

Advancing Innovation in the Era of AI and Blockchain: The Role of Law and Policy

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Record: Enid Ching-Wen, Yu

Host: Prof. Shin-yi Peng (Associate Dean of the College of Technology Management, NTHU)

Keynote Speech

Moderator: Prof. Chang-hsien Tsai (Institute of Law for Science and Technology, NTHU)

Speaker: Prof. Mark Cohen

(Senior Fellow and Director, BCLT Asia IP Project, UC Berkeley School of Law)

Damming half the river or a new normal? U.S. regulation of technology investments in the Trump Administration

Speaker: Prof. Robert Merges

(Founding Director of BCLT, UC Berkeley School of Law)

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Floor Discussion

Moderator: Prof. Chang-hsien Tsai (Institute of Law for Science and Technology, NTHU)

Discussant: Prof. Mark Cohen, Prof. Robert Merges,

Chien-Min Yang (Corporate Attorney, Microsoft Taiwan, Corporate, External & Legal Affairs)

Gi-Kuen Li (Assistant Professor of Law, Law College, Shih Hsin University)

Introduction

▫ Prof. Peng:

Lots of things are blurring. The role of law is more and more complicated. Technology law ought to be evolving. Flexibility is desirable in regulation. Maybe we should think about re-construct the idea and concepts of technology and law. Taiwan has many high-technology industries, for example the Semi-conductor industry in Taiwan, also we are putting lots effort on developing FinTech. We can think about it as a definition question. How is an application be treated as an innovative one? How does the technology refine the whole things? The concept of innovativeness? Apply different technology? We look forward seeing more interesting discussions and opinions.

▫ Prof. Tsai:

Introduce the two distinguished guests. It's a great honor to have Prof. Merges and Prof. Cohen visit NTHU. The question that have been mentioned repeatedly recently, is how to manage the ramification of new technologies in the new era. Prof. Merges and Prof. Cohen's speech today may shed some light on this difficult question, let's invite them to share their views with us! Welcome.

KEYNOTE SPEECH

Prof. Mark Cohen

(Senior Fellow and Director, BCLT Asia IP Project, UC Berkeley School of Law)

Damming half the river or a new normal? U.S. regulation of technology investments in the Trump Administration: US-China IP and Trade Relations Long Overdue or a Pretext...?

Prof. Cohen has visited Taiwan many times and speaks very good Chinese, so during the speech he can actually explain certain simple concepts with Chinese. Prof. Cohen first started with a simple background introduction, pointing out that the disputes between China and U.S. is not all about high-tech industry. Going into the content of the speech, there are seven parts of the speech.

1. History of the Patent System in China

Does history repeat itself? To understand more the national treatment in licensing, first we go back to see the history of China's patent system. China first been introduced the concept of patent in 1899, when the then U.S. Secretary of State, John Milton Hay exchanged communications on the denial of enforcement of the Chinese patents. Then on July 1979, U.S. and China signed the bilateral trade agreement where Article 6 of it stipulated that "the contracting parties recognize the importance of effective protection of patents," following in this is Chinese officials and scientists from the PRC Science and Technology Association were able to visit U.S. to learn about innovation and patent policy. On 1992, U.S. and China signed a MOU and China committed to bring most IPR laws into line with international standards. On 1995, due to U.S.' unsatisfied with the enforcement, another IPR Enforcement MOU was signed between the two parties. On 2001, when China was about to join the WTO, the working party report on China's WTO Accession addressed several issues of China's IPR, and China promised to amend its Patent law to comply with TRIPS, to revise laws in order to ensure national treatment, to thoroughly address other intellectual property law issues such as copyrights and trademarks, though with some concerns regarding the enforcement, the general

belief then was that the rules-based system would enhance rule of law. China was supposed to notified how it had amended its administration of technology import/export regulations on the margins of WTO accession, however that didn't happen and now it had become the new subject of the current pending WTO case.

