Abstracts – Asian IP Scholar Awardees

4th Asian IP Works-in-Progress Conference
School of Law, Singapore Management University, Singapore

30-31 January 2019

No.	Presenter(s)/Institution	Abstract
1	**LIU Jianchen (Jarek)** **Renmin University of China** **PRC**	**Chinese Debate And Experience On Applying The "Notice And Takedown" Rule To Patent Infringement Cases** China has been revising its Patent Law since the second half of 2014, and the Office of Legislative Affairs of the State Council released a final draft thereof (the "Draft") for public consultations on December 2, 2015. According to the State Council's work plan for 2018, the Draft will be submitted to the Standing Committee of the National People's Congress for deliberation. One of the most noteworthy changes of the Draft is that it incorporates a "notice and takedown" provision. If the Draft is adopted, China will be the first country whose patent law permits applying the "notice and takedown" rule to patent infringement cases. Many Chinese IP scholars think it inappropriate to do so, mainly because they insist the "notice and takedown" rule be limited to copyright infringement cases, in which an Internet Service Provider ("ISP") has the ability to determine whether the alleged copyright infringement exists. Since the determination of patent infringement in most cases involves complex technological comparison, ISPs have great difficulties drawing a conclusion, and thus the rule is ill-fitted for patent cases. In addition, they also contend that without providing a countermeasure such as "counter-notification", the Draft may lead to imbalance of interests between patentees and the alleged infringers. This article, however, aims to challenge the above-mentioned view, by first taking a look at international trend, then examining how Chinese courts have applied the "notice and takedown" rule to patent infringement cases, and introducing the latest e-commerce legislation in China. First and foremost, from the perspective of comparative law study, there is now a worldwide trend to expand the application of "notice and takedown" rule beyond copyright context. In the U.S., although the "notice and takedown" rule under the Digital Millennium Copyright Act ("DMCA") only applies to copyright cases, courts in practice have applied the rule to trademark cases. Unlike the DMCA, EU in its E-Commerce Directive does not limit its application to copyright cases, and as a matter of fact judicial practice in some members has applied the rule to trademark cases in addition to copyright cases . As with EU, Japan's Provider Liability Limitation Act can also apply to other cases besides copyright cases, and in judicial practice, Japan's courts have applied the rule to trademark cases. Admittedly, whether there is example of national laws that apply the "notice and takedown" rule to patent cases, requires further research. Secondly, Chinese courts have applied the "notice and takedown" rule to patent infringement cases since 2010 when the Tort Liability Law came into force. Article 36.2 thereof provides that if an Internet user commits tortious acts through Internet services, those whose civil rights and interests have been infringed shall be entitled to inform the ISP to take necessary measures, including, inter alia, removing, blocking, or disabling access to, the infringing material. In accordance with Article 2.2 of the Tort Liability Law, "civil rights and interests" include not only copyright, but also other exclusive civil rights such as patent right and trademark right. That is to say, Article 36.2 of the Tort Liability Law does not limit the application scope of the "notice and takedown" rule only to copyright cases, but also include patent and trademark cases. As explained by its legislators, the consequence of infringement on the Internet can disseminate to the whole world in a few seconds, sometimes even beyond the infringer's control, and thus the infringed shall be entitled to control such dissemination. Since ISPs are best-positioned to help, the "notice and takedown" rule would be the most effective way for the infringed to stop online infringing acts. In judicial practice, Chinese courts have since 2010 accumulated some experience on the application of the "notice and takedown" rule to patent infringement cases. In many cases ISPs were found free of liability if they took down the infringing products as notified by patentees in a timely fashion. Courts have set elements for an effective notification of alleged patent infringement quite similar to those for an effective notification of claimed copyright infringement. In absence of one of the elements, the notification shall be null and void, and hence an ISP does not have to take any necessary measure. In addition, forwarding the right holders' notification to the alleged infringer is an ISP's compulsory obligation, and failing to do so may make the ISP jointly liable with the infringer for the extended damage. To avoid any potential liability, after being notified, some ISPs in practice have

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		resorted to technically professional institutions and rely on their opinions to act. In so doing, none of the ISP has been held liable for patent infringement by courts. To sum up, Article 63 of the Draft is inspired by Article 36.2 of the Tort Liability Law, evidenced by the almost verbatim wording and the fact that the latter has functioned as the legal basis of the "notice and takedown" rule for eight years. Therefore, it's quite incomprehensible why some scholars put forward objections to the Draft only now. Finally, it's true that without a countermeasure such as "counter-notification", the "notice and takedown" rule would bring about imbalance of interests between patentees and the alleged infringers, especially when patentees wrongly launch a complaint and the alleged infringing products are mistakenly taken down by ISPs. However, such imbalance may well be countervailed by the E-Commerce Law of China which is adopted on August 31, 2018 and will be effective on January 1, 2019. Articles 42 and 43 thereof provide both a "notice and takedown" rule and a "counter-notification" supplementary system that will be applicable to all IP cases in e-commerce. Although it's too early to tell whether the new law will correct the imbalance or not, but we have reason to be optimistic. It remains a bigger challenge whether we can extrapolate from the Chinese experiences some principles for other economies to follow.
2	**Zhang Chenguo (Coco)** **Shanghai Jiaotong University, KoGuan Law School** **PRC**	**Towards A Balanced System Of Sport Program Protection In China -** **The Notion Of Originality Revisited From The Perspective Of Comparative Law** The ongoing debate in the IP academia as whether the live broadcasting of sports programs and video game falls into the protection scope of a certain copyright has triggered the reflection over the question regarding the basic logic the and whole rule system of copyright law. Namely, what is a copyrighted work and what is the originality requirement that delineates the concept of the work? At least in most EU member states and in China, when the rapid digital technological development is challenging the original understanding of copyright law rationale, this question is neither clarified by the legislators nor has the judiciary evolved coherent and stable criteria. IP scholars are increasingly controversial when answering this question. In China, neither the current Regulations for the Implementation of the Chinese Copyright Law nor the proposed third amendment to the Chinese Copyright Law has defined a copyrighted work with sufficient clarity. Here, the requirements of originality and the condition "can be fixed in a form" are the essential conditions that the legislators set for the application of law. Most recently, the Chinese IP academia tends to categorize the sports programs as works expressed by a process analogous to cinematography. This is a rather utilitarian solution based on the following reasons: this opinion argues that compared to the approaches of neighbouring rights protection and Anti-Unfair competition protection, the approach of copyright protection provides the most comprehensive protection regarding online communication, including real-time, delayed, and on-demand transmissions, and thus is of the most benefit to sports program right holders. The Chinese copyright law defines the "right of communication over information network" as the "right of making works available to the public by wire or wireless means, in such a way the public may access the works from a place and at a time individually chosen by them". The non-interactive component of the right of communication to the public is covered practically by the broadcasting right and the so-called "other rights" under Chinese copyright law. Thus, this opinion holds that recognizing sports programs as works of authorship would pave the way for sports programs to enjoy the most comprehensive protection, both for the Chinese right holders in overseas market and for the overseas programs on the Chinese market. This article argues the opinion above has neglected the dichotomy of the current Chinese copyright law in rights of authorship and neighboring rights. To respond to this opinion, the paper goes back to the core question that underlines the whole debate: what is the requirement of originality when delineating a work in light of the copyright law? Chinese copyright law has borrowed the texts and rationale from the German Copyright law and also adopted that from the international treaties from the very beginning, whilst the academia has influenced the application of copyright law (both the administrative and the judicial application) learning the nutrition from the Angelo-American legal theory. To analyze a hybrid law system as this, this paper endeavours to set the frameworks for the "test of originality doctrines" when applying Chinese copyright law to deliberate whether a "work" can be constituted. It does this by reconciling the different interpretations of "originality" in different jurisdictions from the perspective of comparative law and summarizing the relevant court decisions in China. By doing this, this paper aims at providing an appropriate protection pattern for sport programs broadcasting, which should be in harmony with the current Chinese copyright law system and at the same time provide sufficient incentives for the industry and comply with international treaty practices. The first part examines how Berne Convention, TRIPs, WCT and WPPT have set the standards of originality in a work and to what

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		extent the Chinese legislators have adopted these standards. Part II discusses the change of legal theory in Germany from the "Schoepfunghoehe" (Height of Creation) to the "kleine Muenze" (Small Coins) and examines whether this has been accepted by the prevailing opinion in Germany. Part III discusses the recent decisions of European Court of Justice, courts of EU-Member states and the United States as how to interpret originality. Part IV summarizes the judicial practice in Chinese courts and analyzes how it has been influenced by other jurisdictions. Part V discusses how to develop China's own strategy from the short-, the medium- and the long-term perspective as how to protect sport programs in a more balanced and appropriate pattern. Part VI provides a concluding remark.
3	**ZHANG Haoran** **Law School, Renmin University of China** **PRC**	**SEPs Enforcement Issues—** **Comparative Study Of China And Japan** To license standard essential patents (SEPs) according to fair, reasonable and non-discriminatory (FRAND) terms has become a widely accepted means to promote the implementation of technologies and standards. However, one thorny question remains, namely can FRAND- encumbered SEPs apply for injunction, which would put the implementation of technologies and standards to a halt? Both Chinese and Japanese patent infringement remedy systems are injunction-centered, under which courts do not have much discretion not to issue injunction, and are therefore can find it hard to strike a balance between SEPs holders and the allegedly infringing implementers. However, the Supreme People's Court prescribes in Article 24 of Interpretation (II) on Several Issues concerning the Application of Law in the Trial of Patent Infringement Dispute Cases that if the SEP patentee breaches the FRAND commitment intentionally and infringer has no obvious faults in negotiations, courts generally shall not grant the injunction. In addition, Beijing High People's Court and Guangdong High People's Court issued guidelines on adjudicating SEP cases, to set specific rules to determine whether the infringer has fault or whether the patentee violated FRAND commitment in negotiation, which are greatly influenced by CJEU's Huawei v. ZTE. According to the Guidelines, the patentee has obligations to send a negotiation notification to the implementer, to provide specific licensing terms and calculation methods, to reply within a reasonable time, etc.; the implementer has obligations to give a specific reply within a reasonable time about the license terms. But the Chinese approach has the following problems: Firstly, the essence of the FRAND disputes is about royalty. At present, there is no generally accepted calculation methods for royalty. In licensing practices, the prior license information of both parties is usually kept as confidential and seldom disclosed. With asymmetric and insufficient information, it is difficult for patentees and implementers to reach a license agreement, even both are in good faith. Secondly, the negotiation rules are still unclear, e.g. what does "(to) reply within a reasonable time" or " (to) provide specific licensing terms" mean. Thirdly, the criteria for determining the negotiators' fault are not clear, and there is a lack the consideration of the overall process of negotiation. It could harm China's core interests, because the main Information and Communication Technology (ICT) industry of China is manufacturing and Chinese enterprises hold less SEPs than foreign enterprises. Given that Japan has similar legal rules on injunction and a comparable ICT industry with China, it would be beneficial for Chinese scholars to study how Japanese are dealing with the above-mentioned issues, and vice versa, which might lead to a "middle way" to reconcile divergent interests of SEPs patentees and implementers. For one thing, the Tokyo Intellectual Property High Court in Apple v. Samsung, and the Tokyo District Court in Imation v. One Blue have attempted to strike a balance between the right of SEP holders and trust of the implementers by resorting to the fundamental principle of "no abuse of right". In both cases, the courts ruled that "unwillingness" should be narrowly interpreted in light of the purpose of standardization and the Patent Act's legislative intent. Even though the amounts of royalties offered by patentees and implementers were far apart, it was not necessarily an indication there was unwillingness. For another thing, in 2016 the Japanese Fair Trade Commission (JFTC) revised its Guidelines for the Use of Intellectual Property under the Antimonopoly Act, which states that a refusal to license, or seeking an injunction by a SEP holder against a party who is "willing" to take a FRAND license can violate Japan's Antimonopoly Act. The JFTC indicates that whether a prospective license seeker is "willing" shall be determined on a case-by-case basis, mainly focusing on the conduct of both parties in the negotiations. It also provides "safe harbor" to license-seekers by stating that "a party is deemed to be 'willing' if it shows its intention to have the FRAND license conditions determined by a court or an arbitration center in the case that the parties do not reach an agreement on the license conditions even after a certain period of negotiations." To sum up, Japanese courts and JFTC interpret the "unwillingness" narrowly in order to promote more active enforcement of SEPs. Japan's policy on SEPs is consistent with their industrial interests of being more implementers than holders of SEPs， although this may encourage infringers to delay the process

