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TECHNOLOGY-ORIENTED REGULATORY MODEL IN CHINA AND THE WEST: A CONTEXTUAL ANALYSIS OF DIGITAL RIGHTS MANAGEMENT ARCHITECTURE

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Abstract. In China, a mere copying and pasting of the regulative skeleton from the West aiming to enhance the quality of regulations would always invite criticism. With respect to the legal system of intellectual property rights protection, especially the digital copyright legal regime, it looks more like a paradoxical combination of the Western approach. Accomplished success has been achieved on the 'black letter' (doctrinalism) aspect. However, there has been little awareness of the comparison from the perspectives of cultural, social, and political context (contextualism) where the regulation develops. This article reviews why and to what extent the cultural context matters in regard to the interaction between technology and digital copyright regulations. This research will eventually come to a conclusion that in those developing countries, such as China, legal transplant could still need to be carefully selected and tailored to the socio-cultural and economic demands of that country.

Keywords: digital copyright, contextualism, digital rights management (DRM), DRM regulatory model, intellectual property protection, cultural lag, reciprocal determinism theory, local protectionism

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1. In an era when copyright protection system meets digital technology

Technology produces far-reaching and profound effects on people's lives. Compared to science, technology plays more direct and important roles in people's behaviours and day-to-day lives (Weber et al. 2010). What's more, concerning the relationship between technology and law, development of technology shall directly drive the growth of wealth to further push the growth of 'rights' as a vital factor in economic relations (Luo 2006), which also leads to changes in the allocation principles and rules governing both rights and power. Friedrich Engels

believes that economic relationships are a critical base of social history, including all manufacturing and transportation techniques (Ibid). Furthermore, they also determine the exchange, means of distribution and social class divisions after the disintegration of the clan society. Copyright regulations emerged from the need to protect the intellectual works from any form of unauthorized use and distribution. It was conceived on the basis of protecting the rights-holders' creation from illegitimate use by the public. When copyright exists independently under the intellectual property regime, it merely regulates the issues that have occurred in the physical world.

Following the constantly and rapidly developed technologies, there has been an unprecedented change in the ways in which various digital works are accessed and disseminated. This has necessitated the revision of copyright regulatory systems and their regulatory models on a continuous basis in a way that they can timely and adequately respond to the seemingly insurmountable challenges of combating the indiscriminate and illegitimate reproduction and distribution of creators' work that has been facilitated by new technologies.

> *We become what we behold. We shape our tools, and thereafter our tools shape us.* (Marshall McLuhan)

With the rapid development of new technologies, the problems regarding copyright gradually spread into the digital context (Postigo 2012). It is understandable that the current copyright system has always been challenged by the technological development, and sometimes the current copyright regime is delayed when it is conceived to adapting to this sort of technical innovation. Growing concern from the public is deemed as a control mechanism for the dissemination of information (Will 2014). The whole copyrights system has been primarily and gradually changed by novel technology, which embarrasses the exploitation of copyright works and makes it hard to manage in a networked environment. In the digital context, the massive reproduction and distribution of new information and technological innovation has spread dramatically. However, the technological progress brings certain potential issues, including illegal invasion of piracy and unlawful commercial exploitation. The commercial profits of copyrights have gradually entered the general public's vision. A number of examples with regard to the economic interest balance have risked the established commercial modules that have absorbed both the normal use of copyright works and the competitive market at large.[1]

> *The social consequences of a technology cannot be predicted early in the life of the technology. By the time undesirable consequences are discovered, however, the technology is often so much part of the whole economics and social fabric that its control is extremely difficult. This is the dilemma of control. When*

[1] Steering Committee on the Role of Scientific and Technical Data and Information in the Public Domain, Office of International Scientific and Technical Information Programs, National Research Council, and National Academy of Sciences, 'The Role of Scientific and Technical Data and Information in the Public Domain: Proceedings of a Symposium', Aug (2003).