2. Past Experience with (WTO) DS362

The first IP case in WTO is DS362, and it had fought to the better end. There are three claims complained by the U.S. against China in the DS362, but what's left and the unaddressed issues are significant. At the time when DS362 happened, China wrongfully estimated of U.S. focus on technology issues. What was ignored is the "State Plans." On 2012, the U.S. gradually noticed that their biggest competitor in the world, which is China, plays the game in a very state-driven way, and new strategy regarding how to deal with China has been discussed.

3. U.S.' 301 Investigation in 2018

From USTR's perspectives, what is new in China? The U.S has observed in its 301 report, that "what is new is that unfair trade, security and industrial policies, tolerable in a smaller developing economy, are now combined with China's immense, government-directed, investment and regulatory policies to put foreign firms at a disadvantage...China now has the wealth, commercial sophistication and technical expertise to make its pursuit of technological leadership work." There are also some impacts of the "Made in China 2025" worries the U.S, considering there are limited trade engagements on licensing/patents of China prior to the Trump Administration.

The 301 investigation initiated on August 18, 2017, and the final report was issued on March 22, 2018. There are 5 topics of the report. 1) Chinese government regularly intervenes to require or pressure U.S. companies to transfer technology; 2) US companies cannot set market-based terms in licensing their technology; 3) Chinese government unfairly directs or facilitates the systematic investment in U.S. companies to obtain leading edge technologies; 4) Chinese government is conducting cyber intrusions into U.S. commercial computer networks; 5) Other acts or policies related to technology transfer, intellectual property, and innovation that need to be addressed. The similarities of the 301 in 2018 to the past are that the U.S. has limited reliance on data, using the 301 to launch a WTO case, and threatening retaliation which had caused 10% duties mitigated by RMB devaluation.

There are interesting differences between the WTO case back in 2007 and the 301 investigation in 2018. The U.S. in the 2007 WTO case focus on technology, and that was when the WTO system is rather stable and smoothly functional. However, the 301 investigation in 2018 can see the shift of focus from technology to the “State Plans.” The U.S. unilaterally instituted and threatened retaliation, and ties the IP disputes with other macro-economic engagement. It comes at a time when WTO itself is under stress, and the U.S. domestic report and conclusion has got surprisingly strong domestic support. The new development raises new concerns about its impact on a range of bilateral relations.

4. Technology Transfer/Licensing in China

U.S.’ Licensing Receipt from China’s “affiliated” entities

China exports of the world’s high tech goods is far higher than its share of total high tech licensing receipts (industrial processes and software), and this fact suggests that a major shortfall in licensing revenue of U.S. is missing from China. In 2016, China’s share of world high tech goods was 22% but its share of licensing payments is only about 6.3%. Comparing the licensing flow between U.S. and China, and between U.S. and Taiwan, it is apparent that the percentage of the licensing receipts from the “affiliated” entities is quite different. Most of the U.S.’ licensing receipts from Taiwan are paid to unaffiliated entities of the Taiwan companies, while China seems to have a high percentage of paying the license fee to its affiliated entities, that is, the U.S companies which are invested or even controlled by the Chinese companies.

The JCCT Commitment

Prof. Cohen points out that in 2014 and 2016, there are commitments promising to maintain the dialogue and exchanges regarding technology import and export license agreement issues between U.S. and China. The fact that it requires a Vice Premier level commitment to “maintain dialogue” or hold a “joint seminar” shows how suspicious U.S. is to China’s IP strategy and how intense the conflicts between the two are. In fact, on 2001 when China includes the “no approval for tech transfer” kind of content in its WTO Commitment, China has made its legal regime and environment open for its private business to acquire foreign technology without government approval. For example, Article 535 of the PRC Contract law stipulates that “Where the exploitation of the patent...by the transferee as contracted infringes

upon the legitimate rights and interest of others, the liability therefore shall be borne by the transferor, **unless the parties stipulate otherwise.**” This provides freedom to allocate liability between the transferor and transferee.