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		of seeking license from SEP owners, and result in less standardization and fewer SEPs furthermore. This article will discuss whether China should adopt similar path such as Japan, reflect on the appropriateness of application of injunction in case of FRAND- encumbered SEPs, and how to use supplementary mechanism to better balance the interests of owners and implementers of SEPs proportionally, among other issues.
4	**LI Jingze** **Tilburg Law School, Tilburg University** **Netherlands**	**When FRAND Meets An Open Source License: Challenges To IPR Arrangements In Standard Setting Organizations** **---- The Case Of Apache V.2 In ETSI Under The Lens Of EU Competition Law As An Example** Companies can compete for future markets even if there is not an existing one yet. This is particularly true in high technology industries, in which companies compete more for the research and development (R&D) of new goods and services other than prices and outputs. R&Ds related to technical standards demonstrate such a place when competition in innovation may happen. It can take place in activities before the standardization process, in the standardization process or other collective actions afterwards (e.g. patent pools for standards). Companies with different business models such as pure innovators and implementers may have various interests when engaging in these negotiations and intellectual property rights have been constantly used to leverage their interests. For instance, innovators manipulate the access to their standard essential patents or implementers may form a collision to negotiate with innovators and force them to agree on lower royalty rates on Standard Essential Patents (SEPs) in order to have their patents embedded in standards. For a long time, Intellectual Property Rights (IPRs) policies in Standard Setting Organizations (SSOs), especially the Fair Reasonable and Non-discriminatory (FRAND) commitment on SEPs, have been considered as means to balance various interests and to ensure both competition and innovation. Recently, the utilization of open source software in SSOs has obtained much attention. A pioneering step was taken by European Telecommunication Standardization Institute (ETSI) to host an open source project called the Open Source MANO (OSM) under the open source license Apache v.2. Although hosting an open source project in an SSO is often initiated by technical considerations (e.g. open source software is agile in developing test implementations to specifications), it will also influence the existing balanced IPR arrangements structure of the SSO, which is largely based on FRAND commitment on SEPs and copyright rules of SSO specifications. Against this background, this paper aims at addressing the following questions: what are the influences of an open source license to the FRAND based IPR policy? Will these effects shift the balance between companies with different business models and cause restraints on competition? Whether the EU competition law or self-regulation by SSOs is well equipped in protecting competition in this innovation model? Taking the OSM as an example, we observe that the Apache v.2 has the potential to affect the current disclosure rule and commitment rule for SEPs in the ETSI. The so-called “patent retaliation” clause conflicts with the FRAND commitment that has the potential to impose a zero-royalty obligation to patent holders, which covers not only SEPs but also non-essential patents. Therefore, it may discourage innovators from participating and contributing. It will likely to affect the behaviors of different companies and may restrict/promote competition. We further argue that such hosting an open source project creates a new type of innovation model which brings a joint R&D effort in a pre-standardization in a formal SSO context. The IPR arrangements compare to R&D agreements, of which terms are determined by the open source license and the existing IPR policy. Based on this, we further explore whether potential restraints on competition in innovation in a hosting open source project in SSOs could be corrected by competition rules or self-regulation of SSOs. We find that EU competition law is incapable to react. Although the EU Guidelines on Horizontal Cooperation Agreements recognized the need to protect “competition in innovation” that takes place outside and before the emergence of markets. But this R&D model will easily be exempted by the block exemption of Regulation 1217/2010 on R&D agreements. Because this model mainly concerns future standards that will steer a future market and participates will not be identified as competitors or potential competitors so that it qualifies the requirements of the block exemption, of which the examinations actually rely heavily on existing market. However, the reason behind is that protecting competition in innovation is not easy to capture by legislation before any concrete economic work could support. On the other hand, we argue that self-regulation by SSOs is still a preferable way to ensure competition in a hosting open source project. Following their successful experience in coming up with the FRAND commitment, we suggest that SSOs chose an open source license with care when hosting an open source project in order to maintain the balanced situation as it has been.

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5	**Huang Weijie Faculty of Law, The University of Hong Kong, PRC**	**To Block or to Monetize": A Mechanism to Facilitate Copyright Reallocation** I. Introduction The Digital Single Market Strategy (DSMS) passed by EU in 2015 formulates a fair remuneration provision which allows copyright owners to enter into licensing agreements with a User-Generated Content (UGC) platform and obtain remuneration for the exploitation of their works. The platform should either sign the contracts or remove the allegedly infringing works. Before its institutionalization, this "monetization or takedown" strategy has already been applied to practice and proved to be a success, such as the "Content ID" system in YouTube and other similar programs in Tudou (China), M1(Singapore), PCCW (Hong Kong) and Cellular (Taiwan). II. Monetization or Takedown: A Two-Pronged Strategy A. Monetizing Infringement: An Efficient Copyright Reallocation Compared with the "notice and takedown" rule adopted by Digital Millennium Copyright Act (DMCA), the "monetization or takedown" rule provides a "monetizing infringement" approach that converts infringement to ex-post authorized use. Reallocating copyright to the user meets the interests of all stakeholders. Copyright owners can avoid the loss caused by untimely removal and benefit from others' use. Users can freely use copyrighted works to create UGC without worrying about removal which is quite common under the "notice and takedown" rule even if the UGC is legal. UGC platforms, which previously have no legally acknowledged rights on UGC while often being held liable for the infringement caused by UGC due to the ambiguous legal regime, now get the right of monetizing UGC along with corresponding duty of enforcing their licensing agreements with copyright owners. The general public also get better off from the increased legal certainty and the legalization of the UGC generation. B. The Property Rule/Liability Rule Formulation: A Transaction Cost Approach The transition from "notice and take down" to "monetization or takedown" actually complements the copyright protection mechanism by adding a liability rule of monetization to the previous property rule of takedown. The "property rule/liability rule" formulation is proposed by law and economic scholars Calabresi and Melamed to illustrate how to protect entitlements to promote efficiency. Property rule merely decides the entitlement holder. Other people can only get the entitlement by a voluntary transaction with the entitlement holder, meaning that the price of transaction is set by the private parties. Therefore, property rules have more advantages in situations where transaction costs are low so that the highest-value holder can finally obtain the entitlement, or where transaction costs are high but the initial allocation of property right is efficient. Liability rule decides both the entitlement holder and the price of transferring the entitlement. Any non-entitlement holder can get the entitlements by paying a third-party set price to the entitlement holder. If transaction costs are high with some difficulties in initially allocating property rights, a liability rule with an ex-post remuneration scheme is more efficient than a property rule. C. From "Notice and Takedown" to "Monetization or Takedown": A Product of the UGC Age 1. Property-Rule Protection of "Takedown": The User/Pirate Assumption In the time making DMCA, most user-upload contents were mere copies of copyrighted material and constituted infringement, making the initial allocation of property right easy. But technological limitations led to high costs of identifying infringement and enforcing copyright against individual users. The opportunity to get compensation from online service providers was likewise unsure due to the uncertain results of secondary liability cases. In the light of the clear boundary of property and the high searching and enforcement costs, a property rule of direct takedown protects copyright better than a liability rule. 2. A Two-Pronged Approach of "Monetization or Takedown": The User/Producer Phenomenon During the 20 years from DMCA to DSMS, UGC has flourished dramatically in the gray area between infringement and fair use, and thus raises the costs of delineating property boundaries and allocating property rights. On the other hand, the increasing employment of technology such

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		as content recognition technologies, blockchain and smart contract have significantly facilitated the enforcement of copyright. Different factors have contrary influences on transaction costs, therefore a two-pronged strategy works better than a one-size-fits-all rule. III. Application of "Monetization or Takedown" in UGC Platforms A. The Party to Choose Monetization or Takedown The copyright owner is the party to choose between monetization and takedown under DSMS probably because s/he usually has the best knowledge about the transaction costs in individual cases ranging from searching infringers, delineating property boundary, negotiation, pricing to enforcing copyright, and about his/her advantages compared to the user in exploiting the copyrighted work. However, this copyright owner-centered perspective overlooks the contribution of users who create UGC. If a UGC constitutes a new work going beyond the original meaning and purpose of the preexisting work, is it fair to allow the copyright owner of the preexisting work to monetize UGC, especially when the preexisting work is accidentally added to the UGC? B. The Monetization of UGC UGC is not mere infringement and therefore the revenue from the exploitation of UGC should share between the preexisting work and the UGC. The method and amount of monetization depends on various factors such as the purpose and character of the UGC, the nature of the preexisting work, the amount and substantiality of the preexisting work that has been used in UGC, and the effect of the UGC upon the potential market for or value of the preexisting work, etc. UGC platforms may also provide some guidelines about monetization. C. The Duties of UGC Platforms As a general principle, the duty of UGC platforms should be commensurate with their rights in monetizing UGC. However, it is still controversial whether UGC platforms lose their neutrality by monetizing UGC, and to what extent should UGC platforms assume the monitoring obligation. D. The Potential Danger of Market Concentration of UGC Platforms The "monetization or takedown" approach requires UGC platforms to pay licensing fees and apply content recognizing technologies, which may be burdensome for small platforms that haven't attracted enough users. IV. Concluding Remarks
6	**Cheng Wenting, School of Law, Singapore Management University, Singapore**	**Test Data Protection in China** Test data are data generated in the development of drugs, including data relating to a drug's quality, safety, and efficacy, as well as to its physical and chemical characteristics. Test data and other data are required by national authorities to register pharmaceutical products, so it is one of the measures for the regulation of market access for pharmaceuticals. In practice, the controversial issue concerning test data regulation is a third party's use of the data for subsequent registration of similar products (often generics). Since the 1980s, two legal mechanisms have been developed for data protection concerning its use by a third party. One is trade secret protection. Article 39.3 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) adopted this approach, which protects test data and other data as undisclosed information; the other approach is data exclusivity, which treats test data as a type of intellectual property bearing a right of exclusivity for a certain period. China accepted 6-year data exclusivity to access to the WTO. What makes China different from other countries signing FTAs with the US is the rapid development of its domestic pharmaceutical market as well as its own pharmaceutical industry. China is now the second largest pharmaceutical market in the world, expected to grow from $108 billion in 2015 to $167 billion by 2020 (9.1% annual growth). The Chinese market is full of medium-to-long-term potential not only because of its large market size but also the aging population, changing disease profile, and rapidly improving living standards. Although most Chinese pharma firms devote less than 5% of sales to R&D, which was only 1/3 of global pharmaceutical companies, Chinese companies began to take increasing part of the domestic market. China acceded to the WTO in 2001. China also had to comply with TRIPS as a member of the WTO. Therefore, Article 39.3, which provided test data and other data should be protected as undisclosed information, was the basis for an adequately-compliant domestic law for data protection in China. In addition, China agreed to provide at least six-year data exclusivity for all pharmaceutical and agricultural products which utilise new chemical entities (NCEs), according to Paragraph 284 of *Report of the Working Party on the Accession of China* (Working Party Report). On May 12th 2017, China Food and Drug Administration (CFDA) published Notice of Calling for Comments on *Policies Related to Encouraging Innovations in Pharmaceuticals and Medical Equipment and Protecting Interests and rights of innovators* (CFDA Draft Policies for Comments)"

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		(No. 55 2017). The policies mentioned in this Notice was intended to "further the reform of the drug review system, promote structural adjustment and innovations in pharmaceuticals and medical equipment industries, enhance industrial competition and satisfy the clinic requirement of the public." This Draft for Comments further mentioned patent linkage and data exclusivity as an instrument to achieve these goals. The periods of proposed data exclusivity are specified as follows: · Six-year data protection for original drugs; · Ten-year data protection for original orphan drugs or original drugs for children; · Three-year data protection for improved orphan drugs or improved drugs for children; · Ten-year data protection for original biologics; · 1.5-year protection for generics that have successfully challenged an existing patent; · 1.5-years protection for the first generic marketed domestically; · One-year grace period for drugs approved by the EU, US and Japan drug authorities. China put the development of pharmaceutical industry domestically high on its national agenda in recent years. Biotechnology (including biologics) is one of the seven strategic emerging industries identified by the Chinese government in 2010. *Made in China* (2025) again explicitly emphasized the bio-industry as one of the ten high-end industries for China to gain or maintain its competitive advantage. The above policy has sent out a clear signal that China will enhance data protection for pharmaceuticals and biologics. According to the Chinese government, these changes were intended to promote innovation in the pharmaceutical industry. It too early to evaluate the impact of the introduction of extended data exclusivity on access to medicines since the last policy in 2018 is not implemented yet. Does more rigorous data protection necessarily mean longer term monopoly price for original drugs? The drug price negotiation schemes that China has adopted recently need more **scrutiny** to understand the subtle way how data exclusivity may or may not have an impact. Although it is true that monopolies created by patents and data exclusivity will lead to high price of drugs, China has the largest population in the world, and it began to use this quantity advantage to negotiate with big pharmaceutical companies. If big pharmaceutical companies are willing to drop the unit price of their products, these products can be included in the National Reimbursement Drug List (NRDL), and a certain percentage of the cost will get reimbursed under the national health insurance system. The inclusion of a drug in the NRDL means a tremendous increase of purchase of the drug which may make the pharmaceutical company more profitable than without joining. The price drop of certain drugs has been substantial. For instance, Tenofovir, Ectinib, Gefitinib, has dropped 67%, 54% and 55% from their original prices in the first round of negotiation in 2016. 36 drugs were successfully added into the NRDL in 2017 with average 44% price drop and 17 drugs were included in 2018 with 56.7% drop. It was reported that the price of Cetuximab is the lowest in the world (decreasing from 4200 to 1295/unit) and Ochinib dropped to less than one-third of its original price. Although it could still be argued that the price of other drugs are still high and the high price may maintain longer because of the intellectual property monopoly, this alternative scheme that China is using in bargaining drug prices need to be taken into account when discussing data exclusivity as an innovation-promoting instrument that may have negative impact on the prices.
7	**Praveen TRIPATHI** **National Law School of India University** **India**	**Enforcement Of FRAND Commitments: A View From India And China** CONTEXT Standards are the technical specifications for a new product or process creating interoperability. Standards are protected by patents and technology that is "essential" to comply with a standard is called a Standard Essential Patent. Standard Setting Organizations involve competitors agreeing on certain specifications of the product they plan to market which relates to the competition issues as well as IPRs. Further SEP holder to prevent the standard implementer from using the standardized technology can create "hold-up" and dominate the licensing terms. To achieve the desired objectives SEP holder files may injunctive relief, which itself is seen by many regulators as abuse of dominant power. However, from standard implementer's perspective, who seeks to take defence of the commitment made by the SEP holder to licence the standard on Fair, Reasonable and Non-Discriminatory (FRAND) wholly depends upon domestic law concerning contracts or competition law. Thus, enforceability of FRAND commitments is depended upon the language of the Standard Setting Organisation's (SSO) IPR Policies to which the SEP owner consents and applicable contract law principles are attracted. The issue of injunctive relief and a counter claim (in same court or other body) of