> *change is easy, the need for it cannot be foreseen; when the need for change is apparent, change has become expensive, difficult and time consuming* (Liebert and Schmidt 2010). (The Colllingridge Dilemma the Social Control of Technology)

2. DRM regulatory model: the outcome of the interaction between technology and copyright

Along with the development of digital technologies, the internet has not merely made it convenient for the public to get information, but it has also profoundly affected the management mode of traditional intellectual property, which would in turn present a challenge for the current copyright regulatory system. In this context, how to create, manage, protect and apply intellectual property as a means of promoting the digital world's development through an effective and efficient use of the copyright protection regime is an issue of common interest in the intellectual property field, and also in the internet industry at large. At present, the copyright protection issue in the cyber environment has become a matter of general concern in the copyright protection field – and on a global level as well. The copyright has the following features in the background of internet communications:

The rapid increase of types and quantities of copyright works has significantly and continuously enlarged the creation, communication and consumption teams. The application of digital technologies and particularly a wider application of the internet allow the individuals to participate in the creation of copyrighted work, and to spread the word to the public on their own. However, the speed of their development has simultaneously created a more challenging and problematic situation. Specifically, with a wider application of the networking broadband and an overall improvement in transmission quality, it has become easier for people to copy, spread and use others' creative works. What's more, anyone could be granted access to certain works – sometimes all he or she has to do is a single click of the mouse. And digitalised works thus are easily infringed compared to traditional works.

Then, there is an extensive array of ways in which to violate copyright in the network era (Ackermann 2014). In fact, some websites illegally duplicate, upload and disseminate others' works without authorization whatsoever. This not only violates the legal rights of the holder, but it also hinders the disseminative order of normal network operation; it affects the healthy development of the internet, and thus results in a devastating shock to the traditional industries such as books, music, film and television to the core. Internet service and content providers, as well as customers, are all capable of carrying out these unlawful practices, and all of them deserve the relevant tort liabilities. The development of the cyber industry cannot be separated from product and content innovation, which should be protected by the copyright protection regime. Therefore, it is of vital importance to

perfect this regime and fighting online piracy behaviours (Geiger 2010). In fact, the ways in which one can infringe the copyright of digital content are too numerous to list. The following factors are responsible for this phenomenon: pursuit for huge financial reward, missing legal protection measures and regulations, dislocated moral evaluation and imbalanced recognition on the principle of balance of interest. These conditions show that the development of the cyber industry is calling for legal norms, which face severe challenges as a result of cyber rights infringement.

Digital rights management (hereafter DRM) was certainly generated in the network era.[2] But this notion is sometimes confusingly used to refer solely to Technological Protection Measures (TPMs) (Dutfield and Suthersanen 2010). As the reminder made by Peter Yu, DRM should include "a large set of technological tools that not only protect the content, but also monitor consumer behavior and facilitate payment for content usage" (Yu 2006). In this regard, DRM is not merely a legal term, but created with interdisciplinary implications. According to the explanation of the OECD (Organization for Economic Co-operation and Development) Working Party on the Information Economy, there are three vital procedures contained in DRM that should be focused on:

> *(a) the encryption of content to keep it unavailable to unauthorised users; (b) the establishment of a licence system for controlling who can access the content and what can be done with it in specific circumstances; and (c) the authentication of the identity of the user, a required step for accessing the different usage rights awarded by the licence.* [3]

Technology and Copyright Laws exist in a unique manner, but they are not isolated on DRM regulatory model. Factors involved in the regulatory model could be relevant in economic, societal, cultural and other areas. In this regard, it is firmly believed that how DRM regulatory model run, primarily depends on how successfully those elements coordinate (Clive et al. 2000). There is a debate currently underway in some circles about whether DRM regulatory model would die out. But this debate largely misses the point. Technology routinely violates the former peace in copyright world that copyright holders presume, which makes the regulatory model an inevitable option. Businesses have to give careful consideration as to whether and how to enter markets where DRM strategy hangs in the balance. People have to choose how to act in the cyber world, what information to share and with whom, what ideas to voice and how to voice them.

Under the DRM architecture, technology contained in it appears as the social norms in real life to directly and compulsively regulate people's behaviours. In addition, technology has countless forms, among which morality, behaviour, discipline and law, among others, are commonly known. However, we can rarely

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2 DRM in this paper refers to a comprehensive architecture which not merely protect copyrighted works against unauthorized use of works but also appropriately safeguard the interests of consumers and users.

