the gap of literature and seek implications.

Managerial Implication

By demonstrating how prematurely discontinued patents can affect the R&D performance and profitability relationship, managers can be encouraged to comprehend this aspect for strategic IP management.

Key-words: Patent, Pharmaceutical, Firm, India.

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Title: *Protecting Pharmaceutical Patent in Pakistan*

Abstract

Starting in 1989, the United States Trade Representative (USTR) issues its 301 Report every year. In this report, it presents the state of affairs with regard to intellectual property protection within the jurisdictions of its various trading partners. Since the inception, Pakistan has been on one of the two lists of the Report: 21 times on the Watch List and, since 2004, 10 times on the Priority Watch List. The USTR has consistently kept Pakistan on notice, by including it on these lists, with regard to the threat of suspension of the benefits under the Generalized System of Preferences on perceived lack of adequate protection of intellectual property rights. In many instances, lack of appropriate protection of pharmaceutical patents was cited as one of the key reasons for inclusion of Pakistan in the 301 Report. Accordingly, from 1994 to 2000, this was manifested by the lack of protection of product patents under the Patent Act, 1911. In the Report of the year 1997, it was claimed that the term of protection of patents is not consistent with the minimum term provided under the TRIPS Agreement. The report of the year 2000 claims widespread piracy 'affecting patented [...] products.' In the same year, Pakistan repealed the 1911 act and promulgated the new law, Patent Ordinance, 2000. The law purported to comply with the standards of the TRIPS Agreement. In 2002, the recently promulgated Ordinance, saw a major overhaul with 24 amendments. The 2003 Report considered these amendments to have undermined the improvements made through the new Patent law. These concerns were carried forward to the Special 301 Reports in the year 2004 and 2005 as well. As a result of this and the 'the overall [worsening] piracy and counterfeiting problems,' Pakistan, which up till 2003 always featured on the lower 'Watch List,' was elevated to the more serious 'Priority Watch List.'

This paper attempts to investigate this allegation through three modes. Firstly, it analyzes the jurisprudence developed by Pakistani superior judiciary starting from the late 1980s when the first pharmaceutical patent case was reported. It finds evidence that the Pakistani courts have been consistently supportive of patents rights from the very beginning. In many instances, the courts went at painful length to justify protection of pharmaceutical product patents even in the absence of the same in the 1911 law. In nearly all the infringement claims brought by multinational pharmaceutical companies, the courts favored the right holder and enjoined the violation of the patent rights. Similarly, under the Patent Ordinance, 2000, the court have also been supportive of the rights of the patent holders, albeit now the decisions are more in line with the statutory provisions in the patent laws of Pakistan.

Secondly, the paper challenges the USTR allegation by highlighting the US-Pakistan WTO dispute initiated in the year 1996 with regard to lack of protection of pharmaceutical product patents and the failure to provide a system for granting exclusive marketing rights in accordance with the TRIPS Agreement. The US government claimed 'absence in Pakistan of either patent protection for pharmaceutical and agricultural chemical products or a system to permit the filing of applications for pharmaceutical and agricultural chemical product patents and a system to

grant exclusive marketing rights in such products.’ Subsequently, the European Communities also joined the consultations claiming that it had ‘an important export interest in the Pakistani market.’ Pakistan’s pro-patent stance was evident as the dispute was settled by Pakistan when it agreed that it was obligated under the relevant provisions of the TRIPS Agreement to establish a system of filing pharmaceutical product patents by 1 January 1995. Similarly, it also agreed that it was further obligated under the TRIPS Agreement to establish a mechanism to grant exclusive marketing rights to applicants of pharmaceutical product patent applications. An amendment to the patent law was promptly introduced in the year 1997. Immediately after Pakistan’s willingness to legislate protection of pharmaceutical product patents, the European Communities requested India for consultations on essentially the same issues. In contrast to Pakistan, India moved forward to contest the case in the WTO, eventually losing the same and establishing mechanisms as requested by the European Communities under its patent laws.

Thirdly, the allegation of lack of protection of pharmaceutical patents will also be analyzed by looking at the Pakistani patent data. For this purpose, a dataset of all applications filed from the year 1999 to the year 2018 will be analyzed. Primarily, it will be assessed whether the pharmaceutical patent applications filed in Pakistan are unduly delayed in examination and in grant as compared to applications from other fields.

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Title: *Artificial Intelligence and Intellectual Property Rights: Issues and Road Ahead*

Abstract

In the present era of technology, the concept of artificial intelligence has got widespread recognition all around the world. From simple calculations to driver-less Cars, artificial intelligence is progressing rapidly. From google search algorithms to autonomous weapons, AI is encompassing everything around us. Robots like Sophia with human-like characteristics, is no more only limited to Hollywood sci-fi movies but are now a part of our day to day life.

Considering the rapidly growing technology, today we can easily foresee that the day is not far away when these artificial intelligence machines/programs will be making new innovative or creative works without any human intervention. Even in recent past, there are many such incidents where artificial intelligence programs have shown their creative/innovative strength by creating numerous such works including musical compositions, art, writings, and potential patentable inventions with least or no human interference e.g. a portrait named ‘The Next Rembrandt’ created by an AI program after analysing the work of a 17th century Dutch Artist Rembrandt got widespread recognition all around the world and a computer generated short Japanese Novel qualified up to the second round of Japanese National Literary Prize. Similarly, the music created by Google’s Deepmind Wavenet software is another such example of AI’s creative ability. The creations made by AI programs are almost indistinguishable from works made by ordinary human beings. To examine the creative ability of AI, Alan Turing conducted a

test called Turing test where a questionnaire was shared with a female and an AI program and shocking on the basis of answers submitted by both, it was indistinguishable to analyse that which questionnaire is filled by whom. This proves that an AI program can also be equally creative and intelligent as an ordinary human being. This raise the issue that whether intellectual property rights can be granted to AI generated creations/inventions.

In 2017, Saudi Arabia granted citizenship to an AI enabled humanoid robot 'Sophia' and recently European Union Parliamentary committee has also proposed the status of electronic person to AI enabled robots. But still the issue of non-human authorship and inventorship is a major obstacle in the path of grant of intellectual property rights to AI generated creation/inventions. Hence, it is now pertinent to relook into the existing IP laws to address the present issue of grant of intellectual property rights to artificial intelligence generated creations/inventions.

Looking at the judicial precedents, in United States, the Court in the case of Feist Publications v. Rural Telephone Service Company Inc. specifically ruled that copyright subsists only in an original work created by an author using his intellect hence; no copyright can subsist in a work generated by a machine. Similarly, in Australia in the case of Acohs Pty Ltd v. Ucorp Pty Ltd. , the court held that work generated by AI enabled computer cannot be protected under copyright as it was not created by human. European Union follows the same line of reasoning and in the case of Infopaq International A/S v. Danske Dagbaldes Forening held that originality must reflect out of author's own intellectual creation hence, making it mandatory to have work created by human being for protection.

Looking forward to this debate, in case of non-recognition of the work created by AI, this will make it subject to copying by other people. Further, under Section 9(3) of the UK Copyright, Designs and Patents Act (CDPA), it states that in case of computer-generated work, the programmer who makes the arrangement necessary for the creation of the copyrightable work shall be an author of the work. Here, the programmer ideally does not have any control over the creative process of the AI machines. Hence, it will not be fair to provide him the intellectual property rights over the work which he has neither created nor even thought about it.

To resolve this dichotomy there is a strong need to relook into the existing intellectual property laws. This research paper provides a detailed overview on the position of (non)grant of intellectual property rights to non-human authors in various jurisdictions around the world including India, UK, USA and Singapore. The research paper will also include a theoretical framework from the lenses of John Locke's labour theory, Kant's will theory and Hegel's personality theory. In this research paper, the researcher will also attempt to find a probable solution to the existing issue of grant of intellectual property rights to AI generated creations/inventions.

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Title: *Gene Patents – Is Change the only Constant? A comparative analysis on the patentability of human DNA in China and Malaysia after Myriad*

Abstract

For decades, the patenting of human genes has been the subject of debate. As technology relating to human genes advance at a very rapid speed, attitude and perception of the law makers towards this subject is seen to have changed. The Myriad decision in 2013 had a huge impact on the position of human DNA as to the scope and limitations to its patentability. The US Supreme court ruled that only ‘synthetic’ DNA can be patented; not isolated DNA in its natural environment. The Myriad case was also decided upon in Australia and the European Patent Office. In China, the 2000 Patent Law of the People’s Republic of China excludes a mere discovery of nature from being granted a patent right. In terms of genetic inventions, there is an additional regulation. The State Intellectual Property Office of the People’s Republic of China issued a Guidelines for Patent Examination in 2010 where in essence, isolated genes with an identified practical application are patentable under the existing Chinese patent regime. In Malaysia, The Patents Act 1983 provides that naturally occurring processes and products derived from these processes are not patentable. Hence, only processes which substantially involve human intervention may be patented. This is similar to the position in China and generally most jurisdictions in the world. However, unlike China, Malaysia does not have a specific guideline for patent examination when it comes to genes and gene related inventions. The parameters for gene patents in Malaysia revolve around section 13(1) (b) of the Patents Act 1983 which at first glance, is technically in line with the decision in Myriad.

