Abstracts – Asian IP Scholar Awardees

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1	**Songyin BO** **Chinese University of Hong Kong**	**The Convergence of Patent Infringement Dispute Resolution of E-Commerce Platforms in China and US** INTRODUCTION Since the mid-nineties, legislators have been dedicated to providing online intermediaries, such as Internet service providers, with exemptions from liability for wrongful activities committed by users through their services, which is widely known as the "safe harbor rule" or "notice and takedown" rule. The United States was the pioneer first creating this rule in The Digital Millennium Copyright Act ("DMCA") in 1998, in which intermediaries are sheltered from liability resulted from the copyright infringement information dissemination, as long as they take the information down after getting proper notice. China transplanted the rule in Regulation on Information Network Communication Right Protection in 2006 and expanded the scope of its application from copyright infringement to all civil right infringements in Article 36 of Tort Law (2009) and Articles 42 to 45 of E-Commerce Law (2018). Safe harbor legislation initially intended to oblige the intermediaries with a negligence-based liability, which was an attempt balancing the protection of intellectual property rights (China)/copyright (US) and not curbing the development of intermediaries. Therefore, the intermediaries used to focus on satisfying the legal requirements by taking down the infringement links only, but not deploying extra proactive measures in dealing with intellectual property right infringements which de facto requires them to take more responsibility. The giant e-commerce platforms in both China and US with mature in-platform complaint mechanisms and other unique procedures respectively, are excellent examples of how intermediaries nowadays are taking more responsibility in intellectual property right protection (especially patent right protection) by resolving the related disputes properly and efficiently. And these mechanisms show a convergent tendency in involving neutral third party experts in patent infringement disputes resolution. RESEARCH QUESTION What deployments do e-commerce platforms make proactively in China and US in resolving intellectual property right infringement disputes (especially patent ones) other than the requirements of law? What are the tendencies and implications of these deployments? I. INTERMEDIARY LIABILITY OF E-COMMERCE PLATFORMS IN CHINA AND US This section elaborates the intermediary liabilities of e-commerce platforms in China and US from the legal perspective. In China, e-commerce platforms are mandated to take down links of patent infringement products after receiving notices from the right owners. In the United States, by comparison, the safe harbor rule does not apply to patent infringement cases, which means that the e-commerce platforms are not required by law to react to the patent infringement complaints. II. BUSINESS-DRIVEN OR JUSTICE-DRIVEN? AN EMPIRICAL ANALYSIS OF THE IN-PLATFORM PATENT INFRINGEMENT DISPUTE RESOLUTION MECHANISMS OF ALIBABA GROUP (CHINA) AND AMAZON (US) A. COMPLAINT MECHANISM AND CROWD-JUDGING PROCEDURE OF ALIBABA GROUP This part illustrates the complaint and crowd-judging mechanisms adopted by Alibaba Group, which shows its extra endeavor in having neutral third party experts and platform-users involved for professional or impartial opinion in resolving patent infringement disputes. Firstly, through the examination of more than three hundred cases (from 2009 to 2019), the author finds that Alibaba Group has been seeking for professional assistance from neutral third party experts in a great amount of complicated patent infringement cases with potential large

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		damages, especially since 2016. Alibaba Group is de facto conducting substantial examination, taking more responsibility in patent infringement dispute resolution and thus patent right protection, far more than the law requires. Secondly, when both the right owners and infringers are platform users, the patent infringement disputes might be settled not by the platform itself, but by crowd-judging participants. As an vivid example of sharing economy, crowd-judging has been used to resolve a great number of disputes and it reduces criticism of lacking neutrality and professionalism when platform acting as the judge. B. COMPLAINT MECHANISM AND PATENT NEUTRAL EVALUATION PROCEDURE OF AMAZON This part explains the complaint mechanism and patent neutral evaluation procedure developed by Amazon. Although Amazon is not required by the law to take down patent infringement links, it has also proactively developed a compliant mechanism in dealing with the complaints of patent infringement. Moreover, it recently enacted a new patent protection program named “patent neutral evaluation procedure” from April 2019. The initiation of the procedure requires bilateral agreement of both the right owners and infringers (sellers). After a certain amount was paid by each party as escrow, a qualified patent attorney will be selected by Amazon and she will be acting as the evaluator in deciding whether the patent infringement exists. Amazon also proactively takes more responsibility by providing these extralegal in-platform dispute resolution approaches to patent infringement cases. CONCLUSION This article provides a creative viewpoint in how giant e-commerce platforms in both China and US are shouldering more responsibility in intellectual property right protection (especially in patent right protection) and the related dispute resolution despite of the legal requirements. This article concludes that it’s a trend for them to involve professional third parties as judges/evaluators in patent infringement dispute resolution other than making the decisions arbitrarily on their own. These proactive actions being taken will likely reduce the impact of the restricted application scope of the “notice and takedown” rule, mitigate the potential damages resulted from the patent infringement while also satisfying the general requirements of neutrality and professionalism in dispute resolution.
2	**Adeet DOBHAL Centre for WTO Studies, Ministry of Commerce, Government of India (India)**	**‘Transferring the Tech’: An Analysis of China’s technology transfer regime and its compatibility vis-à-vis the TRIPS Agreement** INTRODUCTION Technology transfer is typically the dissemination of technology (taking various forms of intellectual property such as patents, trade secrets and designs) from the holder of such technology to the recipient, allowing the recipient to benefit from the technology so transferred. This dissemination could be in the form of transfer of ownership, assignment or licensing and are usually facilitated foreign investment or joint venture agreements. The holder and recipient in most cases of technology transfers are either governments or corporates. In the current global scenario, the use of technology has shifted bases from merely providing a comparative advantage to the ‘tech rich’, to almost occupying an indispensable position in the value chain. Harnessing technology in a judicious manner would be in the best interest of businesses, providing them with a competitive edge over their rivals. It therefore comes as a little surprise that technology transfers are increasingly being resorted to by companies and many countries to boost their economies. Technology transfers provide companies and countries with finalized technologies without essentially investing in the innovation, research and development processes themselves. Such an approach could be leveraged by developing and least developed countries that are technologically challenged or lack the adequate infrastructure to engage in the development of such technologies, in comparison to their developed counterparts. PROPOSAL BACKGROUND The potential of technology transfer, however, also makes it a prime tool for misuse by governments. A Staff Working Document of the European Commission found that countries such as China and Indonesia have local working or forced technology requirements which adversely affect the rights of intellectual property holders. It is precisely in this context that China’s foreign investment laws were recently

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		faced with severe criticism from many countries, especially the EU and the US. These countries accused China of adopting measures such as performance requirements and ownership restrictions among others, to 'force' a foreign entity to transfer its technology in lieu for obtaining administrative approvals and operating businesses in China. A March 2018 investigative report undertaken by the United States Trade Representative (USTR) found that China used "discretionary and non-transparent administrative reviews and licensing processes" to pressurize US companies to transfer technologies to Chinese entities. While dismissing these concerns, China stated that the foreign investment law did not mandate any 'forced' technology transfers. Nonetheless, these concerns were escalated at the WTO, where the US, and subsequently the EU, filed dispute proceedings (China-Certain Measures Concerning the Protection of Intellectual Property Rights; DS 542, and China-Certain Measures on the Transfer of Technology; DS 549 respectively) against China. It was claimed that these Chinese measures requiring forced technology transfers in its domestic laws violated China's Protocol of Accession to the WTO and several provisions of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Furthering the dispute, consultations was initiated by the US and the EU under the WTO dispute settlement rules. After an unsuccessful consultation process, the US requested for the establishment of a WTO panel in October 2018 to adjudicate the dispute. As a pre-emptive response to international backlash and the two pending WTO disputes, China in March 2019, announced the change to its investment regime aimed at addressing these outstanding issues. The new investment law that takes effect from 2020, was approved by the Chinese law makers and placed a prohibition on 'forced' or 'involuntary' technology transfers. Responding to the policy changes, the US requested to suspend the panel proceedings at the WTO. The dispute brought about by the EU is, however, currently underway at the consultations stage. PROPOSAL OBJECTIVE Given the importance of technology transfers in the current economic scenario, this paper intends to address and further the issues concerning technology transfers. The paper lays down the current position and jurisprudence regarding technology transfers as established by the TRIPS agreement. As a broader inquiry, the paper also examines and comments on whether the existing WTO framework provides for adequate protection and safeguard against forced technology transfers. Next, the paper specifically analyses the domestic regime regarding the transfer of technology in China from the lens of the TRIPS Agreement, both before and after the amendments to the foreign investment policy. The paper then examines the legal claims in the present dispute brought against China by the EU and the US, while further evaluating if the alleged contraventions of the TRIPS Agreement would be mollified by the changes in the foreign investment policy. Since technology transfers, in many cases, are a parcel of investment agreements, these are also evaluated from the perspective of the Agreement on Trade Related Investment Measures (TRIMs) as well to provide a complete and comprehensive picture. Keeping the foregoing analysis in view, the paper finally concludes by presenting the findings and suggestions.
3	**Jingjing HU, Southwest University of Political Science and Law**	**Signals or Pictures: A Doctrinal Analysis of the Sports Broadcasting Rights in China** In recent years, there are increasing lawsuits claiming tort damages with regard to the so-called "sports broadcasting rights" in China. Undoubtedly, legal protection should be provided to shield such rights as it contains enormous economic benefits. However, the crux of the problem is rooted in the approaches of the captioned legal protection. As shown in many judgments, the legal issue largely lies in whether continuous moving pictures on screens, which are following the transmission of broadcasting signals, constitute a "film work" as per the criteria of "creativity" and "fixation" under the Chinese Copyright Act. If the answer is definite, there exists an infringement to copyright; otherwise, the ensuing question is, "does the alleged infringement act constitute unfair competition under the Chinese Anti-Unfair Competition Act?". Nevertheless, the approach to focusing on "pictures" displayed on screens in cases of infringing a sports broadcasting right deserves a second look. In business, a contract licensing a sports broadcasting right grants the licensee an exclusive entitlement of transmitting broadcasting signals from sports spots to other places for local audiences to watch the game. Technically, the contracted object refers to a broadcasting