3 Report on Disclosure Issues Related to the Use of Copy Control and Digital Rights Management Technologies. DSTI/CP(2005)15/FINAL

see the role technology plays in social functions, as social norms in traditional societies (which are popular nowadays) have profoundly affected people's behaviour (Ibid:221). Social norms, technology and law are mutually independent, regulating people's behaviours in society, participating in the allocation of property, benefits, right and power (Ibid:221). And this kind of technology should be acknowledged and supported by law, and is subject to law as well. Moreover, technology is able to provide assurances for the implementation of law. Compared to law, technology has a glittering array of advantages in terms of social norms, because the implementation of law depends on public force to a larger extent than common resources, which are effective within a certain scope of the national compelling force. In contrast, technology is capable of working directly, accurately, efficiently and economically, because it is not only capable of building up behavioural standards, but it has also helped to realize the normative contents (Ibid:221). For example, CDs with anti-copy functions will keep customers with illegal intentions from infringing copyright, which forces them to obey all relevant laws. What's more, under the condition that people can protect their rights through technical approaches, they shall inevitably ask for more technological requirements than what is required by law. Besides, the role technology plays is not confined to countries, and thus attracts rights holders to enter the network environment. It is based on the condition, as we have found, that the most obvious change in network policy is the transformation of technology: now, technology is law (Ibid:221).

Lawrence Lessig said that the dimensions of regulation structure should be acknowledged by the current society, although he explored his research based on real life in a hypothetical environment. There are four approaches by which the actions would be regulated in a networking or non-networking situation: (1) the law, (2) social norms, (3) the market, and (4) the architecture. Lessig conducted further investigations into the autonomous nature of these four elements, as well as their overall interaction with particular actions in the digital environment. What Lessig eventually concludes by and large summarizes the structural composition of DRM regulatory model. DRM technology could be considered as a diminutive aspect of Lessig's "Four Modalities of the Regulation" theory, if decisions concerning DRM regulatory models had been promoted by continually evolving digital technologies. Examples of social behaviours in cyberspace described in Lessig's book put more emphasis on how to integrate each modality and how these modalities may interact with each other.

DRM technologies are updated along with unremittingly challenging circumvention technology. However, DRM laws are not adjustable to technological implementation, which is an entrenched issue in the digital times. In terms of 'social norms', there are many variations between those in the physical world and those in cyberspace. Social norms, to a certain degree, are determined by the 'architecture' feature of the digital world. In this respect, the negative influence initiated by architecture, like technology, has distorted the consumer's consumption decision. (Rajagopa et al. 2015). The meaning of DRM technology has been

narrowed down theoretically and yet in practice has been extended to almost all kinds of technology, which misaligned users' reasonable and legal behaviours. Likewise, users are apostate to the technology, since the traditional norms of the physical environment cannot be the prohibitive tools of the digital era.

It is ironic that what we called 'piracy' in the copyright scheme, in pirates' mind, was originally considered 'freedom'. But it is the prevalent and common place in the digital copyright world, since the internet facilitates the distribution and reproduction of copyrighted works. Piracy issues have become incrementally urgent, especially in the developing countries.

Internet users favour this 'free meal' (like downloading music for free, or P2P file sharing) under digital copyright architecture, and they are absolutely insatiable all the time. The so-called 'piracy freedom', in this circumstance, needs to be regulated by the 'norms'. However, norms are likely not functional in the intricately complex digital environment. It is reasonable that the users are not tolerant of 'norms' in network era, since they are used to enjoying 'free' and unregulated copyright. The norms in the digital world could hardly work.

"Like a force of nature, the digital age cannot be denied and stopped" (Negroponte 1996). Nicolas Negroponte stated that digital trends began almost twenty years ago in his classic work, "Being Digital". While his previous predictions have been realized so far, the concerns human beings could not have envisaged are abundant on the technology proportion but also upon regulatory scale. Although Nicolas's words came to life before our very eyes, still, more than anything, concerns are based on the circumvention of the digital environment, or, alternatively speaking, the elusive features of technology.