There is a changing landscape in the patentability of genetic materials in the U.S. In June 2019, a bill was proposed in Congress which could result in the ban by the US Supreme Court on patenting human genes in Myriad be lifted. According to some experts in patent law, the draft bill “would result in a quagmire of patent claims and legal impediments to the normal scientific exchange” and there is concern that this new bill would threaten the main principle of patent law; which states that ideas and basic discoveries about the laws and products of nature must remain in the public domain. The senators who introduced this new bill deny that the new provisions will have these implications. Rather, they described it as a way to restore incentives for U.S. innovation by making the process for protecting new inventions more predictable. Some writers are of the opinion that this new bill could be prompted by the stiff competition between the US and China; as mentioned above, there is no comparable restrictions in China.

There were three hearings in Congress on this new bill and there were mixed receptions from various quarters. As expected, the opponents say the bill would enable monopolies on discoveries that should be widely available for research and medical use. In the first of three patent reform hearings, the senators proposing the bill stated that they did not intend to upend all restrictions on patenting human genes or other basic research discoveries. According to them, their proposal would not change the law to allow a company to patent a gene as it exists in the human body and they do not intend to overrule that holding of the 2013 Myriad decision.

However, witnesses at the hearing had different interpretations of the bill's text. Despite the intention to preserve Myriad, according to the witnesses, what was proposed was inconsistent with the legislative text.

There is also support of this new bill, some cancer survivors said that due to the position before Myriad (where isolated genes/materials from nature was patentable) it was possible to secure research and development on drugs which helped them. A drug called Adriamycin for breast cancer was from a compound isolated from microbes. This drug would never have been developed if isolation of substances from natural products are non-patentable. Since Myriad, biotechnology in general, and genetic technology in particular, have advanced tremendously. The Human Genome project in 1990, the mapping of the whole 3 billion or so human DNA took 13 years to complete. Now, it only takes a day and an insubstantial fraction of the cost. As such, the regulations or legal framework related to this area must keep up; and the outcome of this new bill in the US could be the game changer for the global scenario.

This paper will explore and compare the legal provisions in China and Malaysia on the extent of the patentability of gene patents and how, if any, the new US bill will impact these provisions.
Keywords: Myriad, Gene patents, Isolated human DNA.

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Title: *Compensation & Remuneration system in Copyright for AI*

Abstract

This paper will discuss Remuneration system in Copyright Act for Artificial Intelligence(AI).

Artificial Intelligence is also developed through big data and data mining. When AI do data mining on big data, a temporary reproduction occurs. When reusing copyright works, it arise infringement on the property right of the author rights holder, especially if data mining is on profit purpose. As a solution to protection of copyright as an economic rights, author rights holder should be protected by adopting of the remuneration system. If data mining is for non-profit purposes, it considers highly as applicable to fair use pursuant to article 35-3 of Korean copyright Act, but it is for profit-making purposes, then it considers highly as applicable to remuneration system.

We can borrowing the article from New EU Article 18(previously -14) which is about Fair remuneration in exploitation contracts of authors and performers Principle of appropriate and proportionate remuneration. Article 18 seeks to secure fair remuneration for performers when their recorded performances are streamed by digital service providers. Article 18(1) entitles authors and performers 'to receive appropriate and proportionate remuneration' where they have licensed or transferred their exclusive rights in contract. Here the keywords are

‘appropriate and proportionate’. Appropriate and proportionate to the actual or potential economic value of the licensed or transferred rights, taking into account the author’s or performer’s contribution to the overall work or other subject matter and all other circumstances of the case, such as market practices or the actual exploitation of the work.

Moreover, I would like to introduce an amendment for additional compensation for the copyrighted materials Robot created. This additional compensation system should be applicable when there is actual revenue generated from the robot-made copyrighted content but it should be limited to a certain percentage of such revenues. I suggest that introducing additional compensation system to the current copyright law enabling the original copyright owner to claim the rightful remuneration for its own works.

The suggestion is that creators are not necessarily entitled to the full value of their rights. Instead, under uncertain circumstances, they are entitled only to remuneration that is proportionate to the full value. So, if currently a creator receives a lump sum from a contractor for the full economic value of the rights at a point when these have not yet been exploited, contractors can now make a case to only pay them a proportion of that. This would leave creators in a worse position than current market practice. This is, unless ‘they take into account the actual exploitation of the work’, in which case creators could make a case for remuneration that is not fixed but increases over time in proportion with actual exploitation.

Here also have a good example in EU. By reference to Article 19(3) in which the term ‘disproportionate’ is used ‘in the light of the revenues generated by the exploitation of the work or performance’. This is the wording preferred by the coalition in its statement on the newly adopted Directive. Their convenient summary of article 18 is that ‘the remuneration of performers must be proportionate to the revenues generated by the exploitation of their work’. The words ‘appropriate and proportionate’ will have the power to force employers to the negotiating table.

Creators need to make sure that the royalties they are receiving as part of their deal or the payments regarding their statutory remuneration rights are a true reflection of the revenue generated from the exploitation of their works. In practice, it is difficult to keep track of the deals entered into by the contractual counterpart/s (most likely a publisher and/or record label) and likely amounts negotiated. Publishers and record labels are encouraged to act in a secretive way, as the more they can hide from their licensors, the more they can retain for themselves. Hence the need for article. I brought individual licensing models which compensate automatically when its contents used. Based on block chain and Smart Contracts(SC), automatic compensation process can be settled up.

The remuneration system should design to let others use the works firstly without any calculation by paying a certain amount, promoting the exploitation of works in a specific case. In a way, the remuneration system substantially limits exclusive rights, facilitating the use of works. The comprehensive use of works is required, and an alternative remuneration system needs also be discussed. The underlying assumption is that adequate rewards to creators and

subsequent right holders will continue to be a goal of copyright law particularly to incentivize further creation and investment. It also discusses the further development and broader application of new mechanisms that might be necessary to enhance the adequacy and efficiency of payment systems.

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Title: *Pharmaceutical Patenting in the [Bangladesh] Patents and Designs Act, 1911 and the WTO TRIPS Agreement, 1994: Options and Challenges for Public Health*

Abstract

Bangladesh, a least developed country (LDC) with per capita health expenditure \$32 requires to make its provisions for pharmaceutical patenting as laid down in the Patents and Designs Act, 1911 compatible with the WTO - Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). This obligation is due to be met by 2033 or when the Committee for Development Policy (CDP), a subsidiary advisory body of ECOSOC will recommend it to the UNGA for graduation from the LDC category in 2024 whichever date is earlier.

As part of its patent regime, the country provides patents for inventions. The term 'invention' has been defined as 'any manner of new manufacture and includes an improvement and an alleged invention'. Being obliged by this definition, the country offers product and process patents for inventions and improvements. However, the term 'improvement' has not yet been defined either by a legislation or precedent. As a result, an improvement of any product or process be it trivial or substantial qualifies for a patent. Pharmaceuticals either as products or products made of processes are taken by the Department of Patents, Designs and Trademarks to qualify for inventions and hence they are being patented in the country since the enactment of the Patents and Designs Act, 1911. In addition, a silly improvement of a medicine for which patent had already expired qualifies for a patent. As a result, medicines are evergreened with patents stopping production generics and making medicines inaccessible to the mass people usually having less affordability. However, India who inherited the same law from the British colonial ruler enacted new a law named the Patent Act, 1970 and stopped product patenting for pharmaceuticals since it claimed that product patenting for pharmaceuticals was not mandatory as per the Paris Convention for the Protection of Industrial Property, 1883 from which the patent provisions in the Patents and Designs Act, 1911 were adopted. This change of law stopping product patenting for pharmaceuticals brought India to the number one place in the world for producing cheaper generic medicines and enabled people accessing to medicines at an affordable price. In addition, the current Indian provision on inventions for which patent will not be given has stopped evergreening of patents paving the way for producing generics and protecting public health.

Further, in 1995 Bangladesh became a member of the TRIPS which globalized patenting of pharmaceuticals with product and process patents. The TRIPS sets minimum standards for

patents such as duration of patents for 20 years as minimum, rights given to patent holders, with exceptions to that right, when the right can be taken away and on what grounds etc. These are taken as flexibilities to enable countries to formulate their own IP regime to suit their development needs like public health. These flexibilities are reaffirmed in 2001 Doha Ministerial Declaration on TRIPS and Public Health.