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		abuse of dominant power or licensing on FRAND terms has been seen by various jurisdictions differently. Court of Justice of European Union (CJEU) in its recent decision in Huawei v ZTE, has set out the circumstances under which, seeking a SEP-based injunction constitutes an abuse of a dominant position. The case was made through reference resolving specific questions on SEPs cases relating to the abusive nature of injunctive relief based on FRAND encumbered SEPs. The CJEU ruled that the owner of an allegedly infringed FRAND-encumbered SEP does not breach Article 102 TFEU if it follows a specific procedure as laid down by the CJEU in the instant case. Further, upon failure of negotiation CJEU also provided, upon common agreement of the parties, for third party determination of FRAND licensing terms. However, EC's Horizontal Guidelines specify, the FRAND commitment is irrevocable. Guidelines requests SSOs IPRs policies to ensure the FRAND commitment runs with the patent, like property servitude, regardless of its change of ownership. United States Courts have heavily relied on the principles of Contract Law. For example, in Microsoft Corp. v. Motorola, Inc., the court held that Motorola's commitment to IEEE and ITU to license its SEP on FRAND terms to implementers has Microsoft as a "third party beneficiary" as this gives right to enforce the FRAND contracts between Motorola and each of the two SSO's. Thus, the appropriate remedy is to file the case for the breach of the term of contract. Which shows that the in US the more stress is given to the binding nature of the FRAND commitments and implementers can approach courts for enforcing the terms of the commitments and fixing FRAND compliant royalties. RESEARCH PROBLEM The approach taken by two major jurisdictions is playing the vital role in shaping the judicial response of the courts in India and China. Specifically, the two recent cases from India and China have relied their decision on the EU approach. However, a closer look will be required to understand the FRAND commitment's enforcement in these jurisdictions. Researcher believes that the FRAND commitments are more like a contractual obligation and hence the approach should be more towards considering it as breach of contract and not putting liabilities under Competition Law. For the same, FRAND licensing in both jurisdiction must be studied from the view point of contract law. RESEARCH OBJECTIVE The aim of this study is to examine the process of negotiating licenses for FRAND encumbered SEP and measures that can be taken by both parties in case the negotiation for the licensing fails at a certain point. In the analysing the measures researcher will focus on the appropriate body of law and forums to address the issue with finality. RESEARCH QUESTIONS 1. What is the nature of FRAND encumbered SEP? Whether the FRAND Commitments are strong obligations to be enforceable by courts? 2. What are the reasons for differential approach of EU and US with respect to FRAND commitments? And how these approaches are reflected in in India and China? 3. What is the approach that should be adopted by the Asian jurisdictions, specifically India and China keeping in view their national requirements in terms of economic and technological development? To resolve the above questions researcher will be adopting analytical and comparative methodology to analyse the nature of obligations and means that give effect to these obligations through primary legal documents/resources and secondary resources. Firstly, research will analytically explain the obligation and its content, then analysing the response of EU and US. Secondly, researcher's primary focus will be to make a comparative analysis of FRAND Commitments and its enforcement in India and China as it is responded by the judiciary in the respective country and suggesting the alternate approaches. Researcher also foresee the limitations of availability of Chinese primary sources in English and hence will rely on secondary sources for the gathering and analysing information related to China.
8	**Royal Raj SUBBURAJ**	**Traditional Knowledge As A Fundamental Right: Constitution Of India Vis A Vis Constitution Of Indonesia**

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	Tamil Nadu National Law University India	As an African adage goes, "When an old man dies, a library burns to the ground". A succinct statement that proves the intrinsic worth of (traditional) knowledge. This research argues that there is an onus on the State to preserve such wisdom, implying thereby an existence of a fundamental right for the owners of rich traditional knowledge to claim such protection from the State. However, there are quite a lot of issues to be addressed before such a demand can be made. At the first place, it is pertinent to understand whether traditional knowledge can be considered as an intellectual property. Several international deliberations have started to accept indigenous knowledge as a non-conventional form of intellectual property that calls for adequate safeguards. However, much ink has been spilled to identify the "owners‟ of such knowledge, without which the whole protective mechanism would turn futile. Generally, the following two approaches viz., state ownership or individual/community ownership is being followed across jurisdictions. But the idea of State ownership vis-a-vis traditional knowledge would run afoul of the notion of fundamental rights. Ironically that is the scenario in India, where the establishment of Traditional Knowledge Digital Library (TKDL), a State body has taken up the „guardianship‟ role of protecting the knowledge of various indigenous people groups and their rights. This poses an obvious question, who is the beneficiary of this initiative, whether the State or the true owners of traditional knowledge? What is the status of benefit sharing and informed consent? Article 29 of the Constitution of India overtly declares the "Any section of the citizens residing in the territory of India or any part thereof having a distinct language, script or culture of its own shall have the right to conserve the same" (emphasis added). Cultural rights include within its ambit the knowledge, belief, art etc. of a given community. It is a no-entry zone for the State and it cannot deprive the real benefactors of the traditional knowledge, which per se is an inviolable cultural right. Infringement the fundamental rights of an individual/community would prove costly for the State of India. In contrast, Article 28I (3) of the Constitution of Indonesia explicitly mentions that "The cultural identities and rights of traditional communities are to be respected in conjunction with progressing times and civilization". It is actually a commendable step taken by the Indonesian government to include the said provisions by the second amendment carried on 18 August 2000. Article 26 of the Patent Act, 2016 also talks about protective rules with respect to benefit sharing and disclosure requirements for the origin or sources of genetic resources and/or traditional knowledge. This provision was added keeping in consonance with the contents enshrined in Convention on Biodiversity. But with regard to copyright, Article 38 (1) of the Copyright Act 2014 states thus "Copyright on traditional cultural expressions are held by the State". Once again State has gained an upper hand. The need of the hour is not the State ownership approach, rather an exclusive individual/community ownership approach. This places the individual/community as the center of polity, where the State acts as a facilitator by enacting sui generis legislation to see that the true benefactors are the individual/community. The same was reiterated in Article 8(j) of the Convention on Biodiversity, 2000 which goes like this, "Article 8 (j) of the CBD states "States Parties shall respect, preserve and maintain traditional knowledge; in use it must seek approval from and involve the holder, and to support the distribution of benefits (benefits) of its fair manner". Article 31 of the United Nations Declaration on the Rights of Indigenous Community makes it all the more clearer. The provision overtly claims that Indigenous people "have the right to maintain, control, protect and develop their intellectual property over their cultural heritage, traditional knowledge and traditional cultural expression". This "right‟ remains only as a theoretical guideline devoid of any relevance, as State tries to maintain, control, protect and develop the intellectual property of indigenous people. State ownership has become the norm and it is detrimental to the interests of the indigenous individual/community in toto. As originality, novelty, distinctiveness is for copyrights, patents, trademarks respectively, uniqueness is for traditional knowledge. This unique knowledge in the hands of a community/individual has to be protected (not usurped) by the State, so that their cultural right will not be hampered by commercial exploitation and bio-colonialism. Establishment of TKDL (as seen in India), enacting legislations is just the means to achieve the end and they are not the end in itself. Only when the true contributors of knowledge benefit from their knowledge, the whole system would prove effective. The researcher by virtue of this research tries to elevate traditional knowledge as a fundamental human right, thereby arguing for individual//community ownership approach in contrast to State ownership to guard the distinct culture of the Indian/Indonesian indigenous community. Besides, the research also enables the Nation States/international organizations in the global arena to recognize the paramount importance of conserving the traditional knowledge so that exploitations, bio piracy and intellectual theft can be avoided, obviously giving way for legitimate bio prospecting.
9	**Akanksha JUMDE**	**Utility Models In India: Advocating An Alternative System Of Protecting Inventions**

No.	Presenter(s)/Institution	Abstract
	Deakin Law School, Deakin University Australia	A utility model, also referred to as "petty patent, or "innovation patent" as defined by WIPO, is an exclusive right granted for an invention, which allows the right holder to prevent others from commercially using the protected invention without his authorization for a limited period of time. Adopted as a system of parallel protection to patents in several countries with the objective of according protection to "incremental" inventions, or inventions which are new and innovative, but not necessarily novel or involve an "inventive step" as required under patents law, and so the right of utility models are generally awarded for a shorter duration and follows a simpler procedure for registration than patents. Till date, sixty countries have adopted utility models as a system of protection. India, with its abundantly growing MSME and SME sectors and vast traditional knowledge, has tremendous potential for creativity, and thus, innovation and entrepreneurship have become the buzzwords in the Indian industry and business. While there has been tremendous growth in the innovation culture in India, the current legal system, with its emphasis on "formal" or less sophisticated inventions, continues to protect inventions that are "novel, involve inventive step, and are not obvious to prior art". Therefore, inventions which can meet the high patentability criteria receive protection under the current statutory law. This high patentability criteria, is usually a double edged sword, as on a positive note, it curbs ever-greening of patents, and keeping the costs of drugs down, while on a slightly disadvantageous note, leaves out "incremental innovations", or grass-root innovations. The higher and more stringent inventive threshold under patent law is one of the major reasons for "incremental innovations" not receiving protection under standard patent system, as most of the inventions have lower inventive threshold. However, many of these innovations have been extensively copied, hampering businesses of the inventors and bringing them a lot of dissatisfaction. In view of the above, there is a need for an alternative system of protection, whereby these grass-root inventions may be protected to mitigate their misuse and misappropriation. Moreover, many of these inventions have been created by inventors who come from socially and economically disadvantaged sections of the society, and thus, an alternative system may provide an incentive for them to disclose their inventions, or more so, commercially exploit their inventions for making ends meet. This policy paper seeks to examine the basics of utility model~~s~~ protection; conduct a comparative analysis of utility models system of protection in other countries; and critically analyse the pros and cons of the introducing a similar system of protection in India, in the light of the socio-economic conditions of the country, and provide an appropriate conclusion on enacting such a system in India. Accordingly, the paper has been divided into four parts, Part I of the paper deals with introduction to the concept of utility models; Part II of the paper aims to conduct a comparative analysis of utility models from other jurisdictions; Part III of the paper aims to examine the benefits and shortcomings for introducing similar system in India, and Part IV of the paper concludes with opinion of the author that legislation utility models may be enacted in India, as the benefits outweigh the shortcomings, with suggestions on major provisions that may be included, if such a system is introduced in India. The author opines that a legislation on utility models in India may benefit the Micro, Small and Medium Scale Enterprises (MSMEs), as well as individual and small-time innovators. A parallel system to patent law may be adopted in India, by way of a separate legislation on utility models. Since the targeted beneficiary audience for this legislation are the MSMEs and individual inventors, the more stringent criteria adopted for grant of patents may be relaxed to allow protection lesser innovative inventions. Despite its shortcomings, the author believes that law on utility models in India may have several advantages. In essence, following the examples of other countries like Australia, Singapore, Thailand, Philippines and China, where as seen in the above section, the utility model~~s~~ system as benefitted the local innovators and the SMEs, the author believes that law on utility models may immensely benefit the individual inventors and medium and small-scale industries and start-ups, which are substantial drivers of economic growth in the country today. The introduction of utility models may be particularly beneficial to the Information Technology sector, of which India is now the pulse of the world. Software and processes created by the IT sector may be protected in a quick and easier fashion, given the rapid rate at which this industry is growing and meeting international demands. In spite of the numerous benefits utility model system offers to the MSME and SME sector, it is important that certain precautions are taken before the system in introduced in India. For instance, an exceptionally wide would be open to abuse which would be counterproductive and impact investment. SME's could find themselves exposed to excessive litigation as they argue the validity of incremental inventions of nominal value. It is also possible that if utility model protection was unnecessarily wide (i.e. beyond mechanical inventions), companies focusing on substantive technological innovations in other industries could be forced to build their own utility model portfolios for defensive purposes or even proactively seeking to enforce their rights. The objective should be to enable the protection of genuine innovations in the field of mechanical devices and not to generate unnecessary litigation.

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10	**Yogesh PAI and Shrinkhala JAISWAL** **Centre for Innovation, Intellectual Property and Competition, National Law University, India**	**'Working' through NPEs Debate: Injunctive Relief in India** A patent protection grants its owner the 'right to exclude' others from using the invention. The patentee, therefore is entitled to an injunction, among other remedies, against an infringer. However, an injunction is a remedy which is granted based on evaluating equitable factors. The mismatch between the right to exclude and the equitable nature of remedies has become more pronounced in global patent debates since the decision of Ebay Inc. et al v. Mercexchange, L.L.C (2007) in the United States. Here, the US Court for the very first time departed from the long-held presumption in favour of grant of injunction on infringement. While determining whether the plaintiff will face irreparable harm if the injunction was not granted, the court (applying the four factor test) opined that even though entities who are merely engaged in licencing their patents and not developing them are not excluded from a grant of injunction against infringers, however the court will consider this factor while weighing the equities and such practice also weighs against the need of equitable remedy as it evidences the patentees intention of forgoing his right to exclude in exchange of monetary benefits. The court concluded that the plaintiff had used his patent right as a sword to aid in litigation or threatened litigation against infringers or potential infringers, thereby holding that injunctive relief would not be an appropriate remedy in that particular case. Subsequently, many courts have held that if monetary damages are available, injunction may not be an appropriate remedy. This goes into the heart of patentees who are non-practising entities (NPEs) since their business models are based on widespread licensing. The assumed problem with NPEs is that patentees are able to exercise market-power far beyond the economic contribution of their patents, leading to patent holdup and royalty stacking. Hence an injunction would only enhance such market power with distorting effects on the market. However, sufficient conclusive evidence is not available on activities of such entities causing/increasing the problem of royalty stacking or patent holdup. There exists a plethora of literature on NPE activity and its supposed harms or benefits to the US Patent system, however, in India, the literature on NPE activity is minimal. Two cases have tested the limits of NPEs in India where the right holders were able to sustainably leverage their invalid patents through border measures, until they were finally struck down by the courts. However, the problem of an alleged exercise of a putative invalid patent is a not a trait unique to NPEs since manufacturing (practicing) a patented invention is not a feature examined to ascertain validity. However, 'working' through manufacturing in India is a fiat accompli in India patent law since lack of territorial working is a ground for a compulsory license. Similarly, India's patent law requires the patentee for provide annual statements of 'working', which provides info on whether the patent is licenced and/or is manufactured in adequate commercial scale in India. However, the status of patentee's practicing their patents has led to courts relying on such information to deny injunctive relief. There have been very few cases where the courts have denied injunctive relief because the individual/firm was not commercializing the invention. For instance, the decision of the Court in Franz Xaver Huemer v. New yash Engineers or Sandeep Jaidka v. Mukesh Mittal & Anr, the court viewed that, if the patent has not been exploited in India then the opinion of the court may tilt in favour of the infringer and hence deny injunctive relief to the patentee. Even then it is not clear if ownership of the patent (owned by NPE or not) plays a major factor in determining the grant or denial of injunctions. Primarily, non-working of the invention by the patentee could be a ground for denying an injunction notwithstanding that it could be independently assessed as distinct ground for granting a compulsory licence. Further, there is also no clarity on the accepted activities that constitute working/using the invention in India. For instance, whether only licensing the patent could constitute using the invention, is not clear. This paper, thus, by analyzing the universe of patent injunction cases in India, attempts to find out if the nature of patentee's practising status is a significant factor considered by the courts in denying or granting injunctions. The paper, while explaining the debate on NPE activity, will briefly deal with the position in US through case laws and then specifically deal with injunctive cases in India and if it has/will have an impact on NPEs. In this empirical study, the database on patent injunction cases will be created with several data points to determine the trends in treatment of NPEs in the context of non-working of patented inventions in India. To obtain conclusive results from the study, we will manually prepare a list of all patent injunction cases in India and then examine the cases to identify variables that are indicative of the ownership of patents. The methodology used in to scan available data bases on patent injunctions in India available in the public domain. This data is verified by mining two separate case law data bases in India (Manupatra and Indiakanoon) up to June 2018. The limitation of the empirical method lies in the fact that many district courts do not report their orders online. Hence such order may have been excluded. However, the overall trend would be clear by examining available data. In terms of contribution, this paper highlights normative basis, trends and pitfalls in approaching the patent injunction question in the context of NPEs in India.