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		signal rather than pictures displayed on screens. Therefore, the constitution of infringement to the sports broadcasting right depends on whether an alleged infringing behavior conforms to the transmission of a broadcasting signal, rather than continuous moving pictures, without permission. Yet broadcasting signals are not protected by the Chinese Copyright Law. First, a broadcasting signal does not constitute a copyrighted work because it cannot meet the criteria of "fixation" and "originality". Second, continuous moving pictures may form a film work, whereas there is no assured ground for analogizing continuous moving pictures to a broadcasting signal. Third, it seems that the rights of broadcasting organizations related to the sports broadcasting rights. But it is not. The Chinese Copyright Law (1990) provided that the rights of broadcasting organizations protect "broadcasting and television programs produced by radio and television stations". However, under the Chinese Copyright Law amended in 2001, such phrase was changed to "broadcasting and television broadcasted by radio and television stations". On the surface, the object of the rights of broadcasting organizations changed from "picture" to "signal". As Professor Qian Wang has pointed out, the legislation of the rights of broadcasting organizations in China takes a "pseudo-signal protection mode" that focuses on pictures resulting from signal transmission, rather than signal per se. Therefore, the Chinese Copyright Act does not regulate "signal theft" and does not apply to the illegal utilization of sports broadcasting rights. This paper proposes two alternative legal grounds on tort remedies for the sports-broadcasting rights holder. The first is Article 2 of the Chinese Tort Law, which provides that "When civil rights and interests are infringed, legal liabilities shall be borne in accordance herewith; For this law, civil rights and interests include … and such other personal and property rights and interests". In theory, "such other property rights" are non-statutory rights carrying attributions of absolute civil rights; the formation of such rights premises upon meeting triple criteria: 1) identifiable ownership; 2) exclusion effect; 3) typically social publicity. In this regard, the development of the "Rahmenrecht" (the framework right) in German Civil Law makes a reference. As licensing sports broadcasting rights have long become an important income resource for sports events organizers, sports broadcasting rights no doubt satisfy the criteria of "identifiable ownership" and "typically social publicity". Hence can sports broadcasting rights be identified as "such other property rights" depends upon whether they meet the criterion of "exclusion effect"? Sports broadcasting rights do not have a legislative definition in most countries and are generally considered as commercial interests or business opportunities. In Italy, broadcasting rights are generally deemed as "enterprise rights". In China, some scholars consider sports events as "tradable non-material commodity". In line with the theory of "intangible property right", the right of broadcasting can essentially be categorized as private property, right holders can use it exclusively, and exclude other people's interference. That is to say, sports broadcasting rights meet the criterion of "exclusion effect". Accordingly, Article 2 of the Chinese Tort Law can apply to sports broadcasting rights. The same conclusion can be drawn from the perspective of "contract right", in which case the sports broadcasting right is analogous to a franchising right. In a contract licensing the sports broadcasting right, a relative legal relationship is formed between parties on the one hand; meanwhile, the de-facto absolute legal relationship is established between the licensee and any third person because the contract endows the licensee with a right excluding inference from others. In this sense, a sports broadcasting right represents an absolute civil right. However, this approach is improper under some circumstances. For instance, illegally utilizing other's broadcasting signals violates Article 2 of the Chinese Tort Law and constitutes unfair competition at the same time. In this condition, the Chinese Unfair Competition Law shall prevail. The reason lies in the doctrine of "the prohibition of escaping from specific law to general law".
4	**Mohammad Towhidul ISLAM, Department of Law, University of Dhaka (Bangladesh)**	**Pharmaceutical Patenting in the [Bangladesh] Patents and Designs Act, 1911 and the WTO TRIPS Agreement, 1994: Options and Challenges for Public Health** Bangladesh, a least developed country (LDC) with per capita health expenditure $32 requires to make its provisions for pharmaceutical patenting as laid down in the Patents and Designs Act, 1911 compatible with the WTO - Agreement on Trade-Related Aspects of Intellectual

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		Property Rights (TRIPS). This obligation is due to be met by 2033 or when the Committee for Development Policy (CDP), a subsidiary advisory body of ECOSOC will recommend it to the UNGA for graduation from the LDC category in 2024 whichever date is earlier. As part of its patent regime, the country provides patents for inventions. The term 'invention' has been defined as 'any manner of new manufacture and includes an improvement and an alleged invention'. Being obliged by this definition, the country offers product and process patents for inventions and improvements. However, the term 'improvement' has not yet been defined either by a legislation or precedent. As a result, an improvement of any product or process be it trivial or substantial qualifies for a patent. Pharmaceuticals either as products or products made of processes are taken by the Department of Patents, Designs and Trademarks to qualify for inventions and hence they are being patented in the country since the enactment of the Patents and Designs Act, 1911. In addition, a silly improvement of a medicine for which patent had already expired qualifies for a patent. As a result, medicines are evergreened with patents stopping production generics and making medicines inaccessible to the mass people usually having less affordability. However, India who inherited the same law from the British colonial ruler enacted new a law named the Patent Act, 1970 and stopped product patenting for pharmaceuticals since it claimed that product patenting for pharmaceuticals was not mandatory as per the Paris Convention for the Protection of Industrial Property, 1883 from which the patent provisions in the Patents and Designs Act, 1911 were adopted. This change of law stopping product patenting for pharmaceuticals brought India to the number one place in the world for producing cheaper generic medicines and enabled people accessing to medicines at an affordable price. In addition, the current Indian provision on inventions for which patent will not be given has stopped evergreening of patents paving the way for producing generics and protecting public health. Further, in 1995 Bangladesh became a member of the TRIPS which globalized patenting of pharmaceuticals with product and process patents. The TRIPS sets minimum standards for patents such as duration of patents for 20 years as minimum, rights given to patent holders, with exceptions to that right, when the right can be taken away and on what grounds etc. These are taken as flexibilities to enable countries to formulate their own IP regime to suit their development needs like public health. These flexibilities are reaffirmed in 2001 Doha Ministerial Declaration on TRIPS and Public Health. Again, for an invention to be patented, the TRIPS requires the "invention" to have "new/novelty", "inventive step/non-obvious", and "industrial applicability". This clause bears an ample flexibility for a country like Bangladesh to define patentable inventions. A rigorous use of patentability criteria ensures patents are only granted for truly new and innovative inventions and not to trivial inventions e.g. combinations of existing compounds. Further, the TRIPS has given an opportunity for excluding certain things from patenting like diagnostic, therapeutic and surgical methods etc. In addition, transition period for compliance is given under Article 66 of TRIPS 'in view of the special needs and requirements of LDCs… their economic, financial and administrative constraints and their need for flexibility to create a viable technological base… Members shall not be required to apply the provisions for a period of 10 years.' However, for developing and least developing countries having no patent regime, mailbox for patents with exclusive marketing rights was made applicable with effect from 1 January 1995 and no roll back was made applicable for countries having an existing patent regime. For LDCs, TRIPS Agreement was to come into force in 2006. But recognizing the vulnerability of LDCs, the TRIPS Agreement built in a renewable transition period as Article 66.1 says: 'The Council for TRIPS SHALL, upon duly motivated request by a least developed country Member, accord extensions of this period.' In October 2005, LDC group requested an extension of transition period as per Article 66.1 of TRIPS. In November 2005, LDCs as a group were granted an extension of the transitional period for 7.5 years i.e. "until 1 July 2013 or until such a date on which they cease to be a least developed country Member whichever date is earlier" (WTO doc. IP/C/40). In addition, Paragraph 7 Doha Declaration says that LDCs do not have to implement patents and protection of undisclosed information until 1 January 2016 or until such a date on which they cease to be a least developed country Member whichever date is earlier. In 2008, Bangladesh issued an executive order stopping patent protection for pharmaceuticals and establishing a mailbox with exclusive marketing rights despite it did have an existing patent regime for pharmaceuticals.

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		In November 2012, LDC Group requested a further extension under Article 66.1 of TRIPS and on 11 June 2013, WTO TRIPS Council granted a further extension by saying that 'Least developed country Members shall not be required to apply the provisions of the Agreement, other than Articles 3, 4 and 5, until 1 July 2021, or until such a date on which they cease to be a least developed country Member, whichever date is earlier.' (WTO Doc. IP/C/64) It also says that LDCs may rollback their IP laws and it is without prejudice to further extension. Further, TRIPS Council Decision 6 November 2015 (WTO Doc. IP/C/73) says that LDCs will not be obliged, with respect to pharmaceutical products, to implement patents] and protection of undisclosed information until 1 January 2033, or until such a date on which they cease to be a least developed country Member, whichever date is earlier. This decision is made without prejudice to the right of LDCs to seek further extensions. In addition, General Council Decision 6 November 2015 (WTO Doc. WT/L/971) says that LDCs do not have to implement mailbox (mechanism for receiving patent applications and exclusive marketing right. As a result of the TRIPS Council decisions, the executive order issued by Bangladesh in 2008 stood void until 2013 but afterwards it becomes valid. However, the mailbox may appear harmful after 2033 or when Bangladesh will move to developing country status since Bangladesh can now copy medicines which are patentable and use it for protecting public health at home and abroad; but if a patent is issued after 2033 or when Bangladesh moves to developing country status, it will be given retrospective effect meaning copying of medicines for which patent application is now stored in mailbox, may amount to infringement of patents granted later with retrospective effect. Having said the above, this paper intends to analyze the TRIPS patenting provisions on pharmaceuticals and find their suitability to protecting public health in an LDC like Bangladesh during the TRIPS transition period and after its compliance. This paper also likes to analyze some similar situations of countries like India who has already complied with the TRIPS and has become a leader in protecting public health. This paper also intends to suggest a policy regime for Bangladesh either to make amendments to the Patents and Designs Act, 1911 or to enact a new law keeping in mind that people in the country do not have much affordability for essential medicines.
5	**Qi Jun KWONG, Graduate School of Law, Nagoya University**	**Territoriality and Comity in WesternGeco: Should Extraterritorial Damages be Granted?** Territoriality has long been a fundamental concept in the prosecution and enforcement of patent rights. The principle stems from a broader notion of state sovereignty, affirming that each state has absolute sovereignty over a particular territory. A corollary of this is the principle of comity in respecting the sovereignty of another state, which leads to states limiting its own power to within its territorial borders. It thus follows that patent law is restricted to acts occurring within the boundaries of the state. The extent to which the above principles are implemented however, differs across jurisdictions. The case of WesternGeco LLC v. ION Geophysical Corp. before the United States Supreme Court broaches two of such questions: (i) whether jurisdiction may be asserted over an infringing act occurring overseas; and (ii) whether subsequent downstream sales occurring overseas may be recovered as damages. Under the aforementioned conception of territoriality, the answer to both questions would result in the negative. However, customary international law no longer emphasises absolute state sovereignty as strongly, and has developed several permissive rules that allows states to assert jurisdiction. One of such rules relevant to patents is objective territoriality, which provides that states may exercise authority where the effects of the act is felt. Nevertheless, most states have opted to limit the construction and operation of patent statutes by citing the principle of comity, and the resulting approaches differ greatly across different aspects of patent law such as the scope of infringement inquiries and in the calculation of damages. This contrast is most evident in the supplying of an essential means of an invention for assembly abroad. Countries such as Germany and the United States affirm such an infringement as long as the means originate from within its territorial boundaries, but Asian countries seem to demonstrate greater reluctance. Malaysia for instance stipulates that a granted patent only has effect within the boundaries of the state, and does not provide for indirect infringement. Even for Japan that has indirect infringement provisions in place, past rulings and scholarly opinions have demonstrated the unlikeliness of holding such acts as infringing, not to mention the calculation of damages from downstream sales occurring abroad.