Again, for an invention to be patented, the TRIPS requires the “invention” to have “new/novelty”, “inventive step/non-obvious”, and “industrial applicability”. This clause bears an ample flexibility for a country like Bangladesh to define patentable inventions. A rigorous use of patentability criteria ensures patents are only granted for truly new and innovative inventions and not to trivial inventions e.g. combinations of existing compounds. Further, the TRIPS has given an opportunity for excluding certain things from patenting like diagnostic, therapeutic and surgical methods etc.

In addition, transition period for compliance is given under Article 66 of TRIPS ‘in view of the special needs and requirements of LDCs... their economic, financial and administrative constraints and their need for flexibility to create a viable technological base... Members shall not be required to apply the provisions for a period of 10 years.’ However, for developing and least developing countries having no patent regime, mailbox for patents with exclusive marketing rights was made applicable with effect from 1 January 1995 and no roll back was made applicable for countries having an existing patent regime. For LDCs, TRIPS Agreement was to come into force in 2006. But recognizing the vulnerability of LDCs, the TRIPS Agreement built in a renewable transition period as Article 66.1 says: ‘The Council for TRIPS SHALL, upon duly motivated request by a least developed country Member, accord extensions of this period.’ In October 2005, LDC group requested an extension of transition period as per Article 66.1 of TRIPS. In November 2005, LDCs as a group were granted an extension of the transitional period for 7.5 years i.e. “until 1 July 2013 or until such a date on which they cease to be a least developed country Member whichever date is earlier” (WTO doc. IP/C/40). In addition, Paragraph 7 Doha Declaration says that LDCs do not have to implement patents and protection of undisclosed information until 1 January 2016 or until such a date on which they cease to be a least developed country Member whichever date is earlier. In 2008, Bangladesh issued an executive order stopping patent protection for pharmaceuticals and establishing a mailbox with exclusive marketing rights despite it did have an existing patent regime for pharmaceuticals.

In November 2012, LDC Group requested a further extension under Article 66.1 of TRIPS and on 11 June 2013, WTO TRIPS Council granted a further extension by saying that ‘Least developed country Members shall not be required to apply the provisions of the Agreement, other than Articles 3, 4 and 5, until 1 July 2021, or until such a date on which they cease to be a least developed country Member, whichever date is earlier.’ (WTO Doc. IP/C/64) It also says that LDCs may rollback their IP laws and it is without prejudice to further extension.

Further, TRIPS Council Decision 6 November 2015 (WTO Doc. IP/C/73) says that LDCs will not be obliged, with respect to pharmaceutical products, to implement patents] and protection of undisclosed information until 1 January 2033, or until such a date on which they cease to be a

least developed country Member, whichever date is earlier. This decision is made without prejudice to the right of LDCs to seek further extensions. In addition, General Council Decision 6 November 2015 (WTO Doc. WT/L/971) says that LDCs do not have to implement mailbox (mechanism for receiving patent applications and exclusive marketing right. As a result of the TRIPS Council decisions, the executive order issued by Bangladesh in 2008 stood void until 2013 but afterwards it becomes valid. However, the mailbox may appear harmful after 2033 or when Bangladesh will move to developing country status since Bangladesh can now copy medicines which are patentable and use it for protecting public health at home and abroad; but if a patent is issued after 2033 or when Bangladesh moves to developing country status, it will be given retrospective effect meaning copying of medicines for which patent application is now stored in mailbox, may amount to infringement of patents granted later with retrospective effect.

Having said the above, this paper intends to analyze the TRIPS patenting provisions on pharmaceuticals and find their suitability to protecting public health in an LDC like Bangladesh during the TRIPS transition period and after its compliance. This paper also likes to analyze some similar situations of countries like India who has already complied with the TRIPS and has become a leader in protecting public health. This paper also intends to suggest a policy regime for Bangladesh either to make amendments to the Patents and Designs Act, 1911 or to enact a new law keeping in mind that people in the country do not have much affordability for essential medicines.

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Title: *Challenges of Traditional Knowledge Preservation and Protection in Central Asia: Comparative Study of Kyrgyzstan, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan*

Abstract

Overview. Central Asia - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan - has a long cultural history, a rich heritage and many local communities are holders of ancient traditional knowledge. The nomadic way of life and agriculture in the dried-up territories had a strong influence on the development of the traditional way of life of the Central Asian peoples, as well as on the existing types of traditional knowledge, cultural expression and ways of using local genetic resources.

Today, the protection, conservation, and preservation of traditional knowledge, as well as the support of local communities for the commercialization of their products are one of the most important issues in the region. All five States are members of the United Nations, World Intellectual Property Organization (WIPO), and Commonwealth of Independent States (CIS). All States have ratified the Convention on Biological Diversity (CBD) and UNESCO Conventions; only some countries have ratified the Nagoya Protocol on Access to Genetic Resources and Benefit-sharing (Nagoya Protocol). Within the CIS, the Central Asian states (except Turkmenistan) have signed the Agreement on Cooperation in the Area of Legal Protection of Intellectual Property

and have established the Interstate Council on Legal Protection of Intellectual Property. However, up to now, there is no a joint plan on the maintaining traditional knowledge protection policies on the regional level. At the national level, the Central Asian countries, except the Kyrgyz Republic, do not have special traditional knowledge regulations.

International Regulations. According to the WIPO's views, traditional knowledge can be an important economic component of the market of Developing States. However, the Central Asian governments are very slow to raise issues of traditional knowledge protection in the framework of official discussions or regional cooperation. Unfortunately, delegations of the Central Asian countries are trying to follow a 'policy of silence' at sessions and meetings of the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.

All five countries of Central Asia ratified CBD and adopted national biodiversity strategy and action plans. However, traditional knowledge issue remains unresolved, despite the international obligations of the States under Article 8 (j) of the Convention, which requires from the Parties to respect, preserve and maintain traditional knowledge.

Despite the ratification of the Nagoya Protocol, the National Strategies and Action Plans for the conservation of biodiversity in Kazakhstan and Tajikistan contain only research measures on traditional knowledge and genetic resources. Therefore, the issues of benefits sharing, access to traditional knowledge and genetic resources remain open and unregulated. Tajikistan ratified the Nagoya Protocol in 2013, Kazakhstan and Kyrgyzstan - in 2015, Uzbekistan and Turkmenistan are not members of the Protocol.

All Central Asian States are members of the 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. The duties of traditional knowledge preservation and protection is indicated by the UNESCO Convention, but the countries, except the Kyrgyz Republic, have not developed domestic instruments on traditional knowledge safeguarding. All five states became members of the Commonwealth of Independent States (CIS) in 1991. Within the framework of the CIS, whose origins date back to the beginning of nineties, the States have implemented several agreements, strategies, and programs and have established an Interstate Council on Legal Protection of Intellectual Property (CIS IP Council) in order to cooperate for further Intellectual Property progress. The CIS IP Council adopted the Plan of measures against infringements of Intellectual Property, however, neither the decisions of the CIS IP Council nor the CIS Economic Development Strategy until 2020 provides measures on the prospects for traditional knowledge safeguarding in the light of the intellectual property system. Domestic Regulations. In Central Asia, legal and administrative framework of traditional knowledge preservation and safeguarding is still in a progress. Although there is a lack of special legislation in the States, there are some regulations addressing certain issues relating traditional knowledge and traditional knowledge expressions. Kyrgyzstan is only one country of the region accepted the sui generis mechanism into the national legislation: 2007 Law on the Protection of Traditional Knowledge.

The regulations of Tajikistan, Uzbekistan, and Turkmenistan do not reflect 'traditional knowledge', 'traditional cultural expressions' or other similar definitions. The national legislation of Kazakhstan does not clarify a definition of traditional knowledge, but there is a term of 'traditional cultural expressions' (Article 2 of the 1996 Law on Copyright and Related Rights of Kazakhstan). The Kyrgyzstani legislation provides definitions of 'traditional knowledge' and 'folklore' (Article 1 of the 2009 Law on Culture of Kyrgyzstan).

An analysis of the States' legal framework shows that the Central Asian domestic regulations do not consider traditional knowledge or traditional knowledge expressions as a subject matter protected by intellectual property rights system. For example, all five Central Asian countries unanimously state that 'works of folk art' are not subject matter protectable by the Copyrights law system (Article 8 of the 2006 Law on Copyright and Related Rights of Uzbekistan, Article 7 of the 2012 Law on Copyright and Related Rights Copyright of Turkmenistan, Article 7 of the 1998 Law on Copyright and Related Rights of Tajikistan, and Article 2 of the 1996 Law on Copyright and Related Rights of Kazakhstan).