No.	Presenter(s)/Institution	Abstract
11	**Shreyansh SINGH, Centre for WTO Studies, Indian Institute of Foreign Trade India**	**Making India Streaming Ready: Lessons From China And US** The availability of cheap smartphones along with affordable data plans has brought about an overall 85% increase in the consumption of music through mobile devices in India. The figure seems promising not only for the digital music business but will also help in remedying the problem of piracy. This can be reasonably concluded relying on the outcomes of the two pronged Chinese experiment i.e. annual anti-piracy program 'Sword Net Action' along with a coordinated effort by streaming platforms to provide an alternative to the consumers so as to tackle the root cause of piracy. Such streaming services either allow listening to music without spending any money (a 'free-mium' or ad-driven services) or on paying very low subscription fees. However, this phenomenon was not as simple as it may look and required additional guidelines or regulations. A race to gain exclusive licenses to oust other players from the market resulting in bidding wars among the streaming service providers followed subsequently. This eventually forced the authorities to intervene and discourage exclusive licenses as it was limiting the dissemination and the marketing of musical works thereby defeating the whole purpose of copyright protection. It also posed problems in the long run for smaller competitors and artists which possess lesser bargaining power. Nevertheless, this remains a lesson for India given the fact that it is the second largest smartphone market after China and shares similar consumer behaviour/tendency of not paying for enjoying and accessing music like China. Additionally, India faces more structural issues in context of 'on-demand internet broadcasting services' or streaming services. Moreover, the legal uncertainty over the application of music copyright law along with episodes of over-reach by enforcement authorities further aggravates the situation. One such example is that of a clarification issued by Department of Industrial Policy and Promotion (Ministry of Commerce, Government of India) regarding Section 31D of the Indian Copyright Act, 1957 which in spirit interpreted the provision for statutory license originally meant for radio and television broadcasting to include internet broadcasting, though welcomed by the streaming service providers but in the opinion of many experts including Prof. Shamnad Basheer 'falls outside the constitutional competence'. The potential in the Indian music industry will be realized only when the finer details of the law specifically the licensing system and royalty related issues are worked upon taking into account the interests of every stakeholder. With the U.S. introducing the Music Modernization Act (consolidation of three separate parts i.e. the Musical Works Modernization Act, the CLASSICS Act, the AMP Act) to further strengthen its copyright framework and to address the interests of both the right holders and the streaming services, much needs to be observed and learnt before any policy import in India, considering for instance, that any 'Mechanical Licensing Collective' like body supported financially by digital music providers primarily and governed by publishers may not be practical in its proposed form in India as is evident by the examples of Indian Performing Right Society (with adequate transparency and accountability related measures in place) and the Copyright Board. Moreover, the 'willing seller/willing buyer standard' for calculation of mechanical royalty rates in India may not be pragmatic. This paper is exploratory in nature and aims at providing suggestion for addressing the issues of digital music industry and counter-balancing it with the interests of copyright owners who usually accuse streaming services of not providing adequate remuneration eventually terming them as 'devil', 'digital vampire', etc. The paper will briefly touch upon the legal issues involved in music streaming and the different types of model it functions on. Secondly, the paper will make an enquiry into the reforms brought about by the Chinese authorities and other factors which lead to increased revenues and will subsequently look upon any specific measures which India can adopt since consumer preferences, dynamics of music industry and other factors including affordable smartphones, low cost data and availability of multiple service supplier remain similar (for this aspect the paper will also take into account the available data and statistics). This will be done by employing the historical analysis of law and its evolution. Thirdly, paper will explore the possibility of introducing any Music Modernization Act like legal framework in India by a brief comparative analysis of the existing legal provisions and judicial pronouncements considering the specific challenges faced by stakeholders of both the jurisdictions (US and India). Lastly, the paper will finally conclude by summing up the findings and providing suggestions for legal reform.
12	**Devika AGARWAL, National Association of Software and**	**Analysing The DU Photocopy Case From An International IP Law Perspective**

No.	Presenter(s)/Institution	Abstract
	Service Companies, India	My thesis analyses the judgments of the Delhi High Court (HC) in *The Chancellor, Masters and Scholars of University of Oxford & Ors v. Rameshwari Photocopy Services & Ors* (popularly known as the Delhi University (DU) Photocopy Case in India) from an international intellectual property (IP) law perspective. What started in mid-2012 as a copyright raid conducted on a small photocopy shop located in the premises of DU culminated in a landmark decision in 2016 on the scope of section 52(1)(i) of the Indian Copyright Act, 1957 (Copyright Act). Section 52(1)(i) is the educational exception in the Copyright Act which permits reproduction of copyrighted works in the course of instruction. The main issue before the court was whether the compilation and sale of course packs- containing excerpts from the books published by Oxford University Press, Cambridge University Press and Taylor & Francis (without the publishers' permission)- by Rameshwari (the photocopy shop licensed by DU) amounted to copyright infringement. The Delhi HC, referring to India's obligations under the Berne Convention and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), observed that while national copyright laws must fulfil the three-step test in international copyright law, it is left to the discretion of national legislators to decide whether a particular copyright exception is justified under the three-step test. The Delhi HC in its original judgment and subsequent appellate judgment broadly interpreted section 52(1)(i) in the DU Photocopy Case. This thesis explores whether a broad interpretation of the educational exception in the DU Photocopy Case is justified under the copyright limitations and exceptions including the three-step test in international copyright law. In my thesis, I discuss the provisions for copyright exceptions and limitations in international agreements such as Articles 9:2 and 10 of the Berne Convention and Article 13 of TRIPS. I also highlight the extent to which public interest provisions in TRIPS would be relevant in a WTO dispute involving the DU Photocopy Case. I begin with a discussion of the relevant facts of the DU Photocopy Case, the relevant provisions of the Indian Copyright Act and the judgments of the Delhi HC. In the next chapter, I analyse the compatibility of the DU Photocopy Case with the Berne Convention to which India is a party. I refer to Article 10:2 of Berne which is a specific educational exception and Article 9:2 which encapsulates the three-step test applicable to exceptions and limitations to copyright. I argue that the compatibility of the Delhi HC's interpretation of section 52(1)(i) with Berne must be judged based on Article 10:2 of Berne without any role for the three-step test under Article 9:2. Accordingly, I analyse whether the use under s.52(1)(i) is by way of illustration, to the extent justified by the purpose, for teaching, and compatible with fair use. I conclude that the interpretation of s.52(1)(i) by the Delhi HC satisfies all the 4 requirements of 10:2 and is therefore, compatible with Berne. As India is also a Member of the WTO, I analyse the DU Photocopy Case with reference to the provisions of the WTO TRIPS Agreement. At the outset, I argue that both Article 13 of TRIPS and Article 10:2 of Berne would apply in a WTO dispute over the DU Photocopy Case, therefore, even when the Delhi HC decision conforms to Article 10:2 of Berne, the decision will still need to pass muster under Article 13 of TRIPS. To analyse whether the judgment in the DU Photocopy Case is compatible with the three-step test in TRIPS, I decode the meaning of each of the three limbs of Article 13. The only WTO case where the Dispute Settlement Body (DSB) has extensively interpreted the three-step test in Article 13 is the US-Copyright dispute which I critique in my analysis. Applying the TRIPS three-step test to the facts of the DU Photocopy Case, I argue that s.52(1)(i) is clearly defined and its application is limited to certain special cases; as there is no profit-making on the part of Rameshwari, the course-packs do not conflict with a normal exploitation of the publishers' works; and as the market for the publishers' books did not include DU students (the target audience for the course-packs), the publishers' legitimate interests were not being 'unreasonably prejudiced' by the course-packs. While interpreting Article 13, it is important to also consider the role of the general provisions and the basic principles in Part I of TRIPS such as Articles 7 & 8 which highlight the importance of socio-economic factors and public interest in the enforcement of IPR by Member States. I argue that despite the short shrift to Articles 7 & 8 by the WTO Panel, these provisions are now acknowledged by scholars to have strong interpretative value for promoting public interest, ensuring regulatory space to WTO Members and placing development as an important objective of international IP law. Most recently, the Panel applied Articles 7 & 8 in Australia- Plain Packaging. In the DU Photocopy Case particularly, one must take account of the public interest involved, namely that of the students in India. Based on the above analysis, I conclude that the act of making and supplying course-packs to students by DU is covered by copyright limitations/exceptions in Berne and TRIPS. I also address the criticism directed at developing countries in the context of IP where their behaviour is likened to Robin Hood for stealing from the rich (rights-holder) to give to the poor (IP users). It is often overlooked that academics who publish their works use public resources (i.e. the tax-payers' money) for carrying out their research. This research is behind the paywall and public universities have to pay academic publishers for gaining access to these works. If publishers restrict universities further in disseminating these works freely to the students, they risk monopolising knowledge i.e. stealing from the poor to give to the rich.

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13	**Eka Nanda RAVIZKI and Nazma Swastika Aries PURNAMI Faculty of Law, Gadjah Mada University of Indonesia Indonesia**	**Understanding The Changing Concept Of Electronic Transaction By Using Cryptocurrency In The Disruption Technology Era Comparison Study Between Indonesia And Singapore)** Financial innovation has a long history. As long as money and finance still serve human life, financial innovation cannot be stopped. The speed of financial innovation always increases every year, because of the rapid worldwide economic growth, globalization, financial liberalization and deregulation (or in response to government regulations), the development of new legal tools and technology's progress in the area of Information and Communication Technology (ICT) The rapid growth of the electronic or digital transaction systems that are starting to be commonly used by people, has made the financial industry develop and become the most favoured industry at present. The proof of the developments in the financial system is the emergence of cryptocurrency that intended to be used as a substitute for conventional money for the purpose of making an electronic transaction. Cryptocurrency is a series of cryptographic codes formed in such a way, so it can be stored in the device/computer, it can be transferred as electronic mail and allowed to be used as a means of payment. Furthermore, cryptocurrency can also be used as a means of investing and digital assets or property. Although cryptocurrency shares similarities with both money and property, its unique characteristics result in a materially different risk profile. Accordingly, regulation that is tailored to traditional financial services or investment methods may fail to account for the unique attributes of cryptocurrency and may also be ill-suited for extension to decentralized virtual currency. As a decentralized virtual currency, cryptocurrency is electronically created and stored. Moreover, cryptocurrency does not enjoy the backing of a government or central bank like traditional currencies such as the United States Dollar. While these characteristics allow for some proclaimed advantages over traditional payment methods, they also raise unique regulatory concerns and considerations. Behind the success of cryptocurrency, it has disrupted the long-established regulation and policies in the financial industry. The implementation of the law has always been a few steps behind the progress of development, especially in the financial technology. It makes the use of cryptocurrency pose a various real threat to the national interests. Cryptocurrency creates risks to the financial system stability if there was an explosion of bubbles (bubble burst) because there is an interaction between virtual currency and the real economy. Then, like cash, cryptocurrency can be lost or stolen. However, cryptocurrency poses unique risks because the currency is stored electronically and the system does not allow for reversals after a transfer or payment is made. Because of these reasons, Bitcoin is attractive to cybercriminals and uniquely susceptible to theft, examples: using malware and hacking techniques to steal user's bitcoins. Additionally, cryptocurrency provides benefits for international criminal organizations. They will increase the flow of the transactions of goods, money and people across borders and can do 'money laundering' from illicit drug transactions or terrorist group. There is no doubt that digital currencies provide benefits to individuals, financial organizations, governments, and public sector institutions by facilitating better access to financial products, aiding financial empowerment, and reducing the risks of corruption and fraud. But one of the significant risks associated with digital currencies is the ability of criminals and terrorists to use these new technologies for their own benefit. There is sufficient evidence to suggest that terrorists are considering and, in limited instances, using digital currencies such as Cryptocurrency to finance activities. There have been some reports of these benefits from cryptocurrency being used by terrorist groups like Islamic State. Indonesia is one country that is a potential place to trade bitcoins. Although bitcoin was already being traded in Indonesia, the Government of Indonesia did not make a new regulation about bitcoin. According to the Bank of Indonesia's regulations, namely Act No. 7 of 2011 about currency, Act No. 6 of 2009, and Act No.23 of 1999, which stated that bitcoin and other digital currencies are not a valid currency or payment instruments in Indonesia. In another hand, The Singaporean government has previously stressed that virtual money is not a legal payment instrument because it is not in accordance with the security that regulated in the Securities and Futures Act which applies in that country, but looking at increase of economic which is influenced by this virtual payment instrument, in March 2014 the Monetary Authority of Singapore (MAS) issued a regulation to regulate cryptocurrency in Singapore to avoid criminal acts that were feared to occur because of the use of this virtual money, such as laundering money or for terrorism activities. Thus, it would be very interesting to discuss issues related to cryptocurrency based on the comparison of the two countries. This research aims to understand the position of current Indonesian and Singapore law. Based on the mapping results of these two countries, it is expected that it will provide lessons learned for each country. In this sense, it will refers to the electronic transaction regulation in the rising of the digital era. This research will elaborate about whether the