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		The legal issues raised by WesternGeco is not just a matter of statutory interpretation, but involves questions of a universal nature relevant to all jurisdictions. With the rise in transnational patent dealings and ease in breaking down production processes, the value of obtaining a patent is diminished without some form of cross-border enforcement mechanism. To provide relief for patentees in such situations, states may opt to introduce laws that govern the exportation of components and provide for relevant damages. However, the extent to which comity should in turn be respected raises further practical questions, such as the double recovery of damages. Accordingly, this research first analyses the case of WesternGeco and explain the reasoning of the Supreme Court. It then seeks to ascertain the application of the territoriality principle in various aspects of patent law, and demarcate the different levels of territoriality across jurisdictions. With the current shift in customary international law from state sovereignty to a greater concern on "humanity," this research argues that interpretations of jurisdiction in patent law should follow suit. Drafting laws that include foreign acts to accommodate the internationalisation of trade would actually enable sovereignty to be better understood as a "responsibility" rather than a "right" as provided under international law. Next, this research proposes that countries should consider instituting indirect infringement provisions that allows cross-border infringing activities to be held accountable, and raises several alternatives for the calculation of damages that may be adopted. To do so, analyses is made to the prescriptive, adjudicative, and enforcement jurisdiction of select Asian jurisdictions in comparison with countries such as Germany and the United States. In addressing the comity concerns, this research notes that patent regimes of other countries may embody separate policy judgments, such as the patentability of certain subject-matter, and that granting extraterritorial damages might result in inconsistencies with the place where the infringing act was conducted. While such considerations are important, the state rendering the judgment would have established sufficient jurisdiction prior to deciding on the merits. This means that a connection has been identified and the state has a legitimate interest in regulating the matter, and more so if enforcement of the decision does not involve other states. Thus, the already expanded notion of territoriality should not be held hostage in such cases. As for the double recovery of damages, the rendering state may take into consideration of any parallel or subsequent proceedings, and limit the damages as deemed appropriate. Any subsequent rulings in other states should also take into account of any foreign decisions rendered. Ultimately, this research affirms that states are free to express its own notion of territoriality, but argues that the interpretation should evolve to accommodate cross-border concerns. Despite some arguments against the rulings of WesternGeco, the circumstances of the case and the questions posed should be evaluated in finding better solutions for cross-border patent infringement cases.
6	**Sujin LEE, Seoul National University (South Korea)**	**Data Capitalism and 4th industry revolution: Focusing on the Studies of GDPR and Its Effect on Asian Countries** GDPR (General Data Protection Regulation) has come into effect on May 25, 2018 and applicable to 28 European countries. GDPR encompasses privacy protection guidelines and private information laws and regulations, and CJEU rulings. The GDPR not only applies to organisations located within the EU but also applies to organisations located outside of the EU if they offer goods or services to, or monitor the behaviour of, EU data subjects. It applies to all companies processing and holding the personal data of data subjects residing in the European Union, regardless of the company's location. Companies subject to GDPR(regardless of its geographical location) should modify its private information policies and in consideration of 4th industry revolution which would come with Data Capitalism, a lot of companies especially in Asian countries are expecting to be experiencing difficulties in keeping the GDPR.

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		I would like to discuss what kind of difficulties are expected from Asian companies, focusing on the cases of Korea, covering all the changes made in GDPR - Increased Territorial Scope (extraterritorial applicability), Penalties, Consent, Data Subject Rights(Breach Notification, Right to Access, Right to be Forgotten, Data Portability, Privacy by Design, and Data Protection Officers). I will briefly introduce Key topics as follows and will introduce some examples which could be found in Asian countries and companies; Increased Territorial Scope (extraterritorial applicability): Arguably the biggest change to the regulatory landscape of data privacy comes with the extended jurisdiction of the GDPR, as it applies to all companies processing the personal data of data subjects residing in the Union, regardless of the company's location. Previously, territorial applicability of the directive was ambiguous and referred to data process 'in context of an establishment'. This topic has arisen in a number of high profile court cases. GDPR makes its applicability very clear – it applies to the processing of personal data by controllers and processors in the EU, regardless of whether the processing takes place in the EU or not. The GDPR also applies to the processing of personal data of data subjects in the EU by a controller or processor not established in the EU, where the activities relate to: offering goods or services to EU citizens (irrespective of whether payment is required) and the monitoring of behaviour that takes place within the EU. Non-EU businesses processing the data of EU citizens also have to appoint a representative in the EU. Penalties: Organizations in breach of GDPR can be fined up to 4% of annual global turnover or €20 Million (whichever is greater). This is the maximum fine that can be imposed for the most serious infringements e.g.not having sufficient customer consent to process data or violating the core of Privacy by Design concepts. There is a tiered approach to fines e.g. a company can be fined 2% for not having their records in order (article 28), not notifying the supervising authority and data subject about a breach or not conducting impact assessment. It is important to note that these rules apply to both controllers and processors – meaning 'clouds' are not exempt from GDPR enforcement. Consent: The conditions for consent have been strengthened, and companies are no longer able to use long illegible terms and conditions full of legalese. The request for consent must be given in an intelligible and easily accessible form, with the purpose for data processing attached to that consent. Consent must be clear and distinguishable from other matters and provided in an intelligible and easily accessible form, using clear and plain language. It must be as easy to withdraw consent as it is to give it. Data Subject Rights: Breach NotificationUnder the GDPR, breach notifications are now mandatory in all member states where a data breach is likely to "result in a risk for the rights and freedoms of individuals". This must be done within 72 hours of first having become aware of the breach. Data processors are also required to notify their customers, the controllers, "without undue delay" after first becoming aware of a data breach. Right to Access: Part of the expanded rights of data subjects outlined by the GDPR is the right for data subjects to obtain confirmation from the data controller as to whether or not personal data concerning them is being processed, where and for what purpose. Further, the controller shall provide a copy of the personal data, free of charge, in an electronic format. This change is a dramatic shift to data transparency and empowerment of data subjects. Right to be Forgotten: Also known as Data Erasure, the right to be forgotten entitles the data subject to have the data controller erase his/her personal data, cease further dissemination of the data, and potentially have third parties halt processing of the data. The conditions for erasure, as outlined in article 17, include the data no longer being relevant to original purposes for processing, or a data subject withdrawing consent. It should also be noted that this right requires controllers to compare the subjects' rights to "the public interest in the availability of the data" when considering such requests.

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		Data Portability: GDPR introduces data portability – the right for a data subject to receive the personal data concerning them – which they have previously provided in a 'commonly use and machine readable format' and have the right to transmit that data to another controller. Privacy by Design: Privacy by design as a concept has existed for years, but it is only just becoming part of a legal requirement with the GDPR. At its core, privacy by design calls for the inclusion of data protection from the onset of the designing of systems, rather than an addition. More specifically, 'The controller shall… implement appropriate technical and organisational measures… in an effective way… in order to meet the requirements of this Regulation and protect the rights of data subjects'. Article 23 calls for controllers to hold and process only the data absolutely necessary for the completion of its duties (data minimisation), as well as limiting the access to personal data to those needing to act out the processing. Data Protection Officers: Under GDPR it is not necessary to submit notifications / registrations to each local DPA of data processing activities, nor is it a requirement to notify / obtain approval for transfers based on the Model Contract Clauses (MCCs). Instead, there are internal record keeping requirements, as further explained below, and DPO appointment is mandatory only for those controllers and processors whose core activities consist of processing operations which require regular and systematic monitoring of data subjects on a large scale or of special categories of data or data relating to criminal convictions and offences. I also would like to discuss with the fellow scholars how these changes are in keeping in the line with 4th industry revolution and what kind of changes in laws and regulations should be made in Asian countries, especially in Korea, where a lot of technology companies are present.
7	**Jingze Li, Tilburg University (visiting PhD student at SMU)**	**Legal Constraints on Standardization Activities in The EU and The US: A Study on IPRs Licensing Rules in Utilizing Open Source by ETSI, OASIS and IETF** The value of Intellectual Property Rights (IPRs) does not only appear in the existence of IPRs, but also in exercising the rights. In the real world, private ordering agreements concerning IPRs are common. Standard Setting Organizations (SSOs) rules governing IPRs are a sort of private ordering that bridge IPR owners and IPR users to facilitate the transformation of the existence of IPRs to the exercising of IPRs. It is revealed through some well-known patent cases concerning Standard Essential Patents in the smartphone industry, that IPRs rules in SSOs can influence how some key IPRs in the industry will be exercised. However, unlike other private ordering mechanisms such as patent pools, standardization activities are in first place to develop technical standards other than purely for IPRs licensing. Therefore, IPRs rules can not often be studied separately from technical activities. This paper looks at IPRs license rules in a specific standardization activity, utilising open source software into standardization process in SSOs. We study three organizations, including the European Telecommunication Standards Institute (ETSI) from the EU, the Organization for the Advancement of Structured Information Standards (OASIS), which is accredited by the American National Standards Institute (ANSI) and the Internet Engineering Task Force (IETF) from the US. Although SSOs are industry-based organizations, the operation of their activities is subject to several legal constraints, including international trade laws and competition/antitrust laws. These laws may directly address IPRs license issues or influence indirectly by constraining the standardization work. To what extent these laws influence standardization activities depends on several factors, including the relationship between the organization with the EU/US public authority and the difference in specific rules between the EU and the US. We compare the approaches in the three organizations, in order to see how these legal constraints from the two territories have been reflected on the IPRs license scheme in SSO's approach towards open source software. We try to find out what are the IPRs license scheme in their approach of utilizing open source software in standardization work and to understand the legal, cultural and business considerations that shaped the approach.