Today the Central Asian States have not yet developed a regional common concept of the traditional knowledge preservation and safeguarding. However, there are certain possible mechanisms and frameworks for the regional legal protection of traditional knowledge in Central Asia like the regional treaty adoption, model law or regional program to support local community capacity building relating to traditional knowledge.

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Title: *Protection of Non-Conventional Pharmaceutical Trademarks: A Generic Hub's Perspective Through The Lens of Indian And Chinese Laws*

Abstract

Pharmaceutical branding is inevitable for the medicine market as it helps to assure the correct identification of the medicines. The pharmaceutical branding has reached the next level, where non-conventional trademarks such as color, shape, taste, sound and design of the medicines and its packaging forming the part of trade-dress play a critical role making it more appealing and recognizable. However, registration of such marks is not a common practice as satisfying the basic criteria of trademark is challenging by proving the non-functionality and simultaneously being distinct enough to identify the source. So, the non-conventional trademark forms a grey area in the trademark law where besides distinctiveness, the functionality of the mark becomes the basis for objections to the registration.

Different jurisdictions have different thresholds for assessing the registrability of the trademark. Presently, the United States (US) and the European Union (EU) permit registration for the non-conventional features of the medicines in from of shape and single color trademarks. For

example, Pfizer has registered the blue color and diamond shape of the Viagra tablet in the EU, and AstraZeneca owns the purple and gold color marks for Nexium (the purple pill) in the US. However, the trademark legislations of the global generic hubs like China and India do not expressly acknowledge the single color mark but approve the trademark registration for a combination of two or more colors used together, leaving the scope for interpretation open.

In China the non-conventional trademarks are gradually getting recognized. It recently added the sound mark to the definition of Trademark under Article 8 of the Trademark law through the Third Amendment on August 30, 2013. Besides this, in 2018, the High Court of Beijing upheld the single color mark of Christian Louboutin for its red-soled footwear. However, the Chinese Trade Mark manual on Examination and Review Standard, explicitly listed specific single colors as not registrable, because they are considered devoid of distinctive character, leaving the question of registrability for other colors ambiguous. In the case of Viagra, also known as 'the blue pill' launched by Pfizer Inc., the patent and shape mark of the pill was restored after eleven-years of legal battle. Yet, the color blue of 'the blue pill' while being protected in other jurisdictions remains unregistered in China. Conceding the impact of pharmaceuticals on public health, the regulations requires the manufacturers to register the trademark for their products before they enter the market. Article 12 of the Quality Standard for Pharmaceutical Commodities (Trial Implementation, 1984) mandates the registration of pharmaceutical trademarks and Article 27 of the Provisions of Pharmaceutical Direction and Labels (2006) that prohibits the use of unregistered trademark in directions or labels.

Conversely, the definition of 'trademark' in India under The Trade Marks Act,1999, does not expressly exclude any mark capable of distinguishing goods or services while used in the course of trade. Yet, the definition does not expressly mention a single color as marks. Whilst, the practice guideline drafted by the Trade Mark Office suggests that single colors can be protected on strict evidence of acquired distinctiveness, and its registration is allowed strictly to the extent of color shade. Recently, the High Court of Delhi in the case of Christian Louboutin Sas v. Mr. Pawan Kumar (2017) admitted the Lubotin's red-colored sole as a trademark, on the ground of acquired distinctiveness through its extensive and continuous use. Nevertheless, while examining additional features of pharmaceutical trademarks, the judiciary primarily looks at the impact of such marks on public health. In the case of Cipla Ltd v. MK Pharmaceuticals (2007) the High court of Delhi restrained Cipla from claiming exclusive right on the oval shape, orange-colored 'Norfloxacin' tablets reasoned that the medicines are not bought by colors, and no one goes to a chemist and asks for red, blue, orange, peach, or white color of tablets. Here, it is evident that the Indian judiciary is expanding the scope of color marks in the fashion industry while discouraging such protection for pharmaceutical products.

Hence, there seems to be a dichotomy between statutory and judicial interpretation in both the jurisdictions for non-conventional marks in the pharmaceutical sector. It can also be observed that the policies and judicial decisions of both the jurisdictions, on extending protection to non-conventional mark are not merely limited to the contours of trademark law, but also acknowledge the public health concerns. Also, the trademark protection of non-conventional marks like color and shape in the pharmaceutical sector may lead to increased transaction costs,

creating barriers for the entry of generic pharmaceuticals. In this context, the paper aims to provide a comparative picture of the legal standards followed for the protection of non-conventional trademarks, emphasizing color marks for pharmaceuticals in India, China and US. It further aims to explore if there is any influence of non-conventional trademark protection on generic-medicine market and public health.

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Title: *Anti-competitive Practices in Pharma Industry: Lessons to be Learned*

Abstract

The global trends in pharmaceutical industry of adoption of strategies like in bound and out bound merger and acquisition is gaining momentum. This gives the companies to gain control of their patent rights, technologies, products, R&D (research & development) facilities, manufacturing facilities, and, at times, their marketing/distribution channels. The pertinent issue still remains whether access to medicine in the context of availability of quality and affordable existing and new essential medicines is attained or not. Many of the activities of the Pharma industry is under the scrutiny of competition commission, to examine whether these practises are anticompetitive or not. This paper examines various activities of pharma companies resulting in to anti competitive practises and policy measures to be adopted to overcome these anti competitive practises. is reverse payment settle

The patents granted to pharmaceutical products are crucial as it benefits society and protects the innovator. Patent office of different countries follow different patentability standards for granting patents. The lower patentability standards and granting patents for mere alterations called patent hopping becomes critical for the pharmaceutical industries. It will block entry of cheaper drugs in the market, as the generic firm's benefits is closely linked to those of consumers who will gain from an earlier launch of the generic version of the patented drug. The only way left out is infringement of patents.

But the settlement of patent infringement suits between the parties calls for doubts on them as anticompetitive practise ie., reverse payment settlement. ie., mode of payment which is in reverse order as the patent holder makes payment to the alleged infringer, instead of the usual practice of the infringer paying to patent holder.

Another way is by means of product hopping or product switching where effective patent life can be extended through the development of new formulations or products that offer negligible therapeutic benefit. This will simply block generic entry for the earlier formulation. The practice of "product switching" or "product hopping is an anticompetitive practice or not has to be decided based on the patent policy followed in different countries, the practice by an originator firm of making minor product reformulations that offer patients little or no therapeutic advantage, but effectively block generic competition simply because they are different.

Another practise among the pharma companies are to enter in to agreements among competitors not to compete may take many different forms like reverse payment settlements and as well as illegal tying, where a monopolist uses forced buying through its market power to gain sales in markets where it is not dominant or make it more difficult for competitors to gain sales. Filing multiple patents “patent clusters or thickets” on individual medicines, including many that are filed late in the product’s life cycle is another practise to block generics. This type of strategic patenting hinders generic entry by adding costs, uncertainty and delay related to patent challenges or waiting for patent expiry on all the patents.

In India, It has been realized globally Mergers and acquisitions is the only way for gaining competitive advantage domestically and internationally and as such the whole range of industries are looking for strategic acquisitions within India and abroad. Indian firms, including Sun Pharma, cipla etc. are entering in to Merger and acquisition deals. The pharmaceuticals sector in India is currently open for 100% Foreign Direct Investment (FDI). Mergers and Acquisitions (M&A) can act as a source of capital, productivity and innovation but can potentially jeopardize the capability of Indian pharmaceutical industry in relation to ‘Access to Medicines’, which is one of the major goals of the health system.

The major concerns are Indian pharma company being acquired by the foreign company in the recent spate of M & A in Indian Pharma Industry by foreign investors are the potential for drug prices to go up, and limited availability of high priced specialty products. The agreements between the generic and the originator company is also limiting the power of government to grant Compulsory License (CL) as well as generic companies not willing to take up compulsory license by way of their settlement and reduction in availability of generics (of the acquired company) in the market, this will reduce the availability of cheaper medicines in the market.

India being a global hub of generic medicines, the recent mergers and acquisition of pharma Industries of India are posing threat to availability and affordability of generic medicines, will be analysed in a post product patent regime. In this context, the decisions of the competition commission as well as the judiciary will be analysed . The need of having s measures to improve bulk drug manufacturing in India is need of the time. The paper will suggest the policy measures to be taken by the government to minimise the negative effects of merger and acquisition on access to medicineie., in the patent regimes, regulatory policies, health insurance and other institutional factors that shape the competitive environment of the pharmaceutical industry.