Ownership of Improvements

Article 29(3) of the *PRC Regulations on Administration of Import and Export of Technologies* prohibits technology import contracts from including any clause that “restricts the receiving party from improving the technology supplied by the supplying party, or restricts the receiving party from using the improved technology.” It means that improvements in the imported technology belong to the licensee, and this is consistent with open source agreements, bilateral science and technology agreement. However, this Chinese’ domestic law has some potential discrepancy to the bilateral U.S.-China Science and Technology Agreement and has caught the attention of the U.S. government.

5. Chinese Investment in the U.S.

The Changing Shape of Chinese Investment in the U.S.

Citing the Rhodium Group’s data, Prof. Cohen shows that the annual Chinese investment in the U.S. rose from \$4.6 billion to \$45.6 billion, before dropping down to \$29.4 billion in 2017 due to a combination of Chinese capital controls and increased uncertainty around U.S. investment review procedures. Besides the huge increase of the amount of money China as invested in the U.S., between 2000 and the first quarter of 2018, Chinese investment in U.S. ICT was about \$16.8 billion yet to the consumer products and services are at \$6.7 billion. Against this trend, through the first half of 2018, Chinese FDI flows to the United States totaled \$1.8 billion—down 92 percent from the first half of 2017, and the lowest level since 2011.

VC Investments: Rapid China Growth, Tech Focus

Between 2015 and 2017, China was the largest single foreign VC investor in the United States, investing \$24 billion. By comparison, during the same period, all European countries’ VC investments in the United States totaled \$36 billion. A Rhodium Group report found that from January to May 2018, Chinese VC investment in the United States reached nearly \$2.4 billion, equal to what Rhodium

Group found to be the full-year record set in 2015. From 2000 to May 2018, the report estimates that Chinese VC capital contributions in the United States totaled \$11 billion, 88 percent of which came from private Chinese investors.

High-tech industries such as artificial intelligence (AI), biotechnology, and virtual reality have been the primary targets of Chinese VC activity in the United States. The DIUx (Defense Innovation Unit Experimental, a U.S. Department of Defense initiative in Silicon Valley) study estimated that from 2014 to the third quarter of 2017, Chinese investors were involved in \$1.2 billion of VC financing for U.S. AI firms. The Rhodium Group study found that Chinese investors targeted sensitive technologies in 78 percent of all U.S. VC funding rounds involving a Chinese investor between 2000 and May 2018 (out of a total of more than 1,200 funding rounds with Chinese participation).

The capital

6. New Technologies in China

AI in China

According to DIUx for 2010-2017, Chinese investments in the US in emerging technologies largely invest on AI. While China produces a large number of widely cited AI-related papers, the U.S. and U.K. research remains more influential and the U.S. holds an edge when self-citations are taken out and the UK is number 2. China also has its structural problems such as data availability (government data is hard to get in China), a talent shortage (fewer experience AI researchers in China) and the lags in computing power, chip development, fundamental research. Though there are many studies published in China cited “deep learning” or “deep neural network”, on the part of AI patent, top Chinese IT giants Baidu, Alibaba and Tencent lag far behind IBM, Microsoft, Samsung and Google. Also, though China was the country with the most number of published AI patents, these patents were overwhelmingly domestic-only applications by Chinese research organizations, and it is an unusual situation of a patent system/database.

IoT: an example of Chinese Market Barriers

U.S. firms can establish operations and sell IoT products and services in China. However, they must also store Chinese customer data within China and face significant restrictions on transferring data overseas. Such restrictions impede data analytics, technology optimization, and integrated global service and research and

development (R&D). For example, firms combine and analyze data in real time from their global locations to lower costs, improve business performance, and personalize products and services, U.S. firms in IoT-enabling technologies—particularly cloud computing and telecommunications—face significant market barriers, for example: restrictions on data storage and transfer, technical standards, 50% ownership cap on cloud computing providers, etc.