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		The following sections are arranged as follows: in Part I, legal constraints from the EU, the US and international law regime will be introduced. The Regulation 1025/2012 depicted the framework for EU standardization work and authorized three SSOs to be European Standardization Organization (ESOs). In the US, SSOs are under accreditation by a private organization called ANSI. Internationally, the Agreement on technical Barriers to Trade (TBT), as part of the larger WTO agreement, requires standardization activities to follow principles such as transparency, openness, impartiality and consensus, etc. These principles are adopted (adjusted or partially adopted) in the EU and the US. In addition, standardization activities are largely shaped by competition and antitrust rules. The Horizontal guidelines sets principles for standardization activities which resemble WTO principles. In the US, through case laws, standardization activities are justified by the "rule of reason" for being activities among competitors. We summarize that, the US provides a more industry-steered environment for standardization activities, which offers competitors more room to design around license schemes on IPRs. In Part II, we will introduce the standardization activity, utilizing open source software in standardization process by the three SSOs. It starts with a focus on a recent move from the ETSI to launch an open source project called the Open Source MANO (OSM) under the open source license Apache v.2. we observe that it will likely to bring changes to ETSI standardization work and particularly affect its IPR policies and cause less participation from IPRs owners. Secondly, the OASIS has in 2019 launched its first two similar "Open Projects" initiated by members of OASIS that provide a multiple choice license scheme. The IETF had a longer history of dealing with open source, its BSD license scheme allows incorporation of source code into standard specifications. We went through 4000 specifications from IETF and find empirical evidence on how the license scheme is used among members. Part III compares our findings and reflects on legal constraints of EU and US. The approaches reflect the difference in the tradition of standardization work between the EU and the US. The legal constraints that apply to the ETSI have limited its ability to utilize open source software with a more liberal IPRs license scheme and may not be effective for IPRs licensing through standardization work. Nevertheless, the conclusion is not decisive. We also find that other reasons may be accountable for the disparity between approaches by the three SSOs, such as the culture of the industry and the business model of the SSO. Therefore, the suggestion comes in Part IV for IPRs owners/users are more than one conclusion, a more reasonable way is to compare the license scheme provided by the organization with their own interests in a specific technical fields with regard to IPRs before they join the open source project in a SSO.
8	**Jesse Chien-Chih LU, College of Communication, National Chengchi University**	**Licensing Infrastructure of Subscription Video-On-Demand (SVOD) in the Streaming Market** This research believes that economic incentives are fundamental stimulations for musical artists' creations. Typically, sufficient financial support makes creators focus on their working process and attempt to complete masterpieces. The arguments above reveal the music intermediaries in the Mandarin music market may be focusing on something other than on strengthening music licenses and facilitating financial transactions.Because the different proportionality of licensing types exists in the Mandarin music market, the inefficiency results in distribution issues in several jurisdictions. Especially, to reconstruct proportionality in the Mandarin music business will be helpful in defending the creator's profit. Many scholars believe current music scene might need a new licensing infrastructure such as compulsory licensing to handle the music revenue on streaming services. The establishment of a compulsory licensing system can be traced back to the 1900s, as the pianola (also called player piano, a self-playing piano) was starting to thrive. Before, the market of handwritten or printed form of music notation (Sheet music) had served as the main income for the copyright holders of musical composition and lyrics. At the beginning, the manufacture of pianola music sheet rolls and phonorecords did not pay any licensing fee when incorporating the musical creation in the sheet reels and copies. After a failed suit in the U.S. Supreme Court dealing with this unreasonable custom in the music industry, the U.S. Congress passed an amendment to approve he reproduction rights of the mechanical use to the copyright holder of musical works. Nevertheless, because the Congress was distrusting of the only Aeolian player piano company's dominant market power, and initially applied the involuntary licensing system to the music industry. This action actually initially brought compulsory licensing mechanism into the Copyright Act.

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		In the present day, the compulsory license keeps approving the authorization of mechanical reproduction from recording artists to produce "cover songs", in other words, musical creations composed by other creators and already published through other labels. Systematized by the Section 115 of the US Copyright Act, not just the music sheet rolls of the player piano can be reproduced through the compulsory licensing model, but also the compact disc, cassette tape and other forms of "phonorecord" which mechanically duplicates voices and sounds containing in the musical creation. Regarding the Section 115 of the US Copyright Act, "Anyone wishing to make and distribute phonorecords of a nondramatic musical work can negotiate directly with the copyright owner or his or her agent. But if the copyright owner is unwilling to negotiate, or if the copyright Compulsory License for Making and Distributing Phonorecords owner cannot be contacted, the person intending to record the work or make a DPD can use the compulsory licensing provisions of the copyright law". Actually, §115 of the U.S. Copyright Act has been comprehended into the Chinese copyright law. However, the Chinese version allows the creators to opt out from the rigid compulsory license model. Owing to this exception, the Chinese edition's compulsory license system is actually similar to the Extended Collective Licensing (ECL) operation and has a substantial difference with the conventional compulsion and inflexibleness on of the U.S. practices. In reality, since, generally, Chinese musical creators choose to opt out from the compulsory license mechanical rights, the Chinese model has not brought essential influence and further discussions to the music market until the 2012 version proposal of Copyright Amendment emerged. Therefore, the initial proposal of 2012 Chinese copyright amendment advocated getting rid of the existing opt-out exception regarding to the compulsory license of mechanical rights. Overwhelming and excessive criticism was triggered and supported by massive musical professionals and talents. In particular, crowds of musical artists spoke out about their anxiety and worries that compulsory licensing could become an approval of unlawful uses and stimulate more music adaptations with a low price. The fundamental issue of music composers, lyrists and publishers is that the compulsory license does not empower them to overmaster the use of their copyrightable works, or look for an unreasonable price in the negotiation. On the other hand, rights holders also grumble about the shortage of an audit power and pragmatic inability to enforce reporting or payment obligations under section 115, resulting in inefficiency and vagueness in the licensing process. One critical issue thus revealed is should section 115's compulsory licensing be carried out on a musical work's license? Can the compulsory license rate only be executed on sound recording licensing, when the current blank in section 115 is just left to the musical work's licensing? Music publishers and writers keep arguing for the lower price on the regulated sound recording market and urge they should benefit more from a free market system. That is why most musical work owners hope to avoid the regulations of section 115 designed by recording labels. From the US Copyright Office's perspective, the compulsory licensing should be merely applied to tackle "market failure". Therefore, U.S. Copyright Office's research report actually disagrees to apply the section 115 regulation to musical works. For the Chinese music market, whether the U.S.'s section 115 can be applied to musical works remains a critical and questionable issue. Specifically, like the U.S., China is one of the biggest countries in the world. China's huge territory brings the inefficiency and impossibility of collecting vast revenues from each division. The same problem happens to China's music industry- "Could the compulsory license be a useful and pragmatic measure for this disparity?"
9	**Farizah MOHAMED ISA, Faculty of Law,**	**Gene Patents – Is Change the only Constant? A comparative analysis on the patentability of human DNA in China and Malaysia after Myriad**

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	University Teknologi Mara (Malaysia)	For decades, the patenting of human genes has been the subject of debate. As technology relating to human genes advance at a very rapid speed, attitude and perception of the law makers towards this subject is seen to have changed. The Myriad decision in 2013 had a huge impact on the position of human DNA as to the scope and limitations to its patentability. The US Supreme court ruled that only 'synthetic' DNA can be patented; not isolated DNA in its natural environment. The Myriad case was also decided upon in Australia and the European Patent Office. In China, the 2000 Patent Law of the People's Republic of China excludes a mere discovery of nature from being granted a patent right. In terms of genetic inventions, there is an additional regulation. The State Intellectual Property Office of the People's Republic of China issued a Guidelines for Patent Examination in 2010 where in essence, isolated genes with an identified practical application are patentable under the existing Chinese patent regime. In Malaysia, The Patents Act 1983 provides that naturally occurring processes and products derived from these processes are not patentable. Hence, only processes which substantially involve human intervention may be patented. This is similar to the position in China and generally most jurisdictions in the world. However, unlike China, Malaysia does not have a specific guideline for patent examination when it comes to genes and gene related inventions. The parameters for gene patents in Malaysia revolve around section 13(1) (b) of the Patents Act 1983 which at first glance, is technically in line with the decision in Myriad. There is a changing landscape in the patentability of genetic materials in the U.S. In June 2019, a bill was proposed in Congress which could result in the ban by the US Supreme Court on patenting human genes in Myriad be lifted. According to some experts in patent law, the draft bill "would result in a quagmire of patent claims and legal impediments to the normal scientific exchange" and there is concern that this new bill would threaten the main principle of patent law; which states that ideas and basic discoveries about the laws and products of nature must remain in the public domain. The senators who introduced this new bill deny that the new provisions will have these implications. Rather, they described it as a way to restore incentives for U.S. innovation by making the process for protecting new inventions more predictable. Some writers are of the opinion that this new bill could be prompted by the stiff competition between the US and China; as mentioned above, there is no comparable restrictions in China. There were three hearings in Congress on this new bill and there were mixed receptions from various quarters. As expected, the opponents say the bill would enable monopolies on discoveries that should be widely available for research and medical use. In the first of three patent reform hearings, the senators proposing the bill stated that they did not intend to upend all restrictions on patenting human genes or other basic research discoveries. According to them, their proposal would not change the law to allow a company to patent a gene as it exists in the human body and they do not intend to overrule that holding of the 2013 Myriad decision. However, witnesses at the hearing had different interpretations of the bill's text. Despite the intention to preserve Myriad, according to the witnesses, what was proposed was inconsistent with the legislative text. There is also support of this new bill, some cancer survivors said that due to the position before Myriad (where isolated genes/materials from nature was patentable) it was possible to secure research and development on drugs which helped them. A drug called Adriamycin for breast cancer was from a compound isolated from microbes. This drug would never have been developed if isolation of substances from natural products are non- patentable. Since Myriad, biotechnology in general, and genetic technology in particular, have advanced tremendously. The Human Genome project in 1990, the mapping of the whole 3 billion or so human DNA took 13 years to complete. Now, it only takes a day and an insubstantial fraction of the cost. As such, the regulations or legal framework related to this area must keep up; and the outcome of this new bill in the US could be the game changer for the global scenario. This paper will explore and compare the legal provisions in China and Malaysia on the extent of the patentability of gene patents and how, if any, the new US bill will impact these provisions. Keywords: Myriad, Gene patents, Isolated human DNA.

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10	**Stefan PAPASTEFANOU, Bucerius Law School Germany (visiting PhD student at SMU)**	**"Machine Learning" in Patent Law – Legal Challenges regarding The Term "Invention" and "Inventor" in The Context Of Genetic Breeding Algorithms** Artificial Intelligence (AI) is an interdisciplinary field of computer science with the aim of creating intelligent machine behavior. Early approaches to AI focused on rule-based systems. Such systems have been configured to operate in very constrained environments where the behavior of the AI system was previously determined by formal rules. Knowledge was presented as a set of rules that allowed the AI system to determine the results for specific problems; as a structure of if-else rules that could be traversed to find a solution to a particular problem or question. However, such rule-based systems typically have not been able to generalize beyond the knowledge provided. All over the world and especially in IT-heavy industries such as the United States, the European Union, Singapore and China, machine learning has developed to be an immense assets and its applications are becoming more and more significant and relevant from everyday life to high-profile economic and even military interests. By realizing the significance of machine learning, it has to be examined how such products of machine learning models can and should be protected by IP law and for the purpose of this paper patent law specifically, since it is the closest IP law regime with regard to technical inventions and computing methods in technical applications. The significant resources and investments necessary to execute efficient machine learning mechanisms raise claims for legal protection of such investments. Genetic Breeding Models are currently less popular than Recursive Neural Network Method and Deep Learning, but this approach can be more easily described by referring to the evolution of natural organisms, and with increasing computational power, the Genetic Breeding method as a subset of the Evolutionary Algorithms Models is expected to be regaining popularity. In addition, it is one of the oldest approaches to machine learning. Therefore, this research will focus on the arising legal problems in the context of Genetic Breeding Algorithms. The research method focuses on the patentability (according the world's most significant patent law regimes such as China, Singapore, the European Union and the United States) of AI inventions and machine learning in the three common three categories of AI: basic algorithms, platforms, and applications. Inventions within the category of basic algorithms relate to the AI and machine learning algorithms themselves, without considering the application to a particular problem. Machine learning algorithms are usually excluded from patentability. For example, in European patent law they are considered to be mathematical methods and mathematical methods as such are considered non-inventions according to Article 52 (2), 3 EPC. Inventions considered to be within the platform category are those that go beyond the mere algorithms and seek to provide a platform from which to solve a problem without explicitly limiting the scope of the invention to a particular application. However, it is not disclosed that the invention relates to a particular application, such as retrieving and analyzing medical images. The technical nature of the disclosed invention results from the fact that the AI is trained over several distributed local platforms. Therefore, the application itself is not a basic algorithm. Inventions found in the Applications category are those that want to use machine learning or artificial intelligence to solve a particular problem, often without limiting the solution to a particular algorithm. Inventions within this category are typically characterized by the fact that they focus more on the application area than the machine learning or artificial intelligence algorithms. Questions of the technical nature of the problem to be solved, the inventive step as such and the question of the state of the art and the associated obviousness of the solution arise in the current patenting processes. Most importantly and key focus of this paper is the problem of patenting inventions which themselves are developed through machine learning. The inventor of a patent application must be a natural person or a group of persons according to the current legal situation in most paten law regimes. In order to be considered an "inventor", a person must actually have developed part of the inventive concept. The mere