If works are encrypted by designed 'watermark' technology, it means individuals are prohibited to download this work illegally without 'watermark'. TPMs, to a large extent, are embedded into DRM construction intentionally for copyright protection. In this regard, DRM infrastructure has incorporated inner techno-regulation already, since techno-regulation is nothing but "technology with intentionally built-in mechanisms to influence people's behavior" (Koops et al. 2006). TPMs of DRM are deemed as the technology with "intentional normative effect" (Leenes 2011) on functionally regulating prohibitive circumvention actions (Ibid). 'Affordance' of technology makes the claim titled 'technology is neutral' untenable. (Ibid:154). In this sense, it is understandable that Leenes insists technology should be accepted as an instrument, like law, for ensuring the attainment of policy aims, which shares the same position with Lessig's point 'code as law'. The complexity of DRM architecture and the four regulatory modalities have exerted inordinate pressure on the current regulatory approach of DRM, thereby necessitating the urgent need for an innovative and specific model that can effectively address all risks associated with the digital world.

3. Context matters

> *"Comparative legal studies are best regarded as the hermeneutic explication and mediation of different forms of legal experience within a descriptive and critical metalanguage...Comparison must not have a unifying but a multiplying effect: it must aim to organize the diversity of discourses around different (cultural) forms and counter the tendency of the mind toward uniformization ... comparison must involve the primary and fundamental investigation of difference"* (Legrand 1997).

As one of the comparative research approaches, 'Contextualism' refers to the position that the truth-conditions of knowledge ascribing and knowledge denying sentences... "vary in certain ways according to the context in which they are uttered" (Schaffer 2004). 'Contextualism' can be seen as the external account of the nature of law (Ibid). It primarily discusses the role of the 'context' in which the regulatory model was adopted, as well as the differences and the influence brought by the various regulatory model contexts. The perspective of contextualism analysis stresses more on the differences than similarities. Pierre Legrand[4] was considered as one of the scholars who typically insisted that, 'there must be certain sorts of epistemological assumptions behind the understanding of rule in a certain manner, since every rule cannot be self-explanatory and those epistemological assumptions are historically and culturally conditioned' (Schaffer 2004). Contextualism's epistemic willingness to expand the view from mere written law to contextual rules coincides with the way it underlines the rule is not only a rule. Furthermore, rule is embedded in deep structures of the society or it has a character of vast architecture where it has particular functions. In this regard, this contextual aspect of comparative studies is highly consistent with the research purposes.

The advent of the internet coupled with other technological innovations had put a major strain on the efficacy of domestic copyright laws making it progressively impossible to check the diffusion and distribution of information and protected works beyond national borders. The internet has also hindered the curtailment of the distribution of protected works without approval from the copyright owners (Rimmer 2006). Furthermore, a strong domestic copyright law in a foreign country is completely inconsequential and cannot guarantee protection against infringement. Given the aforementioned, various jurisdictions called for the establishment of basic norms in international conventions for the incorporation of new provisions to deal with digital challenges. The results of the international conventions and treaties were then taken back to these jurisdictions as obligations for

[4] Pierre Legrand is a revealing example of 'contextualism' in comparative legal research. Legrand and the theory of functional comparative law are, or so it seems, suggesting a different orientation, but, they appear to have something basic in common. This is just another way to say that, 'naked rules reveal very little…'. Simply, there is an underlying willingness to see rules in a larger frame, not as mere points of restricted interest in legal-textual solitude, but as a part of something larger.

compliance.[5] The obligatory implementation of international conventions by various jurisdictions thus led to the enactment of a series of domestic and regional digital copyright laws, such as the DMCA of the United States and the Information Society Directive in the European Union (EU Copyright Directive/EUCD).

In the scramble for an adjustable and effective copyright law mechanism that can successfully tackle the impediments created by the internet and other new technologies, China began exploring various legal reform models that are in alignment with international conventions and treaties and that are desirably relevant to the mounting demands of the developing Chinese socio-cultural and economic setting. In the frantic search for an unassailable solution, China simply borrowed legislative approaches from the developed societies, such as the United States and the European Union; China enacted a set of statutes, regulations, and judicial interpretations mainly through the domestic implementation of international obligations and legal transplant.