7. U.S.' new legal actions

Committee on Foreign Investment in the United States (CFIUS) and the Foreign Investment Risk Review Modernization Act (FIRRMA)

The Foreign Investment Risk Review Modernization Act (FIRRMA) reforms and modernizes the Committee on Foreign Investment in the United States (CFIUS) review process and represents the first update to the CFIUS statute in more than a decade. FIRRMA covers transaction as follow: Merger, acquisition or takeover that results in foreign “control” of any person engaged in interstate commerce in the U.S., “which Threatens to impair the national security”, “Where the foreign entity is controlled by a foreign government”, or “Would result in control of any critical infrastructure that could impair national security.” Here the “nationals security” is not defined, but increasingly appears to implicate economic security.

Advanced Proposed Rule Making (ANPRM)

On November 19, 2018, there was an Advanced Proposed Rule Making (ANPRM) stating that the Commerce Department should establish appropriate controls, including interim controls for “emerging and foundational” technologies.

The so called “emerging technologies” are technologies that are “essential to the national security”. After considering: (a) development of these technologies in foreign countries; (b) effect of export controls on the development of these technologies in the United States; (c) the effectiveness of export controls to limiting the proliferation of these emerging and foundational technologies in foreign countries, it states that the foreign controls of emerging technologies must avoid “negatively impacting US leadership in science, technology engineering and manufacturing sectors.”

Two concerns can be found here, first is that early-stage technology companies may have problem to understand the controls or have resources within a trade compliance

function to handle this complexity. The second is that Chinese science and engineering students who master technologies that later become critical to key military systems, amounting over time, might violate unintentionally the U.S. export control laws.

8. Damming Half the River?

FIRRMA and Export Controls are being harmonized. Previously foreign nationals might acquire indirectly companies which involved technology that they might otherwise be prohibited from directly acquiring in their home country. US doctrine regarding “deemed exports” might have considered the transfer to a foreign national within the US as a “deemed export.” This “indirect” technology acquisition mechanism and the FDI/export control gaps are now more closely linked in US practice, even as scope of regulation grows

Gap is narrowest at least with respect to technologies traditionally regulated under export control regimes (according to the pilot project/export control regulations) (a “better dam”); Gap may be wider internationally when there are less effective international controls, and national CFIUS regimes are not developed (e.g., foundational technologies) (a “bigger river”).

Many questions can be raised after the CFIUS’ FIRRMA and ANPRM.

First, if competing technologies are available from outside the US, will the control of technologies not be stopped? Is USPTO harmonizing its foreign filing license practices with changes in export control regime?

Secondly, regarding the data protection, CFIUS only regulates data which “is likely to expose, either directly or indirectly, personally identifiable information, genetic information, or other sensitive data of United States citizens to access by a foreign government or foreign person that may exploit that information in a manner that threatens national security,” and this is more narrow than a privacy regulation, for example the GDPR of EU. Then, how much of it is controlled by foreign countries under their export control regimes?

Third, consider the institutional design and ability, how much is CFIUS equipped to act as a super-export control regime? Back when CFIUS was primarily a monitoring agency, Treasury made sense as a lead. Today, how much should Treasury be the lead agency if CFIUS would like to regulate more comprehensively the technology? And can CFIUS address issues in a manner to minimize unnecessary disruption to the market and to scientific research?

9. CFIUS As An Example of the “New Normal”

Unlike presidential actions in the Section 301, FIRRMA is a statutory change in US behavior towards foreign investment in China, including non-controlling investments (whether or not state-owned or directed). Its drafting predates the Trump administration. The accompanying legislation also codifies US export control practice, thereby creating a clear legislative link over technology exports and domestic investment and creating a stronger legislative basis for export controls. FIRRMA also is consistent with the administration’s mandate to seek “reciprocity” in trade with China. The DIUx report was initiated in the Obama administration, and FIRMMA itself was based with very strong bilateral support. The focus on national security is also affecting trade more broadly in the US, China and the world.

These trends show a departure of policies from the 1980’s (when the U.S. was placing China in the same group as Western Europe), and today it seems like the policies are toward more to the “national security” controls. Additionally, CFIUS has its effect beyond the border since U.S.’ market power is still very strong. The CFIUS-Type regimes are being adopted by other countries like Australia, Canada, EU member states (France, Germany and Italy), Japan and South Korea, they follow this regulatory regime in order to coordinate policy and exchange information.