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		application of machine learning or an AI algorithm to a particular problem should not be construed as the algorithm that contributes to a part of the inventive concept. However, when machine learning or the AI algorithm has contributed to a part of the inventive concept, there is currently a lack of clarity regarding the ownership of artificially created inventions. Since not only all European patent law regimes but also the Chinese and Singaporean patent law approaches include identical terms , this paper ultimately offers a comparative analysis of the most relevant patent law regimes. Keywords: patent law, machine learning, patentability, software, algorithms, inventor, genetic breeding algorithms
11	**M. SAKTHIVEL University School of Law & Legal Studies, Guru Gobind Singh Indraprastha University (India)**	**Withering away Broadcaster from Copyright Regime: Emerging technological paradigm strengthens Authors' Right** Copyright has always been accommodating technological advancements by express inclusion of the authors' right of dissemination of their works for the enjoyment of public over the new medium both at the international and national level. These technological advancements have led to the emergence of the concept of authors' right of Radio broadcasting, TV broadcasting, etc., which have been now compressed under the authors' right of 'communication to the public'. It was the broadcasting industry at first flourished and paved way for the expansion of authors' right of 'communication to the public'. The socio-economic analysis of the development of broadcasting industry clearly indicates that considerable investment is required for the dissemination of works through broadcasting. It is also evident in the past that unauthorized rebroadcasting of content carrying signal of the broadcasting organizations by their competitors created considerable revenue loss not only to broadcasting organizations but also to the authors of the copyright works. The major reason for the unauthorized rebroadcasting was the legal gap that existed in the authors' right of broadcasting, as the same was restricted only to the expression of contents and not to the signals generated by the broadcasting organisations. This has led to the emergence of the concept of neighbouring rights protection including that of broadcasting organizations. In order to address the economic interest behind the broadcasters' role in generating the signal for disseminating the authors' works to the public, the concept of 'broadcast reproduction right' was conceived and accepted by the Rome Convention in 1961. The same has been recognized in a limited way in the TRIPS Agreement as well. Even though the level of legal protection for the protection of broadcasters' signal has been remaining constant, the technical advancements in signal protection i.e., signal encryption techniques have been improved considerably in the recent years. As a result of the improved techniques in encryption for signal protection, there is a need to examine whether the program carrying signal in digital broadcasting still requires any additional legal protection? In the digital context, it is also inevitable to understand the scope and extent of authors' right in live streaming and to further examine whether there is any legal gap similar to that of unauthorised access of traditional broadcasters' signal while transmitting the work of authors through live streaming. This research work attempts to answer these questions. Key Findings: While tracing the evolution of the concept of the authors right of communication to the public internationally, it is evident that as and when a new technology is commercially exploited, the authors' right over the same has been extended. The language used in the Berne Convention even today stands as a techno-specific model which has the limitation of covering the newly emerging technologies. Even analysis of the scope of Article 8 of WCT (1996) dealing with the right of communication to public also reveals that it is technology specific like the Berne Convention. Article 8 of WCT does not expressly intend to accommodate live streaming transmission and thus the authors' position over live streaming needs to be read into this provision for countries to recognize it as and when needed. While examining the recent practices followed in developed countries, especially in US and EU where live streaming technology has been a commercial success, it is noticed that the judiciary, by interpretation of the technology neutral language in the domestic legislation, has recognized live streaming as part of authors' right of communication to public. The courts have further emphasised that live streaming being a

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		separate technology facilitating commercial exploitation of copyright works in a new market which is different from broadcasting, specific permission from the owner of copyright is required before enjoyment of the works over this medium. Many countries which are parties to Berne Convention are yet to become members of the WCT. Considering the fact that live streaming is a fast emerging medium of future communication industry of the globe, it is advisable to clarify that live streaming is covered under the existing international copyright regime by revisiting the Berne Convention. By studying the technological nature and the scope of broadcasting and live streaming, the research work clearly demonstrates that there are substantial differences between the live streaming and the broadcasting. As the differences are substantial, the live streaming cannot be considered as broadcasting since contents are delivered using the streams i.e., pockets rather than signal. With these technological insights, when the socio-economic behaviour of the broadcasting as of today is examined, it is found that the broadcasting industry as such has not been subjected to signal piracy issue due to the technological advancements such as encryption of signal and digitalization of signal. As a result, the unauthorised use of signal (signal piracy) issue has been substantially addressed in the broadcasting industry which causes no economic loss neither to the broadcasters nor to the authors. Hence, there is no need for further expansion or extension of any rights to the broadcasters in the digital context. Even with respect to simultaneous transmission of content received from signals through live streaming, as the medium and the mode of communication differ from the broadcasting, the broadcasters' right should not be extended over the live streaming as the authors' right of live streaming would be sufficient to address the problem if any. As the existing Rome Convention model along with TRIPS can address the unauthorized access of signal of the traditional analogue broadcasters, there is no need for having any new international legal instrument expanding the rights of broadcasting organizations. Hence, it is suggested to abandon the ongoing WIPO's discussion on the protection of broadcasters.
12	**Niharika SALAR, National University of Singapore**	**Does Celebrity Likeness Really Matter on The Internet? An Attempt to Decode Publicity Rights In The Context of Social Media In India & Singapore** In August this year, pop star Ariana Grande decided to sue the American fast fashion retailer Forever 21 for allegedly using a look-alike model to endorse the brand on social media, especially Instagram, right after reports of Ariana declining an endorsement deal with Forever 21 hit the newspapers. Did Ariana not have protection over her own image? But hasn't she been in the limelight and has consented to be photographed publicly? The existence of the concept of publicity rights came into being when McCarthy in 1987 proposed that right of publicity needs to be chalked out from the broader umbrella of right of privacy. Accordingly, the celebrity needs to have commercial control over the use and reuse of any content which is related to the celebrity brand value and likeness which has been earned after years of being in the public eye. But understanding the conflicts between publicity rights and intellectual property protection becomes more important in today's age because according to a recent study, twenty-five percent of consumer purchase decisions involved brand cultural involvement, versus forty four percent on price and quality and thirty one percent on brand perceptions. But most of these law suits are never able to reach arguments as they are settled outside Court, usually without spilling out the figures, which is just another example of how valuable public image can be for brands and parties are willing to go to greater extents to protect the same. While it may be beneficial to the parties, the Courts are stripped off of the opportunity to create binding precedents on such conflicting legal issues, leaving the floor open for interpretations. While a few scholars contend that the celebrity has ideally consented to his/her likeness being freely accessible by being in the public eye, others go the Lockean way of arguing that the acquired fame and brand value attached to a celebrity is primarily a result of years of labour and hard work due to which the celebrity rightly deserves a compensation for the same in addition to the right to control as to who else gets benefited off his/her likeness, either monetarily or popularity in the relevant market.

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		In India, the closest statute to protect personality rights is Article 21 of the Indian Constitution under right to privacy and right to publicity. Albeit the lack of dedicated legislation, Indian Courts are trying to venture out of their comfort zones in order to search for a solution. Famous Kollywood actor Rajnikant's legal action back in 2005 was the first public claim regarding the right of publicity in the Indian jurisdiction following which time and again Delhi High Court has appreciated the importance of publicity rights by increasing the grants of injunctions in the past few years but also not going in depth of the legislative intent and policy making. On the contrary, Singapore constitution does not contain any explicit right to privacy or publicity. Interestingly, Singaporean law makers have chosen to appreciate the law of defamation approach as Singaporean Courts have adjudicated on issues of privacy under the law of defamation. Additionally, the common law passing off action is the claim relied upon by celebrities in Singapore. Despite the similarities between right of publicity and passing off claims, given the due importance to protection of valuable commercial goodwill attached to a celebrity's brand value, the essential ingredients still have humongous differences. This is one of the major issues faced by Indian legislators as well. The laws revolving around right of publicity is yet to find the perfect balance, even in the developed jurisdictions. In such a scenario, adding the unavoidable millennial element of social media in the already chaotic situation makes it an interesting as well as a challenging area of research for legal scholars. Cultural Studies scholar Professor Tan has pointed out that fame in the 21st century is very different from the traditional fame defined by one's distinguished achievements, which is why bringing legal actions in the ever changing world of technology is going to get even more difficult to untangle for Courts of Law. Unlike the United States or the European Union, South East Asian countries are only starting to appreciate the potential boisterous dilemma which can be a result of the lack of legislation and develop the same in harmony with the more mature laws around the globe, if not similar. This paper shall attempt to understand the conflicting legal issues with commercial appropriation of fame in India and Singapore given the larger ambit of entertainment industry in the age of Facebook and Twitter and propose a fresher approach, taking inspiration from the more framed jurisdictions in this branch of law.
13	**Mayuree SENGUPTA, IIM Kashipur (India)**	**Impact of Discontinued Patents on Pharmaceutical Firms in India Post-TRIPS** Theoretical Background Intangible assets, in the form of Intellectual Property (IP henceforth), are increasingly important in present knowledge-based economy as a valuable corporate asset and strategic business tool. Firms are thus emphasizing on strategic management of IP to build and protract competitive advantage accrued out of the exclusive rights that an IP ensures. To evaluate innovation which conversely affects firm performance, identification of innovation indicators is quintessential . A product innovation indicator, product concept is denoted by IP rights, in particular patents, citations, applications, licenses. Patent has been recognized as an indicator of: a) innovation and b) R&D output of firms "Patenting is no longer an administrative burden or a peripheral concern but a vital source of competitive advantage in the knowledge economy where value is generated from protected ideas, knowledge, skills and methods" .A firm's strategic investments in knowledge-based assets through research and development (R&D) can generate economic rents for the firm, and thus are expected to affect positively a firm's financial performance . However, firms do not exercise IP in exclusion of conditionality of the external environment; be it legal or others. India ratified Trade related Intellectual Property Rights (TRIPS) and consequently amended the Patent Act to morph from a process to a product patent regime. The