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Title: *A Normalized Notice-and-takedown Procedure at the Legislative Level: Necessary But not Sufficient*

Abstract

In the end of August, 2018, China promulgated the E-commerce Law which aims at building a fair environment for competition so as to promoting the sustainable and healthy development of e-commerce in China. IP infringement has long been a big issue which interferes with fair competition on e-commerce platforms in China, so the Law brings in five Articles specialized in regulating e-commerce platforms' responsibilities for IP infringement. The most innovative part of these Articles is to normalize the notice-and-takedown procedure on e-commerce platform, and the legislature in China aims at reducing the disputes resulted from the application of various self-established notice-and-takedown procedures on different platforms. Unfortunately, the approval of the Law has provoked even more substantial disputes about how the normalized procedure ought to be applied, including the nature of the notice-and-takedown procedure, how to define preliminary evidence, what are the necessary measures, how to define immediately acting, how to deal with repeated infringements and what are the consequences of wrong removal. More importantly, the normalization at the legislative level interferes with self-established norms adopted by major e-commerce platforms, and thus encounters fierce resistance from these platforms. From China's experience in normalizing notice-and-takedown procedure, hard law might need to be less hard and leave more room to soft law. To be more specific, legislation provides general rules of notice-and-takedown procedure, and the detailed guidance should be given in codes of conduct.

Part one: general introduction of the IP clauses in E-commerce Law

Article 41 requires e-commerce platforms to reinforce IP protection on their platforms through developing IP protection norms and enhancing cooperation with IP right holders. Article 45 sets up a fault-based rule to determine e-commerce platforms' liability for IP infringement, and provides that if e-commerce platforms know or have reason to know that an in-platform business commits any IP infringement, they should take necessary measures, such as deletion, blocking, disconnection of links or termination of transaction or services, and otherwise, they shall be held jointly and severally liable with the infringer. Article 42-44 provide the detailed rules to normalize the application of notice-and-takedown procedure on e-commerce platforms.

Part two: substantial disputes in applying notice-and-takedown procedure

1. the nature of the notice-and-takedown procedure clause,

The first notice-and-takedown procedure was adopted in China as a part of the safe harbor provisions in copyright field, so many Chinese academics believe the notice-and-takedown procedure clause in E-commerce Law should be interpreted as a liability exemption rule. Nevertheless, I argue that the notice-and-takedown procedure should be interpreted in the

context of a liability rule. My argument will be justified from the following two aspects: 1) interpreting the clause literally; 2) interpreting the clause by referring to legislative history.

2. how to define preliminary evidence,

In China, different courts hold different opinions regarding what constitutes preliminary evidence. I argue that the preliminary evidence should be defined as evidences which make infringements manifest to e-commerce platforms. This interpretation of preliminary evidence will not only avoid imposing unreasonable burden on e-commerce platform, but also prevent the procedure from being misused.

3. what are the necessary measures,

After receiving notices, e-commerce platforms have to take necessary measures. I argue what constitute necessary measures in a case depends on the facts in that case. If the evidence in the notice is sufficient to make the infringement manifest to the platform, then the platform has to remove the complained items. However, if an infringement is in nature non-manifest, the ISP is not obligated to take action to stop the infringement, no matter how much evidence is included in the notice. In the later scenario, forwarding the notice to the vendor who sell the complained items would constitute necessary measure.

4. how to define "in a timely manner",

when deciding whether necessary measures are taken in a timely manner, courts should take into account the following factors: types of Internet services, in what ways the notices are sent, the content of the notices, whether infringement in question is apparent or not, technical conditions and other relevant factors.

5. how to deal with repeated infringements,

Regarding how to deal with repeated infringement, it ought to be decided in the light of the following factors, including types of internet services, technical feasibility, cost and infringement circumstances. According to the Chinese case law, a platform's measure against repeated infringement could be to warn the infringer publicly, reduce the infringer's credit rating, restrict the infringer's rights to post product information or even terminate the infringer's account.

6. what are the consequences of wrong deletion.

According the E-commerce Law, a complainant will be liable, if the following two conditions are met: (1) the complainant is at fault in sending the wrong notice; (2) there is causation between the wrong notice and the damages suffered by the offending party. If a wrong notice is sent with illicit intention, then the complainant will even be subject to punitive damage. My presentation will elaborate how to decide whether a complainant bear subjective fault or illicit intention.

Part three: conflicts between hard law and soft law

Notice-and-takedown procedure is not a novel mechanism in dealing with online IP infringement. About one decade ago, the Chinese legislature already formulated a notice-and-takedown procedure to deal with online copyright infringement. Although e-commerce

platforms are not subject to the procedure, because a notice may lead to an e-commerce platform's knowledge of infringing items, a platform is highly likely to take down the alleged infringing items after receiving notices from right holders so as to avoid being held liable. Thus, many e-commerce platforms, like Alibaba, Jingdong and pingduoduo, already formulated their own notice-and-takedown procedures long before E-commerce Law came out. Therefore, there was at least a de facto notice-and-takedown procedure being exercised in China. After E-commerce Law was enacted, platforms in China have to adjust their own notice-and-takedown policies to reach compliance. Some of platforms question the reasonability of related Articles in E-commerce Law, and claim their self-established procedures are more effective and justified.

Part four: conclusion

It is useful to normalize a notice-and-takedown procedure at the legislative level, particular in aspect of preventing wrong deletion. Meanwhile, it is also necessary to leave enough space to self-regulation (code of conduct), particularly regarding how to define immediately acting and how to deal with repeated infringements.

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Title: *The Neuroscience of Innovation: A Socio-Legal Analysis of Generating University Patents in Asia*

Abstract

The rapid emergence of market-dominating patents from China has drawn global attention, whereas the quality embodied by the vast number of patents presents numerous concerns about whether the Chinese national innovation system (NIS) has been measured in a methodical manner. The roles national innovative stakeholders (e.g. enterprises, academic institutions, individuals and government) play have not been definitely approached to conceptualize the historical trajectory of innovation law and policy as to China's unique political economy. The high volume of patents has failed to show a causal relationship between patent quality and patent quantity in China, not ruling out the possibility that large numbers detect an increase in the risk of faking China's innovative capacity. Of all the stakeholders, the universities are at the crux of the debate.

Traditionally, both legal and economic scholarship have subscribed to the belief that patents are of relevance for our assessing the innovative capacity of respective innovation actors. Although some other indicators of innovation have received considerable and close scrutiny, for instance, R & D expenditure, scientific publications, etc., central to the overarching research of innometrics are the interrelation between patent quality and patent quantity. However, there have been some quantitative signals that the Chinese state is transmitting from "Made in China" to "Innovated in China", and in this regard, the nexus between patent quantity and patent quality, together with its consequences is increasingly recognized as an important, but

understudied, topic for concern. Many attempts have been made to represent the Chinese patent quality by linking patent data to economic statistics and bibliometric analytics, but there is a notable paucity of evidence-based literature describing the historical and cumulative impact of innovation law and policy alterations upon China's patent quality and quantity. Also, very few studies have examined the extent to which authoritative and state-led initiatives of innovation determine the decision-making of stakeholders' patenting activities on the micro-(individual), meso-(community) and macro-(regional and national) levels.

The article considers assessing the Chinese national innovation system by exploring how China has historically promoted the authoritarian and administrative initiatives of law and policy to facilitate its "fast innovation" by pushing the stakeholders to create patents. On the same note, the article studies the extent to which the patent awardees were encouraged to submit their patent filings for economic rewards (and/or honors). It compares the national innovation systems between China, its Asian counterparts, and the United States to reveal whether, and if yes how innovation law and policy carry underlying implications of multiple stakeholders' decision-making on patent applications. It argues that NIS with Chinese characteristics represents a psychological hierarchy of innovation-related regimes in the patenting process.

To be concrete, the article positions patents within the self-determination theory (SDT). The university-generating patents have been heavily rooted in the rating, grading and evaluation systems of the administration in higher education. It is hard to reveal if the economic rewards (and/or subsidies) pose a central impact upon the generation of university patents without acknowledging the implications of scientists seeking for recognition and honors (self-determination). The article thus adopts the textual analysis methods to code the linguistic thematic vocabulary for an investigation into the "neuroscience" behind academic patenting activities. The article also sees the academic patenting by faculty members from a combinatorial perspective of the meta-level organismic viewpoint and mini-level intrinsic motivation. The article thus promises to clarify the soaring rise of Chinese patents stemming from the public and private (quasi-private) universities, thereby uncovering the practical solutions to recovering the economic equilibrium of academic stakeholders' innovation and commercialization at and beyond the technology transfer offices.

To address the research questions above, socio-legal perspectives will be employed to illustrate a qualitative history of the Chinese patent administrative and legal regime from its origin onwards. It is submitted that a systematic literature review could offer an effective way of identifying driving forces of the decision-making of enterprises, academic institutions, individuals and the government. It will place patents within the macro-level environment to clarify whether the national innovation capacity differs as to the national regimes of political and economic constructions representative of legal and social norms. The core of the article takes the lead to find the alternative and unconventional policymaking models of patent examination systems as regards knowledge production stemming from state and/or liberal innovation.