It is interesting to see whether the kinds of regulatory regime will be the “new normal” as many things are happening right now, including the WTO case filed on March 2018 against China’s patent regulations.

KEYNOTE SPEECH

Prof. Robert Merges

(Founding Director, Berkeley Center for Law and Technology (BCLT), UC Berkeley School of Law)

Advancing Innovation in the Era of AI and Blockchain: The Role of Law and Policy

Introduction

Should the government intervene? If so, *when* should the government intervene? In the world of AI and Blockchain, actions can be taken by either humans or machines. To cope with these newly developed challenges, the policies/regulations must be *context-sensitive*. We have to understand that policies will *influence or reinforce* AI/Blockchain system design. The relationship between technology/industry and policies/regulations is like a feedback loop, and it echoed the old saying that “First, we shape our building, then our building shapes us.”

Let’s start with some background introduction of what happened in the 90’s. When the world-wide-web were just being discovered and popularized, the general basic belief of those Internet Service Providers (ISPs) are that they should be exempted from the liability, since they are just *neutral* pipelines. However, that has changed in recent years. We can’t leave the context outside anymore. The real question here is, then how should these issues be addressed by government regulations? Is it reasonable to just shift the burden to the pipe owners? Take an example of the business of music. The pipeline theory has made it very hard to track down the wrongdoer hiding behind the so-called *neutral* pipelines. So clearly new regulatory thinking is needed here.

In recent years, two main technologies, *blockchain* and *deep learning AI* emerged. The first policy question is government intervention. Should there be government intervention? If so, when is the proper intervention point? The second question is about the application and the design of it. Consider the new revolutionary development of deep learning AI, how to apply incentives to create new applications?

Blockchain

Let me provide a short introduction of blockchain. It functions as a system to make distributed record of actions, but verifiable by all members of the network. The digital

record, plus the verifiable digital transaction, can keep track on all the record in the system. With the abovementioned characteristics of securing the confidentiality and authentication of information, blockchain can be used as a safe platform and also as a mechanism to purchase. This all happen without any intervention from any observable third party, it's almost like a dream come true for those longing to get rid of the banks/intermediates. The fundamental design and function of blockchain, on a large part, actually duplicates the architecture of internet. We can view blockchain from 3 dimensions. First, it is a back-end database that maintains a **Distributed ledger** (technical). Second, it does **Exchange network** (business) for moving value between peers. Third, it is a **Transaction validation** (legal) mechanism that does not require intermediary assistance, since the validation can be done simultaneously with every particular transaction.

Due to its very unique characteristics and what it is capable to do (at least in theory), comparing the ISP in the 90's, right now when we think about blockchain, actually the moments for regulations are going to change. Think about Amazon. It's a classic two-sided market. The two sides market, buyers and sellers, are controlled by one platform. Thus the regulatory intervention can focus on the very platform that is Amazon. However, in the case of blockchain, who should we call in a scenario where there is no one platform or information concentrator/keeper/administrator? The thinking of "get rid of all interdisciplinary institutions" is rather a romantic way of thinking about the whole things, and they're people who even proposed to get the financial system back to the old gold standard. Let's make an example of how blockchain had been applied so far.

The first experiment of using blockchain as a trading/information securing system is the diamond transaction, and the reasons why diamond is a tempting experiment are two. First relates to the highly political nature of diamond transaction, second relates to high value of each of the diamond that had got a number under that blockchain system. The authentication of diamond values pretty much, and it can also act as a good initiative to show the precise capability and accuracy of the system. However, how about the first step, the step when we have to give a particular digital number to a thing that exists in the physical world, then it messed up? What if we registered the wrong number to the thing? That wrong information will spread into the whole system and cannot be fixed or deleted. Would it be possible that maybe someday the whole digital record system will be full of wrong information? The trust of the system by then will diminish. The most difficult part is the step between the physical theme and the digital/blockchain system, because

the system is a close system. Garbage in, garbage out. And when people lose faith about the system, they will stop using it.