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		ramifications can be arguably considered to be more pronounced in specific sectors like pharmaceuticals where India's strategic shift from process to product brought a plethora of challenges and opportunities. While prior literature has studied many different factors that can influence R&D outcomes few studies have investigated learning from examining failed innovation attemptsas a determinant of a firm's subsequent R&D performance . Failed innovation attempts (at products), comprise prematurely discontinued patents i.e. patents which are not allowed to complete their standardtwenty-year protection term. Linking patents to firms' financial performance, mostly positive but in some cases negative, I argue that firms which have a greater number of failed innovations attempts as measured by discontinued patents will have weaker links between R&D output and financial performance. Purpose of Study. To find how patents are related to firm performance, measured by profitability. This study specifically aims to explore how, in a post-TRIPS era, patents, especially prematurely discontinued ones, impact profitability of listed Indian pharmaceutical firms that patent. Sample, Variables, Method This study analyses the impact of patents on firm performance in a post TRIPS world. The analysis focuses on the Indian Pharmaceutical sector and is based on all BSE500 listed pharmaceutical firms, i.e. 57 firms, 11912 patents and 26519 patent citation data. Since the legal mail box provision date cut-off for examining patents in India (post accession to TRIPS) is 2005, therefore sample was built for the years 2005-15 for patent data and 2005-18 for patent citation data.Constant citing periods of 3 years for each patent was ensured which guarantees that a patent from, for example, 2008 has the same probability of being cited as a patent from 2011 . All indicators have been taken from prior literature. The main variables of the hypotheses model are firm's R&D performance and profitability relationship, and moderator is quantity and relative importance of discontinued patents. Theoretical Contribution Prior literature links patents to profitability but prematurely discontinued patents comprise successful R&D accomplishments on the part of firms but with no considerable returns as a result. This study aims to delve into the gap of literature and seek implications. Managerial Implication By demonstrating how prematurely discontinued patents can affect the R&D performance and profitability relationship, managers can be encouraged to comprehend this aspect for strategic IP management. Key-words: Patent, Pharmaceutical, Firm, India.
14	**Dilip SHARMA, ICFAI Law School/Nalsar University of Law (India)**	**Artificial Intelligence and Intellectual Property Rights: Issues and Road Ahead** In the present era of technology, the concept of artificial intelligence has got widespread recognition all around the world. From simple calculations to driver-less Cars, artificial intelligence is progressing rapidly. From google search algorithms to autonomous weapons, AI is encompassing everything around us. Robots like Sophia with human-like characteristics, is no more only limited to Hollywood sci-fi movies but are now a part of our day to day life. Considering the rapidly growing technology, today we can easily foresee that the day is not far away when these artificial intelligence machines/programs will be making new innovative or creative works without any human intervention. Even in recent past, there are many such incidents where artificial intelligence programs have shown their creative/innovative strength by creating numerous such works including musical compositions, art, writings, and potential patentable inventions with least or no human interference e.g. a portrait named 'The Next Rembrandt' created by an AI program after analysing the work of a 17th century Dutch Artist Rembrandt got widespread recognition all around the world and a computer generated short Japanese Novel qualified up to the second round of Japanese National

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		Literary Prize. Similarly, the music created by Google's Deepmind Wavenet software is another such example of AI's creative ability. The creations made by AI programs are almost indistinguishable from works made by ordinary human beings. To examine the creative ability of AI, Alan Turing conducted a test called Turing test where a questionnaire was shared with a female and an AI program and shocking on the basis of answers submitted by both, it was indistinguishable to analyse that which questionnaire is filled by whom. This proves that an AI program can also be equally creative and intelligent as an ordinary human being. This raise the issue that whether intellectual property rights can be granted to AI generated creations/inventions. In 2017, Saudi Arabia granted citizenship to an AI enabled humanoid robot 'Sophia' and recently European Union Parliamentary committee has also proposed the status of electronic person to AI enabled robots. But still the issue of non-human authorship and inventorship is a major obstacle in the path of grant of intellectual property rights to AI generated creation/inventions. Hence, it is now pertinent to relook into the existing IP laws to address the present issue of grant of intellectual property rights to artificial intelligence generated creations/inventions. Looking at the judicial precedents, in United States, the Court in the case of Feist Publications v. Rural Telephone Service Company Inc. specifically ruled that copyright subsists only in an original work created by an author using his intellect hence; no copyright can subsist in a work generated by a machine. Similarly, in Australia in the case of Acohs Pty Ltd v. Ucorp Pty Ltd. , the court held that work generated by AI enabled computer cannot be protected under copyright as it was not created by human. European Union follows the same line of reasoning and in the case of Infopaq International A/S v. Danske Dagbaldes Forening held that originality must reflect out of author's own intellectual creation hence, making it mandatory to have work created by human being for protection. Looking forward to this debate, in case of non-recognition of the work created by AI, this will make it subject to copying by other people. Further, under Section 9(3) of the UK Copyright, Designs and Patents Act (CDPA), it states that in case of computer-generated work, the programmer who makes the arrangement necessary for the creation of the copyrightable work shall be an author of the work. Here, the programmer ideally does not have any control over the creative process of the AI machines. Hence, it will not be fair to provide him the intellectual property rights over the work which he has neither created nor even thought about it. To resolve this dichotomy there is a strong need to relook into the existing intellectual property laws. This research paper provides a detailed overview on the position of (non)grant of intellectual property rights to non-human authors in various jurisdictions around the world including India, UK, USA and Singapore. The research paper will also include a theoretical framework from the lenses of John Locke's labour theory, Kant's will theory and Hegel's personality theory. In this research paper, the researcher will also attempt to find a probable solution to the existing issue of grant of intellectual property rights to AI generated creations/inventions.
15	**Rujitha SHENOY T.R, Cochin University (India)**	**Anti-competitive Practices in Pharma Industry: Lessons to be Learned** The global trends in pharmaceutical industry of adoption of strategies like in bound and out bound merger and acquisition is gaining momentum. This gives the companies to gain control of their patent rights, technologies, products, R&D (research & development) facilities, manufacturing facilities, and, at times, their marketing/distribution channels. The pertinent issue still remains whether access to medicine in the context of availability of quality and affordable existing and new essential medicines is attained or not. Many of the activities of the Pharma industry is under the scrutiny of competition commission, to examine whether these practises are anticompetitive or not. This paper examines various activities of pharma companies resulting in to anti competitive practises and policy measures to be adopted to overcome these anti competitive practises. is reverse payment settle The patents granted to pharmaceutical products are crucial as it benefits society and protects the innovator. Patent office of different countries follow different patentability standards for granting patents. The lower patentability standards and granting patents for mere alterations called patent hopping becomes critical for the pharmaceutical industries. It will block entry of cheaper drugs in the market, as the

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		generic firm's benefits is closely linked to those of consumers who will gain from an earlier launch of the generic version of the patented drug. The only way left out is infringement of patents. But the settlement of patent infringement suits between the parties calls for doubts on them as anticompetitive practise ie., reverse payment settlement. ie., mode of payment which is in reverse order as the patent holder makes payment to the alleged infringer, instead of the usual practice of the infringer paying to patent holder. Another way is by means of product hopping or product switching where effective patent life can be extended through the development of new formulations or products that offer negligible therapeutic benefit. This will simply block generic entry for the earlier formulation. The practice of "product switching" or "product hopping is an anticompetitive practice or not has to be decided based on the patent policy followed in different countries, the practice by an originator firm of making minor product reformulations that offer patients little or no therapeutic advantage, but effectively block generic competition simply because they are different. Another practise among the pharma companies are to enter in to agreements among competitors not to compete may take many different forms like reverse payment settlements and as well as illegal tying,where a monopolist uses forced buying through its market power to gain sales in markets where it is not dominant or make it more difficult for competitors to gain sales. Filing multiple patents "patent clusters or thickets" on individual medicines, including many that are filed late in the product's life cycle is another practise to block generics. This type of strategic patenting hinders generic entry by adding costs, uncertainty and delay related to patent challenges or waiting for patent expiry on all the patents. In India, It has been realized globally Mergers and acquisitions is the only way for gaining competitive advantage domestically and internationally and as such the whole range of industries are looking for strategic acquisitions within India and abroad. Indian firms, including Sun Pharma, cipla etc. are entering in to Merger and acquisition deals. The pharmaceuticals sector in India is currently open for 100% Foreign Direct Investment (FDI). Mergers and Acquisitions (M&A) can act as a source of capital, productivity and innovation but can potentially jeopardize the capability of Indian pharmaceutical industry in relation to 'Access to Medicines', which is one of the major goals of the health system. The major concerns are Indian pharma company being acquired by the foreign company in the recent spate of M & A in Indian Pharma Industry by foreign investors are the potential for drug prices to go up, and limited availability of high priced specialty products. The agreements between the generic and the originator company is also limiting the power of government to grant Compulsory License (CL) as well as generic companies not willing to take up compulsory license by way of their settlement and reduction in availability of generics (of the acquired company) in the market, this will reduce the availability of cheaper medicines in the market. India being a global hub of generic medicines, the recent mergers and acquisition of pharma Industries of India are posing threat to availability and affordability of generic medicines, will be analysed in a post product patent regime. In this context, the decisions of the competition commission as well as the judiciary will be analysed . The need of having s measures to improve bulk drug manufacturing in India is need of the time. The paper will suggest the policy measures to be taken by the government to minimise the negative effects of merger and acquisition on access to medicineie., in the patent regimes, regulatory policies, health insurance and other institutional factors that shape the competitive environment of the pharmaceutical industry.
16	**Kuhu TIWARI, Rajiv Gandhi School of IP Law, IIT Kharagpur (India)**	**Protection of Non-Conventional Pharmaceutical Trademarks: A Generic Hub's Perspective Through The Lens of Indian And Chinese Laws** Pharmaceutical branding is inevitable for the medicine market as it helps to assure the correct identification of the medicines.The pharmaceutical branding has reached the next level, where non-conventional trademarks such as color, shape, taste, sound and design of the