Ultimately, from a comparative and psychological perspective, the purposes the article serves are threefold: Firstly, the article explores the hierarchy of Asian higher education to curve out the macro-environment that enables and/or obstruct the generation of university patents.

Secondly, the research investigates the motivations driving university faculty members to patent or not to patent so as to reveal what the real force is in terms of incentivizing R&D in academia; Finally, by asking the roles of social norms and customary practice in China's academic patenting activities, the article makes a conclusion about what causes the institutional and marketing mechanism to fail with eyes on the interaction between informal economy and formal regimes when it comes to the legislation including Bayh-Dole-Act-like principles.

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Title: *What Can We Learn from Psychology? The Psychological Mechanism Underpinning The Anti-Competitive Effects of Color Trademarks*

Abstract

Many companies use colors to identify themselves – colors such as Tiffany blue, Louboutin red, and T-Mobile magenta – and want to protect these colors as their trademarks. However, overprotecting color trademarks might lead to anticompetitive effects: this concern exists across jurisdictions. In the USA, judges make invalid a color trademark when it gives a non-reputational advantage to the owner. In the EU, Article 4(1)(e)(iii) of the Trade Marks Directive states that a mark should not be protected if it “gives substantial value to the goods”. Some Asian countries, such as China and Japan, do not protect single-color trademarks, partially out of concern for competition. Recently, China's Supreme Court's decision on the joint ownership of a red can containing herbal tea indicates the effort to strike a balance between market competition and color trademarks.

This contribution chooses single-color trademarks as an example and offers a psychological mechanism explaining why color trademarks have anticompetitive effects. Based on this psychological mechanism, I further propose two methods to help judges decide when protecting a color might hinder competition.

Consumer psychological studies reveal that, in specific contexts, colors work through affective and cognitive responses to influence purchase intention and consequently purchase behavior. Based on this knowledge, I develop a mechanism in which a color would evoke affective responses (e.g. arousal, pleasure, appraisal and cognitive responses (e.g. attention, interpretation, memory, cognitive attitude). The affective/cognitive responses thus evoked would further produce purchase intention. In this process, contextual factors (product type, where and how the color is used, and local culture) might increase or diminish the color's effect on purchase intention – for example, green signals mint, and interpreting green as mint would lead consumers to prefer green-colored mint candies rather than any other color. However, if the product is not mint candies but laundry press the purchase intention evoked by the color green would be diminished. Further, purchase intention delivers purchase behavior. The aggregation of each consumer behavior is what makes market demands, which are an essential

part of competition. Using this mechanism, I conclude that those colors stimulating higher purchase intention might lead to a higher demand and/or a lower price elasticity of demand (PED), predicting anticompetitive effects.

Based on the psychological mechanism, I propose two methods – psychological guideposts and consumer surveys – to help judges decide when protecting a color might hinder competition. Psychological guideposts refer to contextual factors and affective/cognitive responses that might help to predict market consequences. In a specific case, we might ask (1) if compared with other colors, does a disputed color evoke stronger arousal, pleasure, appraisal, attention, interpretation, memory or attitude, such that it would increase purchase intention? (2) do contextual factors increase or diminish such an effect? If the answers to both questions are yes, granting trademark protection to the disputed color might hinder competition.

In some cases, answers to the two questions are not clear; a consumer survey might help to predict hindrance to competition. For example, it is not clear whether the color green on laundry press would evoke a higher affective/cognitive response. Nor can we tell whether the context of “laundry” would enhance or reduce the color’s effect. In this situation, I suggest a consumer survey to test purchase intention directly. The survey should mimic the specific case contexts and include the disputed product with the disputed color and as many alternative colors as possible. If the survey result indicates that the disputed color evokes a higher purchase intention than alternative colors, granting trademark protection would hinder competition. If not, judges might decide whether to protect the color depending on the number of alternative colors.

Why do color trademarks have anticompetitive effects? When do anticompetitive effects exist in a color trademark? Many legal scholars explore these issues from an economics approach (Brown 1948; Landes & Posner 1987; Lunney 1999; Lemley 1999; Burgunder 1986). However, consumer psychology might be the trigger for anticompetitive effects, because consumer responses, in essence, decide market consequences. Very rarely do studies research these issues with a psychological approach, a gap to be filled by this study. The contribution systematically explores the consumer psychology literature focused on color, and reveals the psychology behind how color influences competition. It imports psychological studies to interpret a legal concern, which enriches and extends the academic literature. Further, it suggests practical methods to support judges when deciding whether or not to grant trademark protection to a color.

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Indranath Gupta

Title: *Examining The New Legislation of Internet Intermediaries Liability in India, EU And China: Re-Engaging with Traditional Jurisprudential Models*

Abstract

The legal regulation of Internet intermediaries is moving to its third wave. The first wave was the development of secondary liability principles of Intellectual Property rights infringement in the cyberspace. The second was the establishment of safe harbour provisions for certain broad categories of intermediaries. The third wave is still at its early stage and is characterized by the introduction of different standards of liability for 'large' intermediaries, relying partly on the use of algorithms and smart technologies. The Information Technology Act of India, Article 17 of Digital Single Market Directive of EU, and E-commerce law of China are all part of this move and the respective approaches they have adopted are all different.

The third wave of development responds to the challenge brought by technology and business model innovation including the influence from the trend of algorithmic regulation, the change of the status of the "dominant" intermediaries in terms of their market power and financial resources possessed and the stronger lobby influence of IP rights holders. In this connection, the above mentioned legislations have been subject to extensive socio-political debate and jurisprudential scrutiny in terms of consistency with existing legal frameworks.

However, the debate has not yet benefited from the engagement with traditional jurisprudential models, which Andrew Murray has advocated for the law-making in digital world. In particular, Lon Fuller's principles of internal morality have been applied in evaluating the law making in cyber world, where his Principle 4, 5 and 7 have been regarded as of more relevance.

- Principle 4: The law's rules should be understandable by those who have to comply with them;
- Principle 5: Rules should not be contradictory, and
- Principle 7: Rules must not be changed too frequently to permit compliance.

Joseph Raz's principles in association with the rule of law analysis (see below) have also been regarded as valuable for guiding the law-making.

Raz' principles are:

- Laws should be prospective rather than retroactive.
- Laws should be stable and not changed too frequently, as lack of awareness of the law prevents one from being guided by it.
- There should be clear rules and procedures for making laws.
- The independence of the judiciary has to be guaranteed.
- The principles of natural justice should be observed, particularly those concerning the right to a fair hearing.
- The courts should have the power of judicial review over the way in which the other principles are implemented.

- The courts should be accessible; no man may be denied justice.
- The discretion of law enforcement and crime prevention agencies should not be allowed to pervert the law.

To enrich the debate on the new wave of legislation of internet intermediaries liability, this article revisits Fuller and Raz's principles and apply them in the current technology, business and social context to analyse the new law in India, EU and China.

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Title: *Should Patent Practitioners be Allowed to Claim Inventorship When Acting for Clients?*

Abstract

Inventorship is a critical aspect in patent law. Identifying a true inventor in patents is crucial not only for complying with the statutory requirements and honoring the right of attribution but also implicates who shall have rights in the patents. However, inventorship is not so intuitively obvious especially in the case of joint inventorship, which usually arises when individuals exchange ideas and collaborate to carry out a project leading to an invention. Therefore, it is not surprising that joint inventorship has been described as "one of the muddiest concepts in the muddy metaphysics" of the patent law.

This paper explores joint inventorship issues arising from circumstances where patent practitioners help their clients prepare patent applications for the client's inventions. While a patent practitioner may become an inventor by making sufficient contribution to the invention, claiming inventorship in the client's invention inevitably embroils questions of breach of ethical duties owed to the client and breach of statutory requirement of true inventorship. The paper first investigates case law in the United States where the law provides that a person is qualified as an inventor of an invention if the person contributed to both the conception of the invention and the reduction to practice of the conception. We further analyze the statutory purpose of joint inventorship, patent practitioners' duty of loyalty and duty of confidence, and the relations between the conception of the invention and the reduction to practice of the conception. This project aims to explore solutions to the problem of joint inventorship in the practitioner-client context, which will have valuable implications for other jurisdictions as well.