However, the transplantation of the DRM model in China looks like a paradoxical combination of the US model and the European example. The aim of advancing the campaign of copyright protection in China seems somewhat futile as a result of the daunting challenge of implementation which has been rather unsatisfactory. Consequentially, this has clandestinely contributed to the increase of copyright infringement accompanied with growing and unrestrained piracy. Given the indisputable antecedents, it is not out of place therefore to assert that the sole reliance on the transplant and application of foreign regulatory framework such as DRM in China has been a failure with very little accomplishments in the area of copyright protection. In addition to the interoperability challenge of the DRM regulatory model which is set by EUCD and DMCA, there are also legal and logical inconsistencies with the practices in China so that the transplantation of these models without any adaptation or upgrading is criticized. In this regard, the issues of DRM legal protection vis-à-vis traditional limitations on copyright and DRM and 'fair compensation' has engendered heated debates and controversy.

(1) Social needs (C) + Social Mechanism (C) = Social Response(C)
(2) Social needs (U/E) + Social Mechanism (U/E) = Social Response(U/E)
C: China U/E: U.S/E.U

From the perspective of modelling, social response here can be developed or formulated as one of the outcomes of the 'social needs' and 'social mechanism'. This paper tries to explicitly explain how this formula works in diverse DRM regulatory contexts. 'Social needs' are assumed to be the same throughout. Since 'social needs' are considered as the demands to protect intellectual property and knowledge, which should not be different in forms from country to country.

The social mechanisms can be drawn up from two aspects: legislative mechanisms and non-legislative mechanisms. While as mentioned above, social

[5] Article 18 of WIPO Copyright Treaty (WCT) states that "Rights and Obligations under the Treaty Subject to any specific provisions to the contrary in this Treaty, each Contracting Party shall enjoy all of the rights and assume all of the obligations under this Treaty."

mechanism would be the same if we want to achieve the same social function. Also, the social mechanisms in terms of digital rights management regulatory models in different areas, based on my research, are similar as well. Social response has been supposed to be the social acceptance and the practical enforcement of the tentative regulatory model on DRM in different countries. However, the sums (social response) in the two equations above are hardly approximate, which can be treated as the incentive of the contextualism exploration. What promotes the comparative outcomes with regards to the digital copyright system in particular situations?

The context on which copyright law-making and law enforcement are based, relies on certain cultural and environmental factors corresponding to copyright law. As culture is located in the realm of the superstructure, law is also considered a part of the superstructure. The intersection of culture and copyright law, in this regard, is inevitable. Besides, culture and copyright are indeed linked to each other (Xu 2014).

Culture was represented by concrete forms of 'technology'. Alternatively, the previous types of culture can be shown by specific technologies. Since technology has been regarded as a mirror of human beings' intelligence, it significantly retroacts culture. With the development of technology, the relationship between technology and culture has become more momentous than ever, not to mention diffusely acknowledged. Technologies interact with a social, economic and cultural matrix in various aspects, and what matters is that cultures have been deferentially treated somehow – this is known as 'cultural bias'. There hence shaped a cultural misunderstanding that advanced technologies were commonly associated with the so-called 'superior' cultures. The elements contained in these technologies interplayed with each other directly and indirectly. Present technologies had broken through the old socio-cultural ranges, by way of updating knowledge information globally (Graham and Dutton 2014). Since technologies have become competitive instruments of economic progress, the influence on technologies from cultural diversity has also reduced quite drastically (Ibid).

From the machine age in the Industrial Revolution to modern times, technologies ranging from hardware to software have turned into a crucial material basis of cultural evolution (Vanderburg 1985). Even this type of culture, was coined as 'technological culture' or 'tech culture'. (Dusek 1993:65). Technological culture is new and popular jargon used to describe a social phenomenon in which technologies and culture act mutually. Similar (or the same) techniques could be embedded in the culture in various ways. It gestates disparate things related to cultural practices under different cultural contexts. Likewise, diverse technologies may serve the same purpose (Ibid:50).

In ancient times, Anglo-Saxon peoples and African tribes probably used a variety of wooden or metallic tools for hunting animals. In this regard, cultural elements are not determined by the same technologies or techniques that are in the realm of the modern era. On the contrary, minor groups of people utilized the same methods, instead of owning the systematic technologies or 'complex'

techniques – what would seem to be a 'minimal' technological culture in other countries. Actually, there is an entity involved in the embed-ability of technological culture. This ensemble affords both mainstream culture and alternative culture. Therefore, issues about cultural exports and discrimination came up. Our civilization has been a culture comprised of massive technologies, which is quite different from our previous culture from both qualitative and quantitative standpoints.