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		medicines and its packaging forming the part of trade-dress play a critical role making it more appealing and recognizable. However, registration of such marks is not a common practice as satisfing the basic criteria of trademark is challenging by proving the non-functionality and simultaneously being distinct enough to identify the source. So, the non-conventional trademark forms a grey area in the trademark law where besides distinctiveness, the functionality of the mark becomes the basis for objections to the registration. Different jurisdictions have different thresholds for assessing the registrability of the trademark. Presently, the United States (US) and the European Union (EU) permit registration for the non-conventional features of the medicines in from of shape and single color trademarks. For example, Pfizer has registered the blue color and diamond shape of the Viagra tablet in the EU, and AstraZeneca owns the purple and gold color marks for Nexium (the purple pill) in the US. However, the trademark legislations of the global generic hubs like China and India do not expressly acknowledge the single color mark but approve the trademark registration for a combination of two or more colors used together, leaving the scope for
17	**Meghana TUSHAR PARIKH, M/s Nanavati Associates (India)**	**Bioprinting: Evaluating Disruptive Technology Using Open Source Patent Database And Decoding It Into Patent Insight** Bioprinting is creative disruptive technology that is set to revolutionize the healthcare sector by providing customized solutions to medicine industry. It has been almost two decades since the term 'bioprinting' has been coined and regarded as promising extension of tissue engineering and regenerative medicine. This research aims to understand the path-breaking technology by extracting patent data from open source databases viz. Lens.org, espacenet, patentscope and patents.google. It is attempted to convert patent data into meaningful insights useful in academics and industries. Patents are retrieved by searching in open source databases and the raw data is concentrated to a list by manually checking and eliminating irrelevant patents. The relevant patents are tagged using master keywords that reflect the concepts in the patent document in addition to type of applicant and status of patent. The claims of granted patents are analyzed to observe trend of various jurisdictions and grounds for objection of abandoned or withdrawn applications. Having this information on platter, the research delves into preparedness of patent offices of Asian countries like India, China, Japan and Singapore for catering the innovations in bioprinting patent, procedure for examining these patents under existing law and whether standing laws could be hindrance to bioprinting patents. Patent thicket and standard essential patents for sector of bioprinting are identified with help of assigned master keywords. Important factors to be addressed during valuation & licensing of bioprinting patents for commercial transactions are discussed. The research aims to validate that patents are an invaluable source of information on a subject-matter, in this case bioprinting, when the patent data is decoded to patent insight (PatIn) and open source databases can be a reliable source for searching relevant data. The patent data was extracted from open source database using keywords. These keywords were identified from randomly picked published patent document on the subject matter 'bioprinting'. The search strategy was refined several times in order to retrieve patents most relevant to subject matter and restrict the number of patent hits for easy handling of dataset. The primary database used for patent search was lens.org and the dataset was cross-checked using other free databases viz. espacenet, patentscope and patents.google to obtain a comprehensive list of patents. The search was limited to patent published on and before August, 2019 and patent list was refined by one patent per patent family to concise dataset and remove duplicate records. Dataset was further filtered manually by eliminating patents not relevant to topic, bioprinting, by inspecting title, abstract and if necessary, claim of the listed patent. The consolidated patents were tagged with master keywords that would summarize the information in the document including status of the patent i.e. granted (in force), granted (abandoned), withdrawn/rejected, under prosecution or design; type of applicant i.e. university or corporate; type of invention i.e. bioprinter, bio-ink, process, etc.; application of bioprinting i.e. scaffold printing, organ printing, diagnostic, implant, prosthetics, cosmetics, wound dressing, food production etc. Various trend study is done based on master keyword tagging, IPCR codes, patent assignees, priority countries, patent family number and forward citations. The claims granted in the major jurisdiction like US and EP were analyzed to understand the examination methodology and standards adopted by patent offices of these countries and what are the typical objections or reason for rejection stated by the examiner of patent applications in domain of bioprinting. Since, bioprinting is amalgamation of inter-disciplinary fields of technology it becomes necessary to understand

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		whether current patent laws implemented in Asian countries like India, China, Japan and Singapore would facilitate or hinder innovations in bioprinting identified from the patent data. The patent dataset is further scrutinized to identify the areas wherein patent applications are crowded and the areas that are orphan and may have future potential in research. The patent crowding would help in identification of patent thicket in bioprinting and technology that would not be freely accessible for next few years. The patent data would further assist in highlighting standard essential patents for bioprinting that would be critical for commercial exploitation of the relevant technology. Bioprinting technology is quickly commercializing due to its varied advanced application in tissue engineering and allied medical field and future will witness increase in commercial aspects such as licensing patent rights for monetization. Patents rights are valuable intangible asset for person or organization possessing it and subject to valuation for business strategies. The research further attempts to provide factors that are essential for drafting of agreements during technology transfer and valuation of a patent. Thus, the research completes the cycle from gathering the information using open source databases to providing PatIn including trend study, identification of patented technologies and applications, summarizing patentable claims in bioprinting, finding areas of opportunity and barriers for commercial activity and aspects to be considered for technology transfer and monetization, thus providing basis for translating information in patents to competitive patent intelligence.
18	**Pratyush UPRETI, Sciences Po Law School, Paris (Nepal)**	**Does TRIPS Agreement Ensure Minimum Private Rights? The Panel Findings on Australia's Tobacco Plain Packaging Legislation** On 28 June 2018, the World Trade Organization (WTO) circulated the Panel Reports of the highly awaited Australia-Tobacco Plain Packaging disputes, adopted by the Dispute Settlement Body (DSB) on 27 August 2018. The decision was highly awaited and significant in two aspects. First, it reaffirmed that the right to use trade mark is not a positive right and tobacco plain packaging law does not come in conflict with trade marks. Second, it was perhaps the last opportunity for giant tobacco companies to set aside the law related to tobacco plain packaging. Globally, tobacco companies have challenged plain packaging law both at the national and international level. Moreover, tobacco companies have used Government agencies to put pressure on less economically developed countries to discourage plain packaging legislation. After unsuccessful attempts in domestic courts, the tobacco companies turned to investor-state dispute settlement (ISDS) to challenge plain packaging legislation. One such instance is Philip Morris v. Uruguay under Switzerland-Uruguay BIT, where the arbitral tribunal dismissed tobacco giant Philip Morris' argument that the plain packaging requirement resulted in the expropriation of investment and led to substantial destruction of the value of the tobacco company. The Tribunal reaffirmed a nation's sovereign right to regulate matters of public interest, finding that measures aimed at safeguarding public health do not amount to expropriation and a violation of fair and equitable treatment under international investment law. After unsuccessful several attempts in national courts and investment arbitration, the WTO dispute settlement process was the only hope for tobacco companies seeking to prevail over plain packaging laws. The Panel in Australia-Tobacco Plain Packaging decided in favour of Australia, as the Panel found that Australia's plain packaging measures are consistent with the Agreement on Technical Barriers to Trade (TBT) and the Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) and the General Agreement on Tariffs and Trade (GATT). The Panel Report is appealed by Honduras and the Dominican Republic on several grounds. The notice of appeal shows that Honduras and the Dominican Republic are not pleased with the Panel's interpretation of the term 'rights conferred' and 'unjustifiably' under Article 16.1 and 20 TRIPS Agreement respectively. However, it seems that both Honduras and the Dominican Republic agree with the Panel's findings on Article 15.4 ('the nature of the goods or services to which a trade mark is to be applied shall in no case form an obstacle to registration of the trade mark'). Australia, Cuba, and Indonesia did not appeal, therefore, the Panel Reports already have legal force following their adoption. In the light of above backdrop, this article will explore trade mark issues raised in the case. The first section will provide a general backdrop and briefly summarize the main findings of the Panel Reports. Second, it will analyze the main arguments of parties and the Panel findings on the trade mark issues. Finally, the last section presents some discussions and questions which require further attention, particularly questioning if TRIPS ensures minimum private rights. From the industry's point of view, the fundamental question is whether the TRIPS

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		Agreement that sets minimum standards ensures minimum private rights to the IP holder by allowing trade mark owner to successfully protect the distinctiveness and source indication function of their trade mark. In this line, complainants argued that TRIPS should ensure the minimum right to use a trade mark; however, their view did not receive support from the WTO Panel. Moreover, if a minimum use of trade marks does not fall under private rights, then what is the nature of private rights that TRIPS are addressing? The reading of the Panel Report confirms that the TRIPS Agreement does not ensure the minimum right to use a trade mark and does not confer a positive right to use. This brings us to a fundamental question; what do private rights mean to a country that does not have a sound and viable technological base? Isn't the goal of granting an IP in the form of a private right to entrepreneur, inventor or creator is to promote public goods, encourage innovation, creativity, foster progress in sciences and technology. The reading of the Panel Report confirms that if a country introduces plain packaging law for products that are considered unhealthy, then such measures cannot be considered as inconsistent with WTO laws. This is important because, after the success of tobacco plain packaging, an executive agency of the Department of Health of the United Kingdom (UK) suggested that the Government should consider plain packaging for alcohol products. Similarly, developing countries like Kenya had passed a law requiring a pictorial health warning on alcohol products. Likewise, Nepal in its National Alcohol Rules and Prevention Policy-2017 have incorporated provision that requires a minimum of 75 percent of the surface area of all kinds of alcoholic packaging to be covered with health marking. In light of the recent development, it seems that industries cannot escape possible plain packaging regulations on unhealthy food products. The Panel findings go beyond tobacco and alcoholic beverages, it would justify plain packaging measure for processed foods that are directed to children or an effort to curb obesity. Key words: Plain Packaging, private rights, trade narks, WTO, TRIPS.
19	**Chih-Chieh YANG, Institute of Technology Law, National Yunlin University of Science & Technology**	**Does Taiwan need Design "Repair Clause" in Patent Law? Review of DEPO Front Light Design Patent Infringement Case (2019) In Taiwan** Generally speaking, in countries with design protection law or design patent law, car manufacturers can apply the design patents on their car design in whole or in parts, and then use those patents to prevent third party parts manufacturers from making exact copies of these parts through patent infringement claims. The life of a vehicle is very long, which would last for almost twenty years. When someone bought a new car, the money he paid for that car included the remuneration for the car's design first time. Then in the period of car using, when he needed to repair that car, changing some exterior parts, due to the design protection of the exterior design, he needed pay the remuneration for the car's design once again, till the expiration of the design patent. Since some European countries thought these situations were unfair for consumers who have paid remuneration for the car's design ever once, they adopted a "Repair Clause" in their design protection law or patent law, which provided that the manufacture and sell of spare parts for repair are immured from the design infringement liability. There is also the exact same "Repair Clause" in EU community design regulation. Under these Repair Clauses, companies can manufacture and sell spare parts for repair purpose without bear infringement liabilities, and consumers can buy cheaper spare parts for repairing their cars in market. Taiwan is the biggest region in the world at which companies specialized in manufacturing spare parts for various vehicles located. The spare parts those companies made and sold are partly for Taiwan's own market, but most of them were for other countries' spare parts markets, including European's market. It is estimated that the gross outputs created by those companies manufacturing spare in Taiwan is about 6 billion U.S. dollars every year. In consideration of Taiwan's own car spares parts manufacturer industry development, unfortunately, there is no "Repair Clause" in Taiwan's design patent law. And before 2017, there were not much discussion about this issue whether or not Taiwan should adopted this same kind of Repair Clause in Taiwan's Patent Act. In March 2017, a Germany company Daimler AG, who is the manufacturer of the branded car Mercedes Benz, brought a suit against DEPO, one of the biggest companies manufacturing spare parts in Taiwan. Daimler AG alleged that four front light models DEPO manufactured in