Chih-Chieh YANG, Institute of Technology Law, National Yunlin University of Science & Technology, Taiwan

Title: *Does Taiwan need Design “Repair Clause” in Patent Law? Review of DEPO front light design patent infringement case (2019) in Taiwan*

Abstract

Generally speaking, in countries with design protection law or design patent law, car manufacturers can apply the design patents on their car design in whole or in parts, and then use those patents to prevent third party parts manufacturers from making exact copies of these parts through patent infringement claims. The life of a vehicle is very long, which would last for almost twenty years. When someone bought a new car, the money he paid for that car included the remuneration for the car’s design first time. Then in the period of car using, when he needed to repair that car, changing some exterior parts, due to the design protection of the exterior design, he needed pay the remuneration for the car’s design once again, till the expiration of the design patent.

Since some European countries thought these situations were unfair for consumers who have paid remuneration for the car’s design ever once, they adopted a “Repair Clause” in their design protection law or patent law, which provided that the manufacture and sell of spare parts for repair are immured from the design infringement liability. There is also the exact same “Repair Clause” in EU community design regulation. Under these Repair Clauses, companies can manufacture and sell spare parts for repair purpose without bear infringement liabilities, and consumers can buy cheaper spare parts for repairing their cars in market.

Taiwan is the biggest region in the world at which companies specialized in manufacturing spare parts for various vehicles located. The spare parts those companies made and sold are partly for Taiwan’s own market, but most of them were for other countries’ spare parts markets, including European’s market. It is estimated that the gross outputs created by those companies manufacturing spare in Taiwan is about 6 billion U.S. dollars every year. In consideration of Taiwan’s own car spares parts manufacturer industry development, unfortunately, there is no “Repair Clause” in Taiwan’s design patent law. And before 2017, there were not much discussion about this issue whether or not Taiwan should adopted this same kind of Repair Clause in Taiwan’s Patent Act.

In March 2017, a Germany company Daimler AG, who is the manufacturer of the branded car Mercedes Benz, brought a suit against DEPO, one of the biggest companies manufacturing spare parts in Taiwan. Daimler AG alleged that four front light models DEPO manufactured in Taiwan suitable for repairing one model of Mercedes Benz car infringed their one design patent of that very one front light fitted for that Mercedes Benz car. Although the defendant tried to argue that their products were not the same as the plaintiff’s design, they knew it is hard to win relying on that argument. So the defendant lawyer invited five legal experts who specialized in IP law and competition law, submitting their expert’s opinion, try to persuade the judge that the plaintiff should be prohibited to bring this suit, or even the defendant’s products might infringed

the design patent, the plaintiff should be forced to license to the defendant, instead of be allowed the injunction.

One of the main reasons the five legal experts raised was based on the history of the Repair Clauses discussions in Europe. In 1998 EU Design Protection Directive, it is explicitly scheduled when EU members should discuss of Repair Clause Amendment Proposal of the same Directive. In particular, when the issue occurred to Germany federal parliament, several Germany car manufactures, Daimler AG included, had promised twice in 2003 in front of Germany federal parliament that they won't bring suit against repair parts manufacturers, so there were no need for German to pass this kind of Repair Clause in Germany domestic law. After EU Parliament withdraw the Repair Clause Amendment Proposal in 2014, Germany car manufactures began brought suit against spare parts manufactures immediately globally.

These five legal experts, bases those events abovementioned, argued that those Not-Suit Promise is similar to the FRAND commitments in SEP context, so the Germany car manufactures should comply with those not-suit promises, or should be forced to license their design patent, as the FRAND encumbered SEP owners be asked. But unfortunately, the judge didn't accept this main argument, and delivered his judgment for plaintiff in August 2019.

Although the author of this paper be one of those five legal experts, I myself also thought the quasi-FRAND argument is weak. But I try to raise another two arguments. First is the "Principle of good faith" in the section 148 of Taiwan Civil Code, I think the essence is the same as the "equitable estoppels" doctrine in the U.S., and I think this argument is strong enough to strike the case. Second is the Refusal-to-deal Doctrine, which is pure U.S.'s doctrine, not accepted by other countries yet, but I proposed Taiwan's court could accept this doctrine's rationale.

OUTLINE

1.INTRODUCTION

2.DESIGN PROTECTION "REPAIR CLAUSES" IN THE EU

The basic contents and developments of Repair Clauses of EU countries will be introduce in short.

3. DEPO FRONT LIGHT DESIGN PATENT INFRINGEMENT CASE(2019) IN TAIWAN AND QUASI-FRAND COMMITMENT ARGUMENT

The backgrounds, basic facts, arguments from both parties and their legal experts and the decision of "DEPO front light design patent infringement case(2019)" will be introduced. The Quasi-FRAND commitment argument based on the twice not-suit promises will be explained.

4. THREE ARGUMENTS THAT THE ALLEGED DESIGN SHOULD NOT BE ENFORCED

In Fourth part, another three arguments that the alleged design patent in DEPO case should not be enforced or should be enforced partly will be set forth and elaborated. First is "Principle of good faith", second is Refusal-to-deal Doctrine, and third is that public interests (car spare parts industry in Taiwan and other countries market demand) should be considered when issuing the injunction.

5. CONCLUSION

Chenguo ZHANG, KoGuan School of Law, Shanghai Jiaotong University, China

Title: *Collective Protection of the Personal Information Rights China and EU, Comparative Perspective*

Abstract

Digital economy is becoming the driving force of the new round of industrial revolution globally and has caused widespread concern in various jurisdictions. In the era of big data, business, social intercourse, scientific research and social governance all rely on the new resource of “data”. While Internet platform provide convenient services for the human beings, their personal information is being exposed to third parties and even the public in a broader, deeper and faster way beyond their will and control. Personal information, also called personal data, refers to all information that can directly or indirectly identify the individual identity of a natural person. It is an important category of big data. Therefore, the essence of personal information lies in its identifiability. Although China has not yet promulgated a special Personal Information Protection Law, many provisions enshrined in the General Provisions of the Civil Law, Tort Law, Law on the Protection of Consumer Rights and Interests, Cybersecurity Law and other legislative rules have preliminarily established a protection paradigm for personal information. These rules begin with the “right of informed consent” and ends with the right to be forgotten. Correspondingly, data controllers and processors are subject to obligations to realize the “right of self-determination” of the data subjects that underlines the personal information rights. One academic consensus has been formed that at the normative level, Chinese legislators have adhered to the concept of self-autonomy of the personal information. Its origin is influenced by the humanistic spirits underlining the fundamental human rights of the civil law countries, especially Germany.

The subject matters of personal information are non-scarce, ubiquitous, non-exclusive and of economic externality. It is a typical diffuse interest. The upcoming Personal Information Protection Act should not establish an absolute exclusive right of personal information. Personal information rights are independent from but closely related to the consumer rights. The protection mechanisms of personal information should follow similar institutional principles of the consumer protection law. The collective enforcement is the typical remedy for personal information right infringements, including ex-ante and ex-post rules. Policymaker should establish a specific public authority to deal with claims from the data subjects against the data controllers and data processor. This organization should also support qualified groups to file collective litigations at the courts. The ex-post arrangement requires a broad interpretation of the consumer public interest litigation in Article 55 of the Civil Procedure Law. At this stage, the protection paradigm and intensity of personal data should follow the principle of balance of interest-balancing in order to facilitate both the free data flow and the data security.

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Title: *Surviving in the New Market Competition: Challenges and Choices of Patent Exhaustion Doctrine*

Abstract

Patent exhaustion doctrine is a well recognized and accepted rule that limits the patent rights upon the authorized sale of patented products. The doctrine is facing challenges from the rapidly developing market competition. Patent holders deploy strategies to avoid exhaustion, such as new business models, contractual restriction, digital technologies (with the impact of IoT), rental (rather than sale) of the patented products, etc. Allowing patentees to opt out of exhaustion could make price discrimination possible and increase incentive to innovation, but may also lead to negative effects on competition and market, as such protection can be exploited as a useful tool to intervene the market and distort competition. Patent exhaustion affects not only the patentee or consumers, but also third parties and after-market competition, which creates a tension in the application and scope of patent exhaustion doctrine.

The aim of this research is to find the rationale behind patent exhaustion doctrine, to address the new challenges surrounding the doctrine, and then to determine the possible approaches for the application of patent exhaustion.

Although the Supreme Court of Japan has come out with a “comprehensive determination standard” for patent exhaustion in its famous Canon ink cartridge case (2007), the standard is nevertheless ambiguous and somehow hard to apply. The courts tend to put importance on the technical aspects of products in their decisions, thereby neglecting the fact that the exhaustion doctrine is more complicated and overlaps with different interests. On the other hand, the U.S. Supreme Court presented a new approach to patent exhaustion in *Impression Products v. Lexmark Int’l, Inc.* (2017)—applying common law doctrine barring restraints on alienation to examine patent exhaustion—which reconsidered and enlarged the scope of patent exhaustion. The different practices show that patent exhaustion is a serious and contentious policy issue, with significant effects on competitive market and innovation, both domestically and internationally. In such contexts, it would be necessary to specify the standard with more consideration of the effects of market, and also take into account the competition policy as complementary tool to balance the various interests.