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		law should be reformed in responding the current development of disruptive technologies and what the importance for Indonesia to have electronic transaction regulation that can keep up with the new ways of doing financial industry in the digital age.
14	**QIU Ziyan** **Graduate School of Law, Nagoya University** **Japan**	**Patent Infringement By Multiple Actors And Extraterritorial Patent Enforcement: Focusing On Cross-Border Scenarios** Background According to the fundamental principle of patent law, patent infringement arises when all of the limitations in a particular claim are practiced literally or equivalently. As patent law is initially designed to deal with the circumstance of unified infringement by a single actor, when two or more parties are engaging in the process of practicing the patented invention, difficulties arise in determining patent infringement and imposing liability upon a party who hasn't completed the entire patented claims alone. Traditionally, such problems are mainly resolved by means of legislation and judicial practice. The former refers to indirect infringement provisions in patent law and joint tort provisions in tort or civil law. Whereas, in China, which has yet to establish stipulation of indirect infringement, patentees can only resort to joint tort. The latter concerns doctrines developed to find principal parties liable for infringement under certain conditions. For instance, in Japan, courts have utilized the following theories to find liabilities of infringers under several scenarios, the "Tool Theory", the "Principal Party Theory" and the "Joint Direct Infringement Theory". While turning to US, in the light of Federal Circuit's en banc decision in Akamai case on August 13, 2015 and cases decided later, a trend can be seen, in broadening the definition of "direction and control" standard so as to hold an entity liable under 35 U.S.C. § 271(a) as well as the single entity rule. Nonetheless, there are still loopholes remaining in each patent system through which parties can easily structure their activities to circumvent patent infringement liability, as suggested by the so-called "divided infringement" dilemma which has triggered uproar in US. Furthermore, in recent years, economic globalization along with the advancement of technology contribute to the rapid, cost-efficient dissemination of both tangible goods and intangible information, resulting in the increase of cases where patented inventions are being practiced by multiple actors situated in different jurisdictions. For instance, the manufacture of patented products is often modularized and involves cross-border production. Moreover, when combined with computer networks, of which the prominent feature is permitting geographically distributed use, a patented system or patented process might be practiced as a result of aggregating separate work done by parties in different locations. Besides the aforementioned multi-actor infringement problems, the territorial nature of patent law has also added to the complexities of addressing those scenarios. From the perspective of substantial law, no country's patent law may cover such cross border conducts, even if the inventor owns patents in each relevant country. From the perspective of private international law, when there is a conflict of law between countries, the extraterritorial application of foreign patent law may be denied due to the principle of territoriality. Consequently, loopholes are being enlarged at a cross-border level, with patentees being deprived of the rewards they deserve. That could lead to a decrease in incentives for innovation, which is against the primary purpose of patent system. Despite the undesirable effects under such circumstances, there are several aspects to consider upon deciding how to cope with those loopholes. First, extending the scope of direct patent infringement, which is often described as a strict liability tort, would incur the risk of imposing liability on innocent actors who are unaware that their activities are being combined with those of another party to infringe a patent. While indirect infringement offers another normal recourse in patent system, the lack of the existence of direct infringement can be an obstacle to imposing indirect liability. Secondly, noting that such cases fall within the overlapping sections of patent law and tort law, as well as that some of the doctrines formed by courts in patent infringement cases are based on tort law doctrines, a study of the relationship between both is necessary. Last but not least, notwithstanding that the explanation of territoriality principle should be a matter of political consideration, harmonization is desirable in the sense of enhancing predictability in cases involving cross-border conducts. 3. Purpose of Research Focusing on scenarios where multiple actors are practicing patented inventions dividedly in different jurisdictions, this article comparatively reviews the laws and cases of China, Japan and US, aiming to compare each country's interpretation of the principle of territoriality in legislative and judicial practices and put forward proposals to pave the way for extraterritorial patent right enforcement. The reasons for choosing China, Japan and US as research objects are as follows. First, from a practical standpoint, they not only play essential roles in the global market, but also exert enormous influence in the field of internet technology, which has been considered likely to be the main

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		area suffering from transnational patent infringement among multi-actors. Secondly, it is notable that each country has developed unique legal theories concerning multi-actor patent infringement and that the liability as an aider and abettor may differ among these countries. Lastly, due to distinct policy considerations and legal background, the understanding towards patent territoriality differs in these countries. US, to some extent, accepted extraterritorial reach of patent law as shown by the legislation of 35 U.S.C. §271(f). Meanwhile, both China and Japan are less tolerant of the extraterritorial application of patent law. To begin with, this article outlines the basic parameters of tort liability and patent infringement rules, and explores the evolution of doctrines in multi-actor infringement cases. The article later discusses the principle of territoriality, turning to courts' elaborations in patent infringement cases concerning cross-border conducts and legislation with a potential extraterritorial effect. To complete the analysis of multi-actor infringement at transnational level, the article employs several hypothetical examples, related to patented product and patented process, to evaluate the practicability of above mentioned multi-actor infringement doctrines under circumstances where parties reside in different jurisdiction. Finally, relying on the findings above, this article will provide specific proposals for the extraterritorial extensions of patent protection from legislative and judicial aspect.
15	**KWONG Qi Jun** **Graduate School of Law, Nagoya University** **Japan**	**Cross-Border Patent Infringement And ASEAN's Economic Integration: An Assessment On The Applicability Of Regional Private International Law Rules In Civil Litigation** Effective and efficient cross-border patent enforcement constitutes one of the biggest contentions in international trade, but more so for regional integration efforts. Regional economic integration involves rigorous liberalization of trade, at which both tariff and non-tariff barriers are lifted to provide for seamless flow of goods across borders. The movement of patent-embodied goods however illustrates the rift between free trade and patent protection. Trade is driven by supply and demand, which in many ways transcend territorial boundaries and restrictions. National patent laws on the other hand functions on a territorial basis, confining protection to within the granting state. To address legal issues arising from the cross-border infringement of patents, regional economies have attempted various approaches. Southeast Asia is to no exception. In 2015, the Association of Southeast Asian Nations (ASEAN) established the ASEAN Economic Community (AEC) with the objective of creating a single market and production base. Through the AEC, ASEAN aims to plug itself into the global supply chain by encouraging both intra-ASEAN trade and international exports. While the AEC has called for various initiatives such as work-sharing programmes, capacity building, and promoting awareness on intellectual property protection, it does not classify divergent intellectual property laws as a non-tariff barrier that needs to be lifted, nor does it devise a solution to cross-border patent enforcement woes. The rise in transnational supplying of parts and components for manufacturing under the AEC is bound to invite attempts to circumvent national patent laws, either through a single entity or multiple entities carrying out different parts of the claim across different territories. In addressing the development of intellectual property law in Southeast Asia, the emphases on strict territoriality among ASEAN member states have culminated in the concept of "interoperability." Proposals raised in attempts to define the concept include the adoption of regional private international law rules, both to obviate the need for substantive patent law harmonization and to conform with the strict territorial approach adopted by ASEAN member states. Instituting regional private international law rules would enable jurisdictional matters and applicable law to be determined with greater certainty, the litigation process sped up through consolidating infringement claims before a national court, and conserve judicial resources along with time and costs involved for patentees in raising parallel lawsuits in different states. Accordingly, this research seeks to examine the feasibility of adopting regional private international law rules across the region, and attempts to develop the idea by first analysing the territoriality principle. Strict territoriality has been a much-touted feature of ASEAN member states; if it were to constitute a legitimate interest however, the contour and objectives of the principle need to be succinctly defined. Second, the scope of "interoperability" is explored. The interpretation necessary for "interoperability" to correspond to the adoption of regional private international law rules hinges upon the understanding of strict territoriality, and the gap is addressed. Third, proposed model laws such as the ALI Principles and CLIP Principles are put to the test, and how the laws may fit the "interoperability" agenda is examined. As the model laws find application only when parallel patents are identical, and that the scope of protection conferred by patents based on a single invention may still be amended separately in different national patent offices, whether courts will recognize corresponding patents on the same invention as identical would potentially limit the application of the model laws due to jurisdictional restrictions. Subsequently, this research assesses the possible creation of an ASEAN patent system to enable the recognition of

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		other member states' patents, which may be manifested in the following ways: (i) the creation of an ASEAN unitary patent, (ii) mutual recognition of patents among ASEAN member states, or (iii) a region-wide adoption of the doctrine of equivalents. This research further suggests that ASEAN member states should consider extending the jurisdiction of national courts to rule upon another member states' patent, and applying the law of the granting state in determining the infringement of the foreign patent as long as the validity aspect remains unchallenged. Application of the law of the granting state to the foreign patent would still constitute an adherence to the territoriality principle. This research concludes that maintenance of the strict territoriality principle no longer accommodates and addresses cross-border patent infringement, and for the AEC to achieve its goals, adherence to strict territoriality in patent enforcement is problematic at best. While it goes without saying that the current proposed regional cooperation will increase the adherence of ASEAN Member States to international treaties, the creation of a highly integrated cohesive economy and a competitive, innovative, and dynamic ASEAN must be complemented by an effective cross-border dispute resolution system. The member states must therefore re-evaluate their abidance by the strict territoriality principle, explore the possibility of ruling upon a foreign patent, and initiate discussions on establishing regional private international law rules. Eliminating concerns on the validity of another ASEAN member states' patent should also be carried out in parallel. The process may commence with member states adopting a portion of the ALI Principles or CLIP Principles, adapting them into the context of ASEAN, and promoting a gradual harmonization of private international law rules throughout the region.
16	**Angayar Kanni RAMAIAH University Technology Mara, Malaysia**	**IPRs In The Precinct Of Competition Law In Malaysia: When A 'Refusal To Deal' Should Be Exempted In High Technology Markets?** In a knowledge-driven economy, the effective protection of Intellectual Property Rights (IPRs) is emerging as a critical element of commercial success (Grossman, G.M and Helpman, E, 1994). The trade involving IPRs in international trade has increased tremendously, causing significant resources to be devoted to effective protection. This economic growth and explosive technological development has promoted the world trade to be more knowledgeable and technological content than ever before [note: strange sentence]. Thus, importance the IPRs for trade has gained more priority as the share of knowledge-based or high-tech products in total world trade has doubled. Intellectual property (IP) falls within the purview of competition law as the definition of goods under the Competition Act 2010, which covers property of every kind, whether tangible or intangible. Generally, the Malaysian Competition Commission (MyCC) considers IP licensing to be pro-competitive. However, any dealing involving IPRs may fall within the restrictions imposed by the Act. To deal with this phenomena Malaysia has recently proposed the MyCC Guidelines on IPRs and Competition Law (CL) with respect to any competition issues under the Competition Act 2010 relating to IP. These Guidelines should be read together with other guidelines issued on Market Definition, the Guidelines on Chapter 1 Prohibition and the Guidelines on Chapter 2 Prohibitions. The first principle in CL precinct, IPRs is just another form of property. A high-tech firm's patents and copyrights are not treated any differently from its often more critical assets, its physical property, its plant and equipment. The fact that it's easier to misappropriate many forms of IP than to steal physical products has not been a prominent reason to make IPRs more or less suspect under the CL than any other form of property. Hence, IPRs is just another property for CL review in IP licensing arrangements. The second principle is that competition promotes innovation, recognizes its powerful potential as an incentive for enterprises to gain a march on their rivals by cutting costs or being first with new products or product improvements. The primary counter-arguments, in this respect often associated with economist Joseph Schumpeter, are that a monopolist may have greater access to low-cost internal finance, and may be better able to take advantage of scale economies in research and development and to appropriate the full value of its new ideas. The term "refusal to deal" (or "refusal to supply") (RTD constitutes situations where one firm refuses to sell to another firm, is willing to sell only at a price that is considered "too high" or is willing only to sell under conditions that are deemed unacceptable (OECD, 2007). In this respect a firm need not refuse to supply entirely to have an important impact on competition. Whereby, supplying less than the full amount requested, by supplying irregularly or with long delays, or by offering to supply only at a different or variable level of quality, a dominant firm can be considered to significantly impair competition; in this respect, non-dominant firms have a right to choose with whom they deal in their ordinary course of business. An enterprise might cease a trading relationship with another firm for a variety of reasons, such as a failure of the second firm to provide complementary inputs like advertising or sales effort, an increase in the supplier's costs, or simply because one firm wants a change. Non-dominant firms are free to make these decisions without risk of violating competition laws. However the RTD may itself limit investment and innovation in complementary services which rely on access to the essential input provided by the dominant firm. In situations where the