Based on these understandings, how should we design the regulatory system? What are the most suitable regulatory strategies? Where should we locate our liabilities? Should we criminalize the wrongdoer? At what point should the government intervene? So strategy 1, we can create liability to deal with the misinformation. Strategy 2, we indemnify the person who produced the wrong tagging of the information. Then how about the system that now has wrong information spreading within it? How can we deal with the digital object? How can we use reasonable resources to identify fake block-chain transaction? To solve this, we probably have to reinvent the architecture of the block-chain system.

Lastly, let's talk about application. Should we encourage specific applications of blockchain? The promising fields are currency, information and biotechnology. These industries have very high needs on keeping confidentiality. We look forward seeing how the applications of blockchain will happen in the future.

Artificial Intelligence

The technology industry has long been developing the AI-related technology. The thought, the mathematic formula and theories of AI has already been there for a long time, many of the basic techniques are in the prior art/public domain, but we lack the hardware that has enough computing power to realize those ideas. Until recently the hardware are catching up, the industry are now applying for patents on AI applications. So it's like "old techniques" plus "enhanced computing power" create the era of AI.

Let me simply introduce one of the basic significant AI, that is, the Long Short-Term Memory (LSTM). It is a kind of application of Natural Languages Processing (NLP). It can guess words, predict words, and most importantly, it's context sensitive. It can adapt and learn through time when more information has been fed into the system.

Though it may not be the majority's view, I personally believe that new mathematical techniques should be patentable. Because in the case of AI patents, it's the existing mathematics apply to different context and settings. (referring the case: *McRO Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299.)

Another question is can the machine creation be patentable? An example can be drawn from the company *Blue Planet*, who creates CGIs that can make the animation characters appear their mouth moving as they're speaking in a particular language. Of

course the CGI system is patentable, but how about the copyright? Is the creation of different mouth shape a creation of a new copyright? Does Blue Planet create a separate work? Who is the author of the CGI? The copyright issue is very interesting. We can ask in this way: Are automated creations copyrightable? Should we care about WHAT THAT IS? Or should we care about WHO MADE THIS?

I am happy to have the opportunity to share with you my thoughts regarding the regulations/policies strategies in the new AI era. Thanks for listening.

Q&A

Question: The discussion of data privacy and right to be forgotten is intense recently. What's your view on the EU's GDPR to our speech topic today?

Answer by Prof. Merges:

Autonomous is something GDPR is all about, and is also something blockchain promises to provide. The more imperative concern of applying blockchain to the industry is that it adds a lot more burden on the international law enforcement, because they have to check whether the money is legitimately collected. The system can be used to hide really bad things.

Question: Will the U.S.' export control impacts the moving of natural persons? Especially for those (Chinese) students who wish to apply U.S. universities?

Answer by Prof. Cohen:

The natural persons' moving is a regulatory loophole. What the U.S. DOJ can do is to limit on foreign students, and charge the individual who leak the confidential information. It's interesting and appear to have a phenomenon that most criminal cases of U.S.' trade secrets related to Chinese people.

FLOOR DISCUSSION

Chien-Min Yang (Corporate Attorney, Microsoft Taiwan, Corporate, External & Legal Affairs)

AI & Ethics for the Enterprise

Microsoft has an AI ethic team.

First let me introduce a little bit about AI system. It can recognize patterns, make simple predictions, but its excellent ability only shows in very limited domains. AI will amplify human ingenuity, so it's very natural that the next question is regarding the distribution of the benefits of AI. Who get to amplify?

Computers nowadays can understand the world. With vast amounts of data, plus huge computation power, we can say that computer now acquires perception, but not the cognition. Microsoft wants to build a democratic AI, and we do it by starting to give the module to all companies

Me and my team came up with the 6 principles for AI ethics. They are as follows: Fairness, Reliability & Safety (human in the loop), Privacy & Security (GDPR), Transparency, Accountability (Responsibility) and Inclusiveness. We hope the 6 principles can make an encouraging AI developing environment that benefits all the people and help creating a better world.