Moreover, with the changes on the social and technological basis of patent product markets (such as the development of standardization and modularization in manufacturing industries, and the emerging of IoT technology), it enables new forms of collaborative innovation and production, and more precise analysis of marketing strategies. These developments make the distribution and use of patent products more flexible, expand the market with more end users, and decrease the transaction cost, but in the meantime, given the enlarged scope of patent exhaustion doctrine, it could also result in difficulties for patentees to practice price discrimination and ensure the profit upon first sale. Accordingly, the traditional approaches to patent exhaustion needs to be revised or complemented, especially in the filed of new markets

and industries. Several cases from Japan have attempted to strike a balance between the incentives of patentees and the interests of smooth circulation of goods in market (e.g. Medical packaging roll paper case (2014), Apple v. Samsung (2014)). By analyzing those new trends and cases of patent exhaustion, this research will discuss the possible “dichotomy” between traditional and new markets, whether the new approaches could be complementary to the traditional role of patent exhaustion, and how to better balance the conflicts and the degree of protection regarding the new trends.

This research will adopt case study as the major research method. As the research has based its study mainly on Japanese cases and literature investigations, it will also move on to conduct a comparative study of patent exhaustion cases and practical policies between Japan and other Asian countries or regions. To support the above research, Special attention will be given to the examining of policies’ economic effects from the perspective of technology and industrial development. A cross disciplinary approach—Law and Economic analysis will be used for the investigation.

Outline

- I. Introduction
- II. Rationale of patent exhaustion doctrine
 - A. The purpose of patent exhaustion
 - B. Standards and rules of patent exhaustion
- III. The traditional case for the role of patent exhaustion doctrine in competitive market and innovation
 - A. Repair and reconstruction
 - B. Price discrimination and business battles around patent exhaustion
- IV. Challenges and Choices of patent exhaustion doctrine in new market competition
 - A. Industrial development (standardization and modularization) and its impact on patent exhaustion
 - B. The change in social and technological basis of product and market strategy
 - C. The role of patent exhaustion in new market competition
- V. Making room for the future: new trends of patent exhaustion cases
 - A. Rental and reservation of ownership of patent products
 - B. Contractual restriction with digital technologies
 - C. Implied license
 - D. Rethinking the traditional approach to patent exhaustion
- VI. Concluding remarks

Shufeng ZHENG, ARCIALA, School of Law, Singapore Management University, Singapore

Title: *Secondary Liability of Copyright Infringement for Cloud Service Providers—Balancing Copyright Protection and Data Security Maintenance*

Abstract

With the development of AI, new legal entities come into market and raise issues regarding to application of law. By providing access to online computing resources with minimal cost, cloud computing has been widely applied in data storage and management. Cloud service providers (CSPs) become a new form of ISPs in AI age and shall face secondary liability for users' copyright infringement. In applying secondary liability rules, characteristic of CSPs distinguishes themselves from traditional ISPs. The enormous personal and inner data possessed by CSPs bring important obligation to protect data security. Therefore, CSPs, in addition to protect IP, are also obliged to maintain data security. The legal basis for such obligation comes from personal data protection, trade secret, and contract terms. Possible contradiction shall arise where IP protection requires necessary content review. The demand for CSPs to harmonize IP protection and data security maintenance affect secondary rules application. Relevant affected issues include whether CSPs have the duty to review or filtering content in the cloud, and therefore would have constructive knowledge of the infringement content; or whether the CSPs are entitled to take down relevant content after receiving infringement notification, if not, whether there is a standard for assessing "necessary measure" for CSPs to apply safe harbour. The application difference has been reflected in cases like *Locojoy v. Ali Cloud*; *American Broadcasting Companies Inc. v. Aereo Inc.* It would be necessary to reconsider the rationality of putting ISPs as gatekeepers for IP protection in Internet environment. In considering the complicated interests overlap, certain ISPs may cannot take active measures against online piracy, even they could do that in operating level. The classification of ISPs shall also be refined to incorporate new form of service providers. In deciding secondary liability for CSPs, principles of technology neutrality and proportionality would also provide references.

Xiaorui ZHU, Law School, Tsinghua University, China

Title: *Strengthened Liability of Internet Service Provider: Is Filtering Obligation Reasonable?*

Abstract

The secondary liability regime for Internet Service Providers (hereinafter referred to as "ISPs") has an increasingly remarkable impact on copyright protection in the era of digital network. Currently, the so called "safe-harbor" rule originated from Digital Millennium Copyright Act in United States (1998) is still dominant in this field in many countries, such as Europe (E-Commerce Directive, 2000) and China (Regulation on the Protection of the Right to Communicate Works to the Public over Information Networks, 2006). Legislators believed that this rule would prompt ISPs to cooperate with copyright holders to combat Internet piracy, enhance the certainty of online infringement liability, and ultimately preserve the legal order in the cyberspace.

However, copyright law practices in the United States, Europe and China have shown that the safe-harbor rule overly reduces ISPs' duty of care and accordingly eliminates their incentives in preventing third parties' infringing activities. Internet piracy is rampant and greatly proliferated.

Without a proactive obligation, ISPs may turn a blind eye to infringements: sit back and wait to be notified by copyright holders. Some business models may even expect to attract or foster infringements. Whether safe-harbor rule can still serve its goals and maintain the delicate balance between copyright holders, online intermediaries, and the public in a cost-effective way? Is it justifiable and feasible to reinforce ISPs' duty of care, say, by introducing a filtering obligation, to help forestall copyright infringements? These critical questions need further studies to provide for future reform.

Underlying is the policy issue of whether and how to reallocate copyright enforcement burden. This proposal suggests that it is a sensible reaction to reinforce ISPs' duty of care confronted with radically changed technologies and market conditions. Technological progress makes communication of works decentralized, at the same time, the ability to detect and forestall infringements enhanced. These changes trigger a reexamination of which party is better situated to discover and forestall infringements. Cost-benefit analysis suggests that it would be better to shift the pre-clearance burden to the part of ISPs. The introduction of filtering obligation is a reasonable institutional design to urge ISPs to cooperate with copyright holders to effectively against widespread infringements. Next this proposal tries to elucidate the necessity of strengthened liability and the reasonableness of introducing a filtering obligation.

First, technological development has altered the relative cost of preventing infringements between copyright holders and ISPs, tipping the balance to ISPs. Copyright law has always to make a reasonable allocation of the cost of preventing infringements. Technological evolution may well be the in the process of discrediting the premises of copyright holder-service provider balance struck in the safe-harbor rule. Over the past two decades, the dramatic development of digital and network technology has revolutionized the way how copyrightable contents are produced, accessed and distributed. Decentralization of reproducing and communicating works in the cyberspace substantially increases the cost of safeguarding interests for most copyright holders. The burden of ascertaining and notifying infringements can be significant, especially if an individual creator must forever keep monitoring sites already alerted to past infringements of the same material. As a practical matter, policymakers, legislators and courts in the United States, Europe and China are open to a stringent standard of duty of care of ISPs.

Second, the advances of filtering technology provide a way that may well raise the efficiency and effectiveness of anti-piracy efforts. Content-based filtering technology, at present, is able to examine characteristics of the underlying text and media files to make precise identifications. For instance, content fingerprinting tools are robust to alterations in the contents of the files and tailored to different types of copyrightable contents. An automatic filtering system has the advantage of higher speed, lower error rate and easier operation in comparison with the manual notice-and-takedown procedures that is both time-costing and labor-consuming. In fact, certain large-scale online content sharing websites such as YouTube have undertaken filtering practices voluntarily. It is true that the development of a legal standard would turn on the state of the technology: the more reliable and less burdensome the filter, the more likely courts or policymakers are to favor its implementation.

Third, only through the imposition of filtering obligation could help overcome the obstacle of transaction cost between the ISPs and copyright holders. The transaction cost of establishing filtering mechanism through free bargaining is prohibitively high. Even if the implementation of filtering mechanism could make their cooperation more efficient and profitable, copyright holders could not readily persuade ISPs to establish filtering system without the law enforcement. For one thing, the bargaining power of single, decentralized copyright holders is fairly limited. For another, certain ISPs actually extract profits from the communication of infringing contents. The asymmetrical bargaining position and gap of revenue are the problems the new liability regime seeks to address. The design of strengthened liability and a filtering obligation is a proper institutional reform for the purpose of providing enough incentive for valuable content production and effective third-party enforcement.

Outline

An Elusive Standard of Duty of Care of Internet Service Providers

Strengthened Liability: From “Safe Harbors” to a Filtering Obligation

The Reasonableness of Introducing a Filtering Obligation

END OF DOCUMENT