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		incumbent firm's dominance is particularly unassailable or where that dominance was obtained through a government-created or government-owned monopoly. Whereby, it is preferable to promote investment to develop complementary services rather than to wait for investment in substitute services to break down or eliminate the incumbent firm's dominance. There are a number of elements required to be proven before an RTD is declared or said to have constituted a violation of CL. These may include, among others: 1. The refusing firm must have a dominant position in some product or service. However the precise degree of dominance required varies from country to country. 2. The refusing firm must not be willing to sell at terms and conditions which are deemed to be appropriate. Appropriateness differs case to case and may be decided based on the patterns of trade of the refusing firm with other firms or the complainant firm in the past. 3. The denial of service at terms and conditions which have a material impact on competition in a related market, to the detriment of consumers. The refusal to deal must eliminate at least some competition (and in some jurisdictions, all competition) from the related market, to the detriment of consumers. Competition issue arises when a firm in a dominant position refuses to deal with another firm and that refusal to deal (RTD) has in fact a material impact on competition to the detriment of end-users. The Article 82 of the EC Treaty prohibits the abuse by one or more firms of a dominant position within the Common Market or a substantial part of it to the extent that it may affect trade between the Member States. In standardization context, refusal to license essential IPRs may unreasonably distort competition and stifle innovation in the market. The paper studies approaches developed in European courts and other jurisdiction to discuss under what circumstances or conditions refusal to license technology or RTD constitutes to an abuse of dominance and infringement under CL. The paper proposes when RTD should be exempted and when should be prohibited in striking a balance between innovation, anti-competitive restraint, property rights and state owned enterprises cases in high technology market in Malaysia.
17	**KHIN Thinn Thinn Oo** **Department of Law,** **University of Yangon** **Myanmar**	**Understanding Trademark Protection In Myanmar Through Comparison Against Cambodia, Laos And Vietnam** In the twentieth century, trademarks have become a key factor in the modern world of international trade that allows manufacturers and traders to offer consumers a variety of goods that differ in quality, price and other characteristics. Trademark means any visible sign serving to distinguish the goods of one enterprise from those of other enterprises. Myanmar has to implement the TRIPs obligations in domestic legislation as a WTO member. Myanmar is bound by the ASEAN Framework Agreement on Intellectual Property Cooperation 1995 to advance a legal framework to support the ASEAN Economic Community. Presently, Myanmar has no specific Trademark Law. Now, Myanmar provides enforcement against trademark infringement under some existing laws, but it is not enough. The consequence is very few foreign investments, hampering the country's economy. This research paper will begin with the existing trademark system in Myanmar and then describe trademark protection under Draft Trademark Law. The purpose of this research is analysis comparing protection of trademark within Cambodia, Laos, Myanmar, and Vietnam (CLMV Countries), with comments on a new trademark system to support effective protection of trademark in Myanmar and to support the development of SME by protecting their IP rights. Research Outline This paper will describe the inadequacy of the current trademark protection system in Myanmar. It will identify potential problems through comparison between Myanmar and Cambodia, Laos, and Vietnam. The purpose of this research is analysis that compares protection of trademark within Cambodia, Laos, Myanmar, and Vietnam (CLMV Countries), with comment on a new trademark system to support effective protection of trademark in Myanmar and to support the development of SMEs by protecting trademarks under new Trademark Law. This paper will point out how to bridge the gap between the existing and new trademark systems in Myanmar. A descriptive, comparative and an analytic method are applied in this paper. The materials used for the purpose of the research are books, articles and internet sources. Some of data are from interviews with trademark owners. This research paper will begin with the existing trademark system in Myanmar. It will then describe

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		some provisions of the Draft Trademark Law in relation to the TRIPs Agreement and also discuss differences between the old and new trademark systems. After this, the analysis will make comparison between Myanmar and other CLMV countries. Finally, this paper concludes with a commentary on the appropriateness of protecting product design under the Draft Trademark Law and Draft Industrial Law in line with TRIPs Agreement. Modern marketing methods require a trademark law in conformity with the needs of trade. For a developing country, investment is needed in every sector of the economy, both domestic and foreign. Trademark is a key factor to promote economic development. Myanmar is a member of the TRIPs Agreement but not party to other trademark agreements. In contrast, Cambodia, Lao and Vietnam are party to the Paris Convention for the Protection of Industrial Property and also became parties to the Madrid Protocol accessing the Madrid system, which makes it possible to protect a mark in a number of countries by obtaining an international registration that has effect in all of the contracting parties. In Myanmar, trademark is defined in Penal Code 1861 as "A mark used for denoting that goods are the manufacture or merchandise of a particular person is called a trademark". This definition is general and not interpreted in detail scope. It is important that, according to the Draft Trademark aw the definition of "mark " will include proper names, letters, numbers, descriptions, mixture of colour, visible marks or any combination thereof that distinguish the products and services of one party from those of others. This expression includes Trademarks, Service Marks, Collective Marks and Recognized Marks. The coming Trademark Law of Myanmar will be one of the most modern IP laws in ASEAN countries. Under the Draft Trademark Law, protection will be available for trademarks, service marks, collective marks, certification marks, and well-known marks. It can also be protected three-dimensional marks as other CLMV countries. Some ASEAN countries still don't accept smells or touch as a trade mark. Myanmar has no separate Trademark Law and no Trademark Office. So, the local and foreign manufacturer face difficulties. Myanmar, however, already protects the trademark rights by existing laws such as the Myanmar Penal Code, Specific Relief Act and Merchandise Marks Act. Moreover, the trademark with a reputation or goodwill is protected by passing off action. But current practice cannot give effective protection. In comparison to Myanmar, other CLMV countries have their own separate trademark laws and IP offices. For example, Cambodia adopted "Law Concerning Marks, Trade Names and Acts of Unfair Competition (Trademark aw)" in 2002, followed by a sub-decree on its implementation in 2006. Laos protected trademark rights under "Intellectual Property Laws 2011 which was effective in 2012". Vietnam inserted the provision of trademark under "Intellectual Property Laws 2005". The acquisition of trademark rights in Myanmar is through use or registration. Whilst there is no trade mark registration legislation in Myanmar, a practice has developed by which the person purporting to be the trademark owner can make a Declaration of Ownership and register the declaration with the office of the Registrar of Deeds and Assurances in Yangon or Mandalay. The Ministry of Agriculture and Irrigation is in charge of registering trademarks. So, the Registrar has no knowledge of whether the mark under application is already registered or not. As a consequence, there are many infringements of trademark, trade name and well-known mark. The new trade mark law will introduce a "first-to-file" system. This brings Myanmar IP laws closer to the IP laws of other CLMV countries which use the first-to-file system. But, in order to avoid unfair competition in Myanmar, a transition period is needed and taking into consider prior use of the trademark owner. Currently, trademark infringement cases are handled through a rather complicated judicial system with no less than five levels: the Township, District, State or Regional Courts and the Supreme Court. As a result, disputes are often amicably resolved through negotiations or conciliations. Some parties setting up rival claims to ownership must be determined in accordance with the principle of Common Law based on prior use rather than first to file. In Myanmar, both criminal and civil action can be taken. Punishment ranges from a fine to three years imprisonment. The court may also order the destruction of the seized goods. In the Draft Trademark Law, the criminal action is 5 years imprisonment and a large amount of fine. As Myanmar is one of the member of ASEAN, Myanmar should participate in the building of a fair market competition system with IP Law for better economic development of the ASEAN region. In cooperation with other ASEAN countries, Myanmar should promote the development of trademark system in line with TRIPs Agreement. So, the Draft Trademark Law should be reviewed and redrafted in order to ensure compliance with the international and intergovernmental obligations of Myanmar. The protection of trademarks is in its infancy stage in Myanmar and is gradually going through further development. Myanmar must set up a programme to improve the legislative system to enforce intellectual property rights in line with the WTO"s standards (TRIPs Agreement). Further, it is important that legislative improvement will enable both judiciary and administrative enforcement bodies in Myanmar to award damages and expenses to right holders, and to provide for adequate border measures. In order to avoid languages barrier for AEC, an ASEAN Registration Office should also be established.

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18	**Shalini JHUNJHUNWALA** **Shanghai International College of intellectual Property, Tongji University (SICIP), PRC**	**Protection Of Architectural Designs: Intellectual Property Perspective** The definition of architectural designs can be constructed as the designs which are made while constructing a building. The artistic and ornamental feature of an architectural works are called architectural designs. The design patents provide protection for both the ornamental value and utility value of the design which makes it interesting. There is a considerate amount of interface or intersection between the design patents and copyright in developed nations and developing nations. The paper identifies the scope of current legal protection of architectural designs in the developed and developing nations. It is a comparative analysis where we identify the current status of the laws regarding the protection of architectural designs and analyze the laws related with architectural designs as well. Innovation is emerging from every corner and same aspect of innovation has been affecting Architecture of the building where the designs play a very important role to identify the building and infringement of that aspect can result in economic and other losses. Currently there are various protection available, and in some cases, buildings have been trademarked as well. Where a few nations have been trying to protect the innovative designs the need to find a better protection seems inevitable. The research plays an important role in identifying the gaps and seeks the proper measure to deal with the infringement due to poor protection. Several developing nations are growing rapidly and along with that the need for a better protection for architectural designs and other aspects of architectural works are growing. The paper aims to address the issues of current Legal protection of Architectural designs and the scope of copyright protection and design patent protection and to see if we can integrate other measures to enhance the protection taking an example of developed nations legal analysis were done. Gap analysis of current protection of Architectural designs in developed nations and developing nations and feasibility analysis of introducing patent design protection on developing nations was done. To limit the subject different jurisprudence such as Hong Kong, Mumbai, Singapore and the USA were considered since they are an epitome of architectural designs. The research motivation is to identify the current protection of Architectural designs and analyze if we can extend the current protection of the architectural designs. The research is a theoretical research analyzing qualitative data. The research is primarily a theoretical study of legal protection of architectural designs of the developed nations and other developing countries and if the current policies are adequate. The research has been difficult to analyze as the cases are difficult to find in the subject matter due to lack of adequate policy for the same. The research is important as it identifies the shortcoming of laws regarding the subject matter which needs intensive research. In the research I will be conducting the documentary analysis of journals, articles, case law as well as other sources such as news articles as well as legal and feasibility analysis of the policies and provide explanations using grounded theory approach which makes recommendations for future changes to Architectural designs law. The research is important for the study of architectural designs as I have done a whole analysis of architectural designs and it is focused on designs; I think it can be very beneficial for in architectural as well as legal field. The research is primarily based on comparative study of the US protection and other developing countries so to analyze it I have done a thorough study of the same. The research turned out to be an interesting topic as it provided the policy analysis of most unusual jurisdictions together. I have targeted the Asian countries which have been extremely innovative and compared it with the American system. Although the policy analysis requires very intensive research covering all the aspect of policy but here I have focused on the existing policy considering the innovative architectural designs they are producing rapidly to stand out the competition. Whereas some jurisdictions are facing the cases of infringement other have been dealing with the issue of infringement by introducing better protection through innovative process. The research provided innovative solutions considering the steps taken by different jurisdiction by providing basic policies and strategies to protect the Architectural designs and how the polices have impacted the Architectural designs protection positively or negatively by analyzing the changes of number of infringements in the jurisdictions. Although it is a trending and new aspect of designs considering the amount and need for innovative feature is being introduced in the architectural designs the study has been very beneficial in providing an introduction to better policies. The research was able to identify the basis for understanding the current position of how State and federal governments are handling the architectural designs. It also identifies the shortcoming of developing countries in terms of legal protection of architectural designs. Additionally, it addresses the proper legal protection of architectural designs on the developing and developed nations by conducting gap analysis and feasibility analysis.
19	**Chanmi OH**	**Copyright Of Robot Journalism**

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	Seoul National University South Korea	I'd like to discuss the Copyright of Robot Journalism. The Copyright of Robot Journalism is being a new international concept while Korean Copyright law has no systematic methods for Robot Journalism. In Korea, it has been established that the copyright law is only applicable for humans and its product of creativity. Creation of news carried out by robot is increased with the rising trend of the necessity for revision of copyright law. This abstract firstly describes the shifts in part of 'copyright owner' in the law that brought us here and reflects the role of law for robots in copyright's cosmology. Artificial Intelligence (AI) is different from conventional machines in that it is able to learn and do cognitive reasoning based on deep learning techniques. With the development of artificial intelligence technology, there is also a question of whether the copyright of a work made of artificial intelligence is recognized and to whom the copyright of such artificial intelligent work is attributed. So far, even if there is originality in the AI created contents, there are still debates whether to regard the AI as an author under the current copyright laws. AI creation lies in the blind spot of protection of existing intellectual property rights in that human beings are not directly involved in creation, and the demand for a new protection system is increasing. Here is my proposal to current copyright law; Even if a work is created by artificial intelligence, it should be protected as a work with copyright if it contains its own originality and creativity. A substantial amount of commentators agree that the copyright should be granted to either AI owner or user rather than to AI itself. In the case of Weak Artificial Intelligence, it may be considered that the copyright belongs to the AI owner, who developed the AI program while the works of Strong Artificial Intelligence, which learns through the deep learning to create the content, may see the users of such program as the copyright holder. It is known fact that it is hard to locate the AI owner or user to acquire the right to use such mechanism, especially that is quite rampant in Robot Journalism. Since it would be almost impossible to determine the copyright owner of robot created content, I propose to have it granted to the robot itself first and this copyright could be transferred to the real copyright owner as addressed above. We should have similar concept as we currently have in the copyright law in a concept of licensing contract for derivative works. There are many cases that the AI developer and original content owner do not have any licensing agreement, especially for the creation of the derivative works. In such cases, I suggest that AI should hold itself with such copyright until the court calculate and, or determine the copyright owner of such AI created content. In U.K and Japan, copyright law already took steps for 'new copyright owner'. Discussions on the copyright protection of AI creations are centered on Japan and the EU. In particular, the Japan Intellectual Property Strategy Headquarters issued the Artificial Intelligence Report on April 8, 2016, focusing on new approaches for copyright protection of AI creation. Secondly, I would like to provide detailed example of Weak AI and Strong AI based on the Big Data. During the course of contents creation, AI relies enormously on the big data or copyright works on the internet. There will be great demands for protecting big data. If an exclusive right is given to AI, it is worried about side effects due to intensification of monopolization. This paper argues that it is appropriate to set the data copyright protection period to a short term of about 5 years. So in this case, the Fair use doctrine also should be considered. It would be extremely difficult to tell whether big data analysis and usage by AIs could be allowed as fair use or not. Fair Use permits the use of copyrighted works without permission or payment under certain conditions. In Korea, Article 28 also considers commerciality and transformative use in determining the fair use. Comprehensive article 35(3) considers factors of possibility of contract and replacing market. Lastly, I would like to introduce an amendment for additional compensation for the copyrighted materials Robot created. I would like to 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 remuneration system should design to let others use the works 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. This additional compensation system should only be applicable when there is actual revenue generated from the robot-made copyrighted content and it should be limited to a certain percentage of such revenues, with less than fifty (50) percent of the revenues created.
20	**Sujin LEE**	**Private Copying In Digital Age**