FLOOR DISCUSSION

Gi-Kuen Li (Assistant Professor of Law, Law College, Shih Hsin University)

Recent Development on Copyright Protection for Artificial Intelligence General Works in PRC and ROC-Fitting “AI Generated Works” in the Current IP Regime

There are many research topics named after or somehow relate to “artificial intelligence.” And the growing number of it is very obvious. But quantity doesn't necessary provide quality. There are different levels of AI, as the weak AI is used to enhance and empowering people, while the strong AI are those robots who appeared in the movies as a totally conscious *thing*. Right now, we focus on the applied AI.

My topic today is about the copyright of AI generated works. There is sci-fi movie called “Zone out”, and it was made independently and totally by an AI software. So here is the question, are there exist *originality* within these AI generated works? If these AI generated works cannot be protected by copyright, then what are they? Or, if they are deemed as having originality, then it would be odd that they are original, but not created by “human”. A monumental case is the Ape Naruto selfie case. In the newly came out judgment, the court ruled that it has to be a human being to be the copyright owner. This also shed some light on how we should perceive and think about the current question.

In conclusion, I think wether or not to protect the AI-creative works is a policy-oriented question.

Q&A

Question: What should be the intervening point “emerging technologies”? And will co-regulation of public and private parts a better way to do it?

Answer:

Prof. Merges: Competition. The market may decide. Consumers may decide which models are suitable for them. We need to have a market-test and to see how people use it, and what are the features that people will be appreciate. Also, competition can exist amongst jurisdictions, it depends on how we should think about regulations. For example, I noticed that Taiwan recently has a sandbox regulation on the autonomous vehicle, they're using this mechanism to see if there are any problems that are going to happen, and then the government will intervene and try to do something. Let's just see. Let different jurisdictions try different things.

Question: AI can replace some human in some specific areas, so it can have big impact on the labor market. How can we address this problem? Should we give AI personality? Should we ask AI to pay tax or using some insurance system to balance the human needs?

Answer:

Prof. Merges: Right now, AI is still just a tool to improve productivity. How's the benefit be distributed to different communities of the society is worth a lot research and thoughts. One part is that we don't want to suppress new development. On the other hand, the replacement will happen on low-skilled jobs. The fact that the technology can do something doesn't necessary means that we should do that thing. **Capability is not destiny. It's a political decision of the society.**

Jacob: I think is the choice for the government to make. Either choice will have its policy foundations out there.

Question: Regarding the AI-copyright issue, maybe we should go back to see the Rationale of copyright law? If we think about the purpose of copyright, then we must ask ‘What can we do with this AI-copyright?’ ‘Can anybody use it?’

Answer:

Prof. Merges: The elements of copyright are: (1) Originality; (2) Separate creativity and ownership. Yes indeed the practicable impact and questions is ‘who owns it?’ and we do need to think this issue from the perspective of practicable usage of copyright.

Jacob: One core principle that worth being stressed in copyright law is that ‘we should not over compensate a creator.’ If we look at the copyright as its function of make sure the creator gets the money, then in fact nowadays, most of the time the creators are already being compensated by the licensing agreement or any kind of agreements with respect to she/hi with the employer. So actually everybody gets their share. Copyright’s function to distribute the share of the royalties is a good point to think about the current issue.

Question: To your knowledge, do you know any kind of legal services in the U.S. are using new technologies like blockchain, smart contract or AI-tools?

Answer:

Prof. Merges:

Yes, there are AI-related tools for the legal services. For example, in the patent field, we use AI-related tools to do the translation from Chinese to English. Because there are many technical terms in the patent filing documents, traditionally it will take a lot of human’s time on those rather routine works. With the help of the new AI-related tool to do the semi-automatic translation, we can enhance the efficiency a lot. The other example is the merger and acquisition. It used to cost a lot doing due diligence, with new AI tool the cost are being cut down.

Prof. Cohen:

Also I think the automatic patent quality tool is useful.

Prof. Merges:

Yes, we need to track the patent valuation and help company to buy patents. So there is a lot to do and it is better to concentrate the human time on making the real important analysis and decisions.