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		Taiwan suitable for repairing one model of Mercedes Benz car infringed their one design patent of that very one front light fitted for that Mercedes Benz car. Although the defendant tried to argue that their products were not the same as the plaintiff's design, they knew it is hard to win relying on that argument. So the defendant lawyer invited five legal experts who specialized in IP law and competition law, submitting their expert's opinion, try to persuade the judge that the plaintiff should be prohibited to bring this suit, or even the defendant's products might infringed the design patent, the plaintiff should be forced to license to the defendant, instead of be allowed the injunction. One of the main reasons the five legal experts raised was based on the history of the Repair Clauses discussions in Europe. In 1998 EU Design Protection Directive, it is explicitly scheduled when EU members should discuss of Repair Clause Amendment Proposal of the same Directive. In particular, when the issue occurred to Germany federal parliament, several Germany car manufactures, Daimler AG included, had promised twice in 2003 in front of Germany federal parliament that they won't bring suit against repair parts manufacturers, so there were no need for German to pass this kind of Repair Clause in Germany domestic law. After EU Parliament withdraw the Repair Clause Amendment Proposal in 2014, Germany car manufactures began brought suit against spare parts manufactures immediately globally. These five legal experts, bases those events abovementioned, argued that those Not-Suit Promise is similar to the FRAND commitments in SEP context, so the Germany car manufactures should comply with those not-suit promises, or should be forced to license their design patent, as the FRAND encumbered SEP owners be asked. But unfortunately, the judge didn't accept this main argument, and delivered his judgment for plaintiff in August 2019. Although the author of this paper be one of those five legal experts, I myself also thought the quasi-FRAND argument is weak. But I try to raise another two arguments. First is the "Principle of good faith" in the section 148 of Taiwan Civil Code, I think the essence is the same as the "equitable estoppels" doctrine in the U.S., and I think this argument is strong enough to strike the case. Second is the Refusal-to-deal Doctrine, which is pure U.S.'s doctrine, not accepted by other countries yet, but I proposed Taiwan's court could accept this doctrine's rationale. OUTLINE 1.INTRODUCTION 2.DESIGN PROTECTION "REPAIR CLAUSES" IN THE EU The basic contents and developments of Repair Clauses of EU countries will be introduce in short. 3. DEPO FRONT LIGHT DESIGN PATENT INFRINGEMENT CASE(2019) IN TAIWAN AND QUASI-FRAND COMMITMENT ARGUMENT The backgrounds, basic facts, arguments from both parties and their legal experts and the decision of "DEPO front light design patent infringement case(2019)" will be introduced. The Quasi-FRAND commitment argument based on the twice not-suit promises will be explained. 4. THREE ARGUMENTS THAT THE ALLEGED DESIGN SHOULD NOT BE ENFORCED In Fourth part, another three arguments that the alleged design patent in DEPO case should not be enforced or should be enforced partly will be set forth and elaborated. First is "Principle of good faith", second is Refusal-to-deal Doctrine, and third is that public interests (car spare parts industry in Taiwan and other countries market demand) should be considered when issuing the injunction. 5. CONCLUSION
20	**Weiyu ZHANG, Graduate school of Law, Hokkaido University (visiting PhD student at SMU)**	**Surviving in the New Market Competition: Challenges and Choices of Patent Exhaustion Doctrine** Patent exhaustion doctrine is a well recognized and accepted rule that limits the patent rights upon the authorized sale of patented products. The doctrine is facing challenges from the rapidly developing market competition. Patent holders deploy strategies to avoid exhaustion, such as new business models, contractual restriction, digital technologies (with the impact of IoT), rental (rather than sale) of the patented products, etc. Allowing patentees to opt out of exhaustion could make price discrimination possible and increase incentive to innovation, but may also lead to negative effects on competition and market, as such protection can be exploited as a useful tool to intervene the market and distort competition. Patent exhaustion affects not only the patentee or consumers, but also third parties and after-market competition, which creates a tension in the application and scope of patent exhaustion doctrine.

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		The aim of this research is to find the rationale behind patent exhaustion doctrine, to address the new challenges surrounding the doctrine, and then to determine the possible approaches for the application of patent exhaustion. Although the Supreme Court of Japan has come out with a “comprehensive determination standard” for patent exhaustion in its famous Canon ink cartridge case (2007), the standard is nevertheless ambiguous and somehow hard to apply. The courts tend to put importance on the technical aspects of products in their decisions, thereby neglecting the fact that the exhaustion doctrine is more complicated and overlaps with different interests. On the other hand, the U.S. Supreme Court presented a new approach to patent exhaustion in Impression Products v. Lexmark Int’l, Inc. (2017)—applying common law doctrine barring restraints on alienation to examine patent exhaustion—which reconsidered and enlarged the scope of patent exhaustion. The different practices show that patent exhaustion is a serious and contentious policy issue, with significant effects on competitive market and innovation, both domestically and internationally. In such contexts, it would be necessary to specify the standard with more consideration of the effects of market, and also take into account the competition policy as complementary tool to balance the various interests. Moreover, with the changes on the social and technological basis of patent product markets (such as the development of standardization and modularization in manufacturing industries, and the emerging of IoT technology), it enables new forms of collaborative innovation and production, and more precise analysis of marketing strategies. These developments make the distribution and use of patent products more flexible, expand the market with more end users, and decrease the transaction cost, but in the meantime, given the enlarged scope of patent exhaustion doctrine, it could also result in difficulties for patentees to practice price discrimination and ensure the profit upon first sale. Accordingly, the traditional approaches to patent exhaustion needs to be revised or complemented, especially in the filed of new markets and industries. Several cases from Japan have attempted to strike a balance between the incentives of patentees and the interests of smooth circulation of goods in market (e.g. Medical packaging roll paper case (2014), Apple v. Samsung (2014)). By analyzing those new trends and cases of patent exhaustion, this research will discuss the possible “dichotomy” between traditional and new markets, whether the new approaches could be complementary to the traditional role of patent exhaustion, and how to better balance the conflicts and the degree of protection regarding the new trends. This research will adopt case study as the major research method. As the research has based its study mainly on Japanese cases and literature investigations, it will also move on to conduct a comparative study of patent exhaustion cases and practical policies between Japan and other Asian countries or regions. To support the above research, Special attention will be given to the examining of policies’ economic effects from the perspective of technology and industrial development. A cross disciplinary approach—Law and Economic analysis will be used for the investigation. Outline I. Introduction II. Rationale of patent exhaustion doctrine A. The purpose of patent exhaustion B. Standards and rules of patent exhaustion III. The traditional case for the role of patent exhaustion doctrine in competitive market and innovation A. Repair and reconstruction B. Price discrimination and business battles around patent exhaustion IV. Challenges and Choices of patent exhaustion doctrine in new market competition A. Industrial development (standardization and modularization) and its impact on patent exhaustion B. The change in social and technological basis of product and market strategy C. The role of patent exhaustion in new market competition

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		V. Making room for the future: new trends of patent exhaustion cases A. Rental and reservation of ownership of patent products B. Contractual restriction with digital technologies C. Implied license D. Rethinking the traditional approach to patent exhaustion VI. Concluding remarks
21	**Xiaorui ZHU, Law School, Tsinghua University**	**Strengthened Liability of Internet Service Provider: Is Filtering Obligation Reasonable?** The secondary liability regime for Internet Service Providers (hereinafter referred to as "ISPs") has an increasingly remarkable impact on copyright protection in the era of digital network. Currently, the so called "safe-harbor" rule originated from Digital Millennium Copyright Act in United States (1998) is still dominant in this field in many countries, such as Europe (E-Commerce Directive, 2000) and China (Regulation on the Protection of the Right to Communicate Works to the Public over Information Networks, 2006). Legislators believed that this rule would prompt ISPs to cooperate with copyright holders to combat Internet piracy, enhance the certainty of online infringement liability, and ultimately preserve the legal order in the cyberspace. However, copyright law practices in the United States, Europe and China have shown that the safe-harbor rule overly reduces ISPs' duty of care and accordingly eliminates their incentives in preventing third parties' infringing activities. Internet piracy is rampant and greatly proliferated. Without a proactive obligation, ISPs may turn a blind eye to infringements: sit back and wait to be notified by copyright holders. Some business models may even expect to attract or foster infringements. Whether safe-harbor rule can still serve its goals and maintain the delicate balance between copyright holders, online intermediaries, and the public in a cost-effective way? Is it justifiable and feasible to reinforce ISPs' duty of care, say, by introducing a filtering obligation, to help forestall copyright infringements? These critical questions need further studies to provide for future reform. Underlying is the policy issue of whether and how to reallocate copyright enforcement burden. This proposal suggests that it is a sensible reaction to reinforce ISPs' duty of care confronted with radically changed technologies and market conditions. Technological progress makes communication of works decentralized, at the same time, the ability to detect and forestall infringements enhanced. These changes trigger a reexamination of which party is better situated to discover and forestall infringements. Cost-benefit analysis suggests that it would be better to shift the pre-clearance burden to the part of ISPs. The introduction of filtering obligation is a reasonable institutional design to urge ISPs to cooperate with copyright holders to effectively against widespread infringements. Next this proposal tries to elucidate the necessity of strengthened liability and the reasonableness of introducing a filtering obligation. First, technological development has altered the relative cost of preventing infringements between copyright holders and ISPs, tipping the balance to ISPs. Copyright law has always to make a reasonable allocation of the cost of preventing infringements. Technological evolution may well be the in the process of discrediting the premises of copyright holder-service provider balance struck in the safe-harbor rule. Over the past two decades, the dramatic development of digital and network technology has revolutionized the way how copyrightable contents are produced, accessed and distributed. Decentralization of reproducing and communicating works in the cyberspace substantially increases the cost of safeguarding interests for most copyright holders. The burden of ascertaining and notifying infringements can be significant, especially if an individual creator must forever keep monitoring sites already alerted to past infringements of the same material. As a practical matter, policymakers, legislators and courts in the United States, Europe and China are open to a stringent standard of duty of care of ISPs. Second, the advances of filtering technology provide a way that may well raise the efficiency and effectiveness of anti-piracy efforts. Content-based filtering technology, at present, is able to examine characteristics of the underlying text and media files to make precise identifications. For instance, content fingerprinting tools are robust to alterations in the contents of the files and tailored to different types of copyrightable

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		contents. An automatic filtering system has the advantage of higher speed, lower error rate and easier operation in comparison with the manual notice-and-takedown procedures that is both time-costing and labor-consuming. In fact, certain large-scale online content sharing websites such as YouTube have undertaken filtering practices voluntarily. It is true that the development of a legal standard would turn on the state of the technology: the more reliable and less burdensome the filter, the more likely courts or policymakers are to favor its implementation. Third, only through the imposition of filtering obligation could help overcome the obstacle of transaction cost between the ISPs and copyright holders. The transaction cost of establishing filtering mechanism through free bargaining is prohibitively high. Even if the implementation of filtering mechanism could make their cooperation more efficient and profitable, copyright holders could not readily persuade ISPs to establish filtering system without the law enforcement. For one thing, the bargaining power of single, decentralized copyright holders is fairly limited. For another, certain ISPs actually extract profits from the communication of infringing contents. The asymmetrical bargaining position and gap of revenue are the problems the new liability regime seeks to address. The design of strengthened liability and a filtering obligation is a proper institutional reform for the purpose of providing enough incentive for valuable content production and effective third-party enforcement. Outline An Elusive Standard of Duty of Care of Internet Service Providers Strengthened Liability: From “Safe Harbors” to a Filtering Obligation The Reasonableness of Introducing a Filtering Obligation