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	Seoul National University South Korea	I hope to bring the attention of IPSA participants to private copying in digital age by comparing the cases and legal frames of UK, US, Japan, and Korea. The technology advances and develops every day and over one night, we get to have new medium to consume the content and the boundaries on its legality gets blurred. We consume copyrighted content in various mediums. For instance, not only we enjoy the music from CD with CD player, we also extract songs from CD and put them to USBs, Mp3 players, and digital storages such as Google Drive. Sometimes, I even put them to my phone to enjoy them wherever I am, which is not a conventional way of consuming music. And occasionally, this CD is not mine that I purchased. It can be borrowed from a friend, or delivered from a total stranger that you just met through internet. While technology advances, the usage and source of content has become varied while our copyright laws still are based when we only had a copy machine in libraries. In 2014, a number of amendments to 1988 Copyright, Designs and Patents Act (CDPA) were introduced to UK law and United Kingdom wished to become a country that considers the legality of the original work in determining the copyright infringement following the precedent as that found in Germany and Japan. And it also tried to extend the copyright exceptions in personal copies for private use, research and private archives, quotation and parody, education, public administration, research and private study, and accessible formats for disabled people. When extending the copyright exceptions, the UK government convinced itself that abovementioned new copyright exceptions do not require any additional compensation system to the copyright holders since the effect would be minimal; and apparently it turned out to be the otherwise. In June 2015, UK Music industry won against UK government over private copying dispute as UK's new private copying exception was not properly equipped with compensation system to the right holders and UK government failed to present any evidence supporting their claim, and this amendment never came into effect. When we determine the legality of private copying, the main concern should lie in purpose of copying, subject of copying, and the range of the use. It is clear that these should serve as yardsticks in determining the legal issues of private copying. However, such yardsticks cannot be monitored or measured in an obvious kind of way, and it is physically not possible to track all flow of copyrighted materials. As can easily imagine, each country has different way of view into this matter, and the laws and regulations are different. For instance, in Japan and Germany, the legality of original works should be prerequisites for private copying while we do not have such regulation in Korea, only some precedents favoring such exist. Some of the countries have the private copying levy for storage-purposes devices mainly in European Union but there are so many countries that do not have such system yet, such as Korea and UK, and many Asian countries. With current legal system, fast-moving society, and developing technologies in mind, one way we could easily think of to protect the right of copyright owner in this digital age will be private copying levy system, which is putting a surcharge on the price of media or equipment capable of making personal copies, and the collected levies will be redistributed to the right holders in order to compensate for an alleged loss suffered by them. Most of the European countries have such levies, while such system is not widely popular in Asian countries. Private copying levy system usually works to compensate the potential lapse from copyright exceptions especially when private copying is legal in more than certain conventional boundaries, and yet, that is not the case at all times. For example, the Copyright law of Korea allows private copying and it does not have any compensation system that could go with it. When we consider private copying levy, the range of storage devices or space that we would apply this levy should also be considered. Not only can we copy content to empty CD or hard drive, we have a variety of means such as cloud storage or even a phone drive. There actually was a case in Germany declaring that even a mobile phone storage should be subject to private copying levy if it has a function that enables private copying. I truly believe that we should keep the private copying exceptions to our copyright law to make sure the society and industry could encourage the creativity of each individuals and also make sure people freely enjoy the creative content that we have cared so much to make our lives more enjoyable. We just need to put additional methods to make sure the creator to keep fostering their creativity. The time for not only Korea but other Asian countries to amend current private copying provision of Copyright law may come in the near future in consideration of the fast development of technologies which can easily reveal the limit of the current legal system. We must consider the legality of the subject to copy, limiting the use of copied work in determining the copyright exceptions, and adopting the private copying levy system to make sure private copying exception represents both the copyright holder and the user's rights. I hope to present in detail~~s~~ proposing possible amendment to Korean copyright laws in above areas.
21	**LI Gi-Kuen Jacob Shih Hsin University Taiwan**	**Exploring The Future Of AI Generated Works – A Comparative Research On PRC And ROC Copyright Laws**

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		Artificial intelligence technology is increasingly accessible in our daily lives, and certain types of AI 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, copyright laws in many jurisdictions are rather ambiguous on the copyrightability of AI generated works. Although scholars and practitioners have been heatedly debating the threshold of originality concerning AI generated works for years, it seems there is no consensus reached on the matter. In the US, the canon of construction expressio unius est exclusio alterius (negative-implication canon) was applied by the US Court of Appeals for the 9th Circuit in the Naruto case. Judge Bea provided a very detailed interpretation, indicating that nonhuman cannot be defined as author under Copyright Act. In addition, the Compendium of U.S. Copyright Office Practices (hereinafter the Compendium) shares similar view of rejecting copyright protection for non-human authorship. In contrast to the US, the definitions of "author" in the Copyright Law of PRC and the Copyright Act of ROC are less ambiguous, because the Chinese word "human" is used to define right holders. To conform with the current statutes, it would be difficult to interpret AI generated works within the scope of copyrightable subject matter, let alone many would argue that protecting AI generated works may create uncertainty in the current copyright regime. Thus, opponents of copyright protection for AI generated works argue that the foundations of copyright law - personhood theory and the moral rights - directly conflict with non-human authorship, and some scholars even refute the existence of a purely AI generated work under current technology. On the contrary, proponents believe that the recognizing such work does not conflict with copyright laws, but rather it could benefit the public since copyright incentivize creators and inventors of AI (or utilizing AI to create). The rationale to grant ownership in AI generated works is quite simple – to promote the creation and dissemination of works, and it is consistent with the basis of copyright regimes among different jurisdictions. Besides exploring the issues on copyrightability of AI generated works, this research further aims to emphasis on how AI generated works could affect relevant industries under the current IP regime. The allocation of ownership rights will certainly result in different issues. Possible ownership allocation of AI generated works includes: the "generator AI" (the computer), the author of the "generator AI," the user, jointly by the author of the "generator AI" and the user, or no one. Adopting the opinion of the Naruto case and rules from the Compendium, the "creations" of non-human should fall into the public domain. However, the public domain might not be the most ideal status for the AI generated works. Eventually, AI will generate quality works more efficiently than human someday, there may be a massive amount of works that fall into the public domain at a rapid pace, thereby creating a vacuum of copyright protection. The public domain was designed to be a sanctuary for creators that enable creative expressions, but it may instead limit or constrain creators, due to excessive copyrightable works that fall into the public domain. Besides, copyright still plays a critical role for the market economy in the era of AI, chaos might ensue in the market when AI generated works are excluded from copyright protection. However, not all of the AI generated works shall be treated equally, categorization of such work shall help minimize the problem of over expanding copyright. Although it may be difficult to predict the actual implications of allocating the AI generated works, some potential issues may occur. First, there could be an increase in copyright disputes and litigations concerning the copyrightability and ownership of AI generated works. It would be challenging to verify whether a work is created by human or by AI, and even more difficult to define and differentiate human authorship from AI authorship in cases that involves collaborations between man and machine, because computer has been a common or essential tool for the authors. Second, some would worry that "Gresham's law" will occur in the relevant industries and the market, since AI generated works could crowd out human creation. It is hard to estimate how AI generated works would be valued in the future, yet the market economy should be able to approximate an equilibrium without governmental intervention. Third, there may be non-practicing entity (NPE), copyright hoarding, or "copyright troll" occurred when someone or some entity attempts to generate and maintain a massive amount of works, in order to enforce copyright against innocent creators and users. This could be particularly problematic to both parties in litigations, since copyright formalities are no longer practiced in most jurisdictions. However, it may be difficult for the NPE to establish ownership and defendant's access to the infringed work. This research aims to provide a comparative perspective between PRC and ROC, with additional perspectives from the US law. Due to current approach designates AI generated works to public domain, which may potentially harm the creators, further discussion particularly on the effect of ownership allocation is critical to the future of copyright regimes and relevant industries.
22	**CHEN Hao-Yun**	**Protection Of Well-Known Representation At The Interface Between Trademark Protection And Unfair Competition Law In Taiwan And Japan: A Comparative Study**

No.	Presenter(s)/Institution	Abstract
	College of Law, National Taipei University Taiwan	An amendment to Taiwan Fair Trade Act (TFTA) in 2015 has substantially changed the initial design of legal protection of well-known representation, including well-known trademarks, in Taiwan. Before 2015, Article 20 of the prior TFTA provided protection for "representations commonly known to the relevant enterprises or consumers", and Taiwanese trademark law protected trademarks, including well known ones. Surprisingly, likelihood of confusion caused by use of a mark identical or similar to a well-known trademark in connection with goods or services which are neither identical nor similar to those for which the well-known trademark is registered (underlined by author) did not fall under the scope of Taiwanese trademark law, and was then regulated under Article 20 of the prior TFTA in practice. However, the legal protection system of well-known representation seemed to be falling apart, for 2015 TFTA Amendment changed the wording from "representations commonly known to the relevant enterprises or consumers" to "well known representations" and limited the scope of protection by inserting the wording of "identical or similar use of the well-known presentations in connection with goods or services which are identical or similar to those on which the well-known representations are used (underlined by author)" into the very article. The same Amendment also provides in Paragraph 2, Article 22 that such protection of well-known representations is limited to unregistered well-known representations. It seems that the 2015 TFTA Amendment exacerbates the concerns about the bewildering legal protection and application of relevant provisions, instead of clarifying the ambiguity existing in the prior TFTA. Under the current provisions of Article 22 of the TFTA, the following issues arise as a consequence of the amendment of the wording. First, the interpretation of "well-known representations" in the context of the existing TFTA is yet to be established. The rationale of the rewording is to unify relevant terms provided in the TFTA. The term "well-known" is derived from "well known" trademarks stated in trademark law. However, even before 2015, interpretations of "commonly known to the relevant enterprises or consumers"" and "well-known" in the context of the TFTA, as well as between the TFTA and Taiwanese trademark law, are not necessarily the same. How to interpret the newly-introduced requirement of "well-known" in the context of the existing TFTA while striking a balance between the current interpretations among trademark and unfair competition law remains an urgent problem for scholars and courts. Second, the likelihood of confusion caused by use of a mark identical or similar to a well-known trademark in connection with goods or services which are neither identical nor similar to those for which the well-known trademark is registered, which was regulated under the prior TFTA, seems to fall out of the scope of the existing TFTA due to the newly-introduced requirement of "goods or services which are identical or similar to those on which the well-known representations are used". Then, the 2015 TFTA Amendment seems to result in a legal vacuum, and the solution to this issue may correlate with the next issue. Third, the construction of Article 25 of the TFTA, which is known as the general provision, matters. In view of the fact legislators explicitly addressed that registered well-known trademarks have no longer been subject to the protection under article 22 of the TFTA, is it still appropriate to interpret that Article 25 of the TFTA may include the above-mentioned situation and to apply Article 25 to that situation in the context of unfair competition law? Last but not least, which authority, the TFTC (administrative agency in charge of the TFTA) or court, is theoretically more competent to hear a case under Article 22 of the TFTA? Currently, the TFTC is still empowered to hear cases under Article 25 of the TFTA, while cases under Article 22 of the TFTA (limited to cases related to unregistered well-known representations) are now to be heard by court only. Then, for example, is it possible for the TFTC to apply Article 25 of the TFTA to a case related to keyword advertising using someone's registered well-known trademark? To be more specific, does the current statutory criteria for distinguishing the legal application between Article 22 and 25, along with the corresponding jurisdictional procedure, stand to reason? These intertwined issues arguably result from the legislators' inaccurate understanding of the differences between unfair competition and trademark law, and they symbolize an intriguing relationship between unfair competition and trademark law. On the other hand, Japanese laws, as one of the references for the original TFTA, tells a once-similar but different story. The Japanese Unfair Competition Prevention Act (JUCPA) prohibits the act of causing confusion by using an Indication of goods or services that is identical or similar to another person's indication of goods or services that is commonly known to the consumers, under its item (1), paragraph 1, Article 2. In addition, the JUCPA also prohibits dilution and tarnishing of the well-known indication of goods or service under its item (2), paragraph 1, Article 2. There is no general provision under the JUCPA. However, it is highly arguable that whether and to what extent those behaviors which are not specifically prohibited under the JUCPA, should be held liable under the general tort law regulated in the Japanese Civil Code (Article 709). In order to clarify the proper boundaries of protection of well-known representation and the relationship between unfair competition law and trademark law, this paper will conduct a comparative study of Japanese and Taiwanese unfair competition law and trademark law.

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23	**SUNG Huang-Chih** **National Chengchi University** **Taiwan**	**When Open Source Software Encounters Patents - Blockchain As An Example To Illustrate The Conflict And Explore The Solutions** Blockchain is a rapidly developing technology with many applications. The original blockchain developers set the core programs, development interfaces, and application software as open source software (OSS) open to all developers for free. They have never thought of collecting royalties by claiming copyright, nor did they apply for patents. However, on the contrary, many follow-up blockchain developers applied the core programs for further developments and filed a large numbers of patent applications, causing the original blockchain developers to be concerned whether these patents will slow down or even endanger the innovation of blockchain technology. Finding a legal solution for the conflicts between OSS and patent rights is an important but little-mentioned research topic in the field of intellectual property rights, and the newly developing blockchain technology is a good example to illustrate the conflict and explore the solutions. As these patents may truly slow or even impede innovation, it is important to examine the worldwide status of blockchain patent applications and their likelihood of being granted. While a patent search did not reveal many granted blockchain patents, there are however many patent applications around the world. As of October 31, 2018, there are already 1,376 blockchain patent applications in the U.S., 2,704 in China and 283 in Japan. Although the U.S. Supreme Court in the 2014 Alice v. CLS Bank case almost declared the death of the software patents, the Enfish v. Microsoft case by the Federal Circuit in 2016 seems to breathe new life into blockchain patents. According to Enfish, an invention that improves the performance of a computer by changing the structure of a database, such as enhancing the performance of the computer "to write data into memory" and "to retrieve data from memory," can be more than an abstract idea and therefore patent eligible. The blockchain itself can be seen as a new, peer-to-peer, decentralized database that dramatically enhances the performance of computers and the Internet by efficiently writing into and retrieving data from memory instead of using "generic computers" to execute the programs. Accordingly, the authors argue that it is possible for the blockchain patent applications to "survive" under the Alice two-prong test. Therefore, blockchain innovation may indeed be "blocked" by potential patent wars. Finding legal solutions for the conflicts between OSS and patent rights becomes an important research topic in the field of intellectual property rights. This article points out three possible solutions to the conflict: the licensing schemes of industrial standard, the licensing schemes of OSS, and open patent campaigns. This article finds that at this moment all three have an opportunity to solve the problem but there are still many issues to be solved. In terms of the licensing schemes of industrial standard, since 2016 the industry has urged the necessity of establishing an industrial standard to provide blockchain developers an ideal environment for innovation. In April 2016, Standards Australia proposed a new field of technical activity for the International Organization for Standardization (ISO), which intends to develop a blockchain standard to support the development of its technology. However, the proposal does not touch the patent issue, such as how companies that own and implement the patents to the standard should disclose their patent information and how they license their patent rights to the players under the industrial standard. This article considers that the blockchain industrial standard should require the patentees involved in standard setting to disclose their patents and require the owners of the standard essential patents not to refuse patent licensing. As to what kind of licensing scheme should be adopted for the blockchain standard, this article suggests that the "Patent Policy" of the blockchain standard should at least follow the FRAND license scheme, so that the users of blockchain may access patented technologies more conveniently, reflecting the special characteristics of blockchain technology. In terms of the licensing schemes of OSS, this article points out that the MIT license for the Bitcoin Blockchain and the GNU GPL license for the Ethereum Blockchain cannot solve the problem of follow-up developers failing to draft a software code but applying for patents for the results of follow-up developments. This article suggests that the blockchain industry may press the GNU GPL to issue a fourth version in response to blockchain development. This version would provide that if a developer, when making further development based on the OSS code, chooses not to write down the programming code but rather files a patent application for their work, they are still the "Contributor." Accordingly, the patents owned by such developers represent the contributor's "Essential Patent Claims." These developers still need to provide a non-exclusive, worldwide, royalty-free patent license for the contributor's "Essential Patent Claims" to any user under this license scheme. Open patent campaigns could certainly be a possible solution to the patent problems faced by the blockchain technology. Promoting the open patent movement in the area of blockchain obviously faces more challenges than in other industries, however, relying as they do on the spontaneous action of the patentee. This situation is not analogous to the case of the OSS movement, in which developers are automatically entitled to the software's copyright once it is completed. The original developers of the core blockchain technology did not file any patent applications, so they do not have any patent rights as the ultimate weapon against those who do not follow the licensing rules. Even if the

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		original developers of the core blockchain technology had filed for patent applications, the patent rights work only to the manufacturers but not to the non-practicing entities. Therefore, the copyright enforcement mechanism in OSS is not always applicable in the world of open patents. Therefore, the blockchain industry, especially the original developers of its core technology, should provide incentives for the right holders of subsequent patent applications to willingly and spontaneously open their patents. This issue deserves to be followed up continuously.
24	**Thomas Y. Lu** **Washington University, St. Louis School of Law** **USA** **April You Qiong. Ai** **Fudan University School of Management** **PRC**	**Why Do Standard Essential Patents (Seps) Holders Implement The Bundled Rebate Program? Analyses From Legal And Business Perspectives** The purpose of this paper is to explain the reasons behind a standard essential patents (SEPs) holder's behavior: why does a (SEPs) holder, Qualcomm for instance, insist to implement bundled rebate program for its customer, Apple for instance, under the risk of violation of antitrust law? This question is originated from the story between Qualcomm and FTC and Apple. In details, in early 2017, both FTC and Qualcomm's customer, Apple, sued Qualcomm for violating antitrust law. In general, Qualcomm manipulated "web of contracts" which are implemented by so-called "no license, no-chips" policy to achieve its anticompetitive purpose. Before 2006, based on Apple's and FTC's complaints, Qualcomm first secretly asked Apple's original equipment manufacturers (OEMs) to have higher SEPs royalty fees going back to Qualcomm. By doing so, the higher royalty rate that OEMs pay to Qualcomm would be passed to Apple. Furthermore, Qualcomm also asked Apple's OEMs to buy its modem chips and SEPs royalty licensing together in a non-disclosure agreement. Because of its secrecy, Apple couldn't assure the "scope of SEPs."—the SEPs that OEMs license from Qualcomm. Because Apple had been charged for higher SEPs royalty indirectly from Qualcomm for couple of years, Apple desired to find ways to reduce the amount of the royalties. Nonetheless, Apple had no choice but to accept the condition of "rebate" program directly from Qualcomm—Qualcomm would give back to Apple a fixed amount of money to lower the total amount of royalties in exchange for the conditions that Apple had to have exclusive terms requiring Apple not to switch to other modem chip suppliers and that Apple is unable to sue or induce certain kinds of lawsuits against Qualcomm. For instance, the parties' Business Cooperation and Patent Agreement ("BCPA") expressly calculates a series of quarterly payments to Apple ("BCP Payments"), as a cap on the royalties that Apple pays to Qualcomm, setting the amount of the payment at a lump sum that effectively reduced Apple's per-device royalty payment. Because of this contracting behavior, Apple and FTC finally filed lawsuits against Qualcomm for alleged violation of the Sherman Act Section Two—monopolization by manipulating bundled rebate and loyalty discount programs. Based on the question and the story presented above, this article separates into the following parts: Part II will introduce the stories of the legal disputes and the modem chip industry status quo that FTC and Apple, Inc have made in their complaints. Moreover, the details of the modem chip industry will become our basis of model developments in part IV. Part III will address the case law of antitrust regime. These case law can teach us whether Qualcomm may or may not violate antitrust law under some similar situations. Furthermore, by doing the case analyses we will have an assumption that whether Qualcomm should or should not deliver the traditional incentives for its customers, Apple, Inc, for instance. Part IV will develop game theory models based on the introduction of the instance and the assumption we address in Part II and in Part III. By analyzing these models, we may find the reasons why Qualcomm insists to implement the bundled rebate program and loyalty discount, no matter what legal risks they face with. In details, this article will analyze three different scenarios. The first scenario is a one-stage game. We will discuss the situation that Qualcomm provides Apple an SEP-exhaustive and exclusive license bundled with Qualcomm's product. Apple can choose to sign the contract or not to sign this license then go to sign with Qualcomm's potential competitor—Intel. Second, similar to the first scenario, Qualcomm provides Apple an SEP-non exhaustive but exclusive license bundled with Qualcomm product. Apple can also choose to sign the contract or not to sign this license then go to sign with Qualcomm's competitor—Intel. Third, we expand our first scenario from one-stage game to two stage game. We analyze that what would happen if Qualcomm's potential competitor—Intel also develops their own modem chips and the quality is the same with Qualcomm's. Furthermore, we compared with previous scenarios to see the differences between the scenarios. Part V will derive some implications and rationales why Qualcomm insists to implement its bundled rebate and loyalty discount program. The implications and rationales cover two perspectives, legal and business ones. The legal perspectives include the case analyses between the cases mentioned in Part III and the Qualcomm case. The differences between them are the key pillars to support the result that Qualcomm insists implement its bundled rebate and loyalty discount program. The business perspective, additionally, will deduce the rationales and implications from the analyses of the models

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		in Part IV. The key business reason why Qualcomm insists to implement the program is because Qualcomm might want to prepare the future fierce competition from potential competitors. In order to ease the future loss, based on the models, Qualcomm desires to implement the bundled rebate and loyalty discount program in advance. Finally, this article will conclude into the expectations for the future of the businesses, especially for Asian businesses, which wish to implement the bundled rebate and loyalty discount in the U.S.
25	**PHAN Quoc Nguyen** **Vietnam National University** **Vietnam**	**IP Law And Policy For Innovative Startup Development From Comparative Perspective Between Vietnam And Singapore** **I**nnovative Startup is trend which is encouraged and promoted in Vietnam. Vietnamese startup companies are actually enabled for the strong development. Before the entering into force of IP law in 2005, the legal rules relating to IP in Vietnam are distributed over 40 different texts that are not coherent and not in accordance with the international standards of regulations under TRIPS-WTO. With the aim to adhere to WTO standards, Vietnam reinforces her legal regulations on IP by promulgating the IP Law in 2005, which came into force from 1st July 2006. IP Law IN 2005 is well considered as the remarkable step in protecting IP rights and satisfy the requirements of TRIPs by the owners and right representatives. After, the Decrees and Circulars are building and launching to regulating more details and directing the implementation of IP Law in 2005. However, after four years of actual implementation, the IP Law in 2005 shows that it~~s~~ is lacking, including some articles which are not in accordance with international standards and some articles which are not enforceable. Therefore, the recent modifications are made for IP Law in 2005 and this IP Law was promulgated by the National Assembly on 19th June, 2009, enacted from the 1st January, 2010 with some big changes regarding Copyright, Industrial Property Rights and Plant Variety rights. From the enactment of new IP law, Vietnam joined the Paris Convention on the Protection of IP Rights and Agreement of Madrid on International Registration of trademark. Regarding the International Registration of Trademarks, Vietnam joined since 1949, WIPO Convention in 1976 and joined the Patent Cooperation Treaty (PCT) in 1993, Berne Convention on the protection of literature works, dated on 26th October 2004. Within the strong and fast period of international integrity, Vietnam joined CISAC BIEM, Brussels Convention and Geneva Convention. Within the framework of ASEAN, being member of ASEAN, Vietnam promulgated and approved the ASEAN Framework Convention on IP Cooperation in 1996. Vietnam also signed new generation of Civil laws. Recently, in 2017, the National Assembly launches the Small and Medium Enterprises Support Law. The Government also launches the Resolution No. 35/NQ-CP on the support of small and medium enterprises to 2020, and the Decision No. 844/QĐ-TTg on approval for the project "Support for the ecosystem of national innovative startups to 2025", the Decision No. 1062/QĐ-TTg dated on 14th June, 2016 on the approval for the Programme on the development of intellectual assets during the period between 2016-2020, etc. All laws and by-law texts are to raise the awareness of organizations and individuals about the IP under the international economic integration, raise the capacities of subjects in the process of registration, management and development of intellectual assets. However, the impact of the legal rules is not big. Most of startups only interest in product development, pitching, marketing planning, sales,etc. and do not care much about IP matters, for example idea guarding, patent, trade secrets and trademark protection which are the very important assets for startup. According to statistics, about 80% of Vietnamese startups do not know about the importance of IP in startup ecosystem. The recent survey conducted by the Da Nang province incubator (DNES) show that “97 among 100 application forms for incubation at DNES do not file and register IP objects yet. The main reason is that almost projects are at idea level, and the product is not clear. Apart from that, more than 70% startup founders say that the most difficulty in filing and registering is the lack of knowledge about IP law and registration and filing process. The frequent answers are “do not know clearly about the registration process”, “do not know the relevant laws”, “do not understand about the IP”, “do not know how to register and file”. Many startup founders, even know the IP law, care much about the procedures that are “complicated” and about the extended duration when registering IP objects. Many startups are actually started with one intellectual asset and very small financial amount. However, this intellectual asset is not the startup’s property if it is not registered. The problem which poses for startups is what kind of protection for IP rights. The first thing is to file and register intellectual assets as IP rights based on the asset characteristics and purpose of startups. Regarding the copyrights, startup is not required to register, the protection has been automatic since the instinctual is fixed and innovative. While the industrial property rights including patent, industrial design, trademark, etc. are protected when they register at National Office of Intellectual Property. In particular, one IP object can be protected under different forms, i.e. one logo could be protected as trademark or as copyright. With the trend of startup development is very strong in the worlds. Not only the developed countries such as the USA, the EU but also the developing countries in Asia gain the remarkable

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steps, among them we can count the case of Singapore. By developing IP policy and laws to support Triple Helix model which is based on the relationships between Government-University-Enterprise. The Singapore's Government plays the role of support, facilitator for the cooperation between the University and Enterprise, in particular setting up the technology transfer offices at universities to foster the technology commercialization from universities for enterprises, to connect experts, R&D funds and to raise the social funds for universities. To reach this aim, the Government, via her support policy, raises the awareness about the protection of IP rights. Thanks to the positive policy and law on IP, over one decade, Singapore gains the remarkable steps in developing intellectual properties, in supporting the innovative startups.

According to the US Patent and Trademark Office (USPTO), during the period between 2006-2010, Singapore hold the first rank in Association of South East Asia Nations (ASEAN).

Rank	*Country*	*Population (million persons)*	*Patent number*
1	Singapore	4.8	2,496
2	Malaysia	27.9	887
3	Thailand	68.1	206
4	Philippines	93.6	143
5	Indonesia	232.0	74

Table 1: Comparison of patent number which is granted during the period between 2006-2010 of the South East Asia Nations (population: sources from BBC, patent number: sources from USPTO)

The analysis of statistic mentioned-above shows that the IP policy and law encourage the activities of R&D and innovation, which is the driving force behind the technology commercialization under the form of setting up the new innovation startups and technology transfer and licensing. Under the economic globalization, to foster the competitiveness at international level, the protection and exploitation of IPRs, in particular of patent rights, of innovative startups are very important and necessary. Therefore, the IP policy and law play the more and more important role. To reach the goal to foster the innovative startup development, each country has its own policy and specific laws. However, it cannot deny that with the development of science and technology, the border between countries, territories is more narrowed, the building of coherent and synchronized legal mechanism is imperative and challenged. This papers will research, analyze the IP policy to develop the law on patent and other IP objects and also the exploitation of IPRs as effective tools of two countries in ASEAN (Singapore and Vietnam) in promoting innovative startup. Through the differences from the policy and development direction, we can see the differences from current legal framework between two countries. Finally, the research will show that although two countries are in the same region, the development direction for the policy and legal regulations of two countries relating to IP is affected by the current development of each country and by the common development of the whole humanity. Based on the experiences of Singapore, Vietnam could have the solutions to modify its current IP policy and law, which brings the core value for Vietnamese law-makers.