Even in another opinion, the DRM system can be regarded as an alternative approach to intellectual property protection and the implementation of intellectual property law (Ibid:86). The DRM system allows technology and legislation to supplement each other, and it has been a heated and controversial topic in the context of technological culture. Nonetheless, cultural background dissecting behind technologies explores a comprehensive and integrated way for the thorough acquaintance of DRM.

With the development of technology, the regulative law cannot always keep up (Ibid:182). In addition, there is a mutual complementary and interactive relationship between copyright law and technology. If the law fails to prevent infringement acts, technology shall be adopted to compensate for that; and if technological techniques are cracked by advanced technologies, the law plays the role that prevents the technology from being cracked.

While technological growth and copyright law exist in isolation, their involvement is not closed in the DRM regulatory model. While the relationship between the said two has deepened with time, economic, social, cultural and other similar spheres also influence this model. The systematic amalgamation of these factors is what ensures the smooth and effective functioning of the DRM regulatory model. The framework of DRM has not been promoted as an impregnable solution to copyright infringement in the current scenario. However, so far though, there is no other infrastructure that presents an impervious path to the protection of digital copyright. Since DRM is a technological game, it is susceptible to being replaced or overtaken by newer, more sophisticated technologies.

Over the years, it has been seen that the DRM system has been highly successful in restricting digital copyright infringement. While its role has not been restrictive towards society, especially when it comes to impairing copyright holders' legal benefits, it has helped get a crackdown on piracy, with respect to the consumer. Not everyone in the world is well versed with the subject of computer science. Hence, the integral commercial market here becomes the general public. It can be said with a degree of certainty, despite certain discrepancies, copyright infringements do not have a lasting effect on the regular functioning of technologies. Also, consumer feedback greatly helps DRM operators to improve their business models. These business models equip users with a varied number of ways to access digital content, and at the same time ensure that the very same content is well protected by DRM technology.

There is an ongoing debate about the expected survival of the DRM. However, it would seem like this argument is quite directionless. Since technology is a tool

providing access into the copyright world, the existence of such a model becomes inescapable. Smoothening out the foundation of such a model right now, will ensure a levelled intermingling of technology and copyright in the years to come. Careful consideration needs to be made by businesses entering markets wherein the DRM strategy hangs in the balance.

Online behaviours, exchange of ideas and the voicing of opinions, all have to be carefully monitored. Governments too have to play their part in ensuring the lawful regulation of the above. It offers the starting point for this idea, beginning with focusing on the segregation of the digital rights regulatory model on a country basis . These diversities reflect a landscape that is complex and is bound to become more so in the coming years, as billions more connect to the internet. In order to maintain a digital rights management regulatory model that delivers the greatest possible benefits to the digital world, a serious discussion is needed : the principles that will guide us, what rules should be maintained and what machinery needs to be put in place, with an emphasis on how to go about doing so.

3.1. Culture lag angle

If the social angle discussion of the intellectual property protection panorama is regarded as one important part of philosophical analysis, then the cultural aspect would be another essential part in philosophy treatment.

When the relationship of technology innovation and social change was mentioned, we might work out Culture Lag theory. Culture Lag was described by Ogburn, an American sociologist, in 1920s: “Where one part of culture changes first, through some discovery or invention, and occasions changes in some part of culture dependent upon it, there frequently is a delay in the changes occasioned in the dependent part of culture” (Woodard 1934:388, Ogburn 1922:201). Or, “When the material conditions change, changes are occasioned in the adaptive culture. But these changes in the adaptive culture do not synchronize exactly with the change in the material culture. There is a lag which may last for varying lengths of time, sometimes indeed, for many years” (Ogburn 1922:201).

The information technology development has provided a stage for cultural communications and progress, which nudges human beings down an unforeseen platform. Cyber culture was also occasioned in information technology growth and its variation. Cyber culture is the outcome of information technology evolution which strikes the traditional culture paradigms. Cyber culture is, as it was, the precondition of culture paradigms conversion. Internet culture has been a double-edged sword so far. Internet culture has crippled traditional culture's predominate position in culture architecture, although it initiated a new culture form (Ibid).

Information technology enhances the utilization percentage of information resources; however, ironically, cyber culture helped cause a new round of culture invasion. English-dominated western countries disseminated their ideology, thinking mode and other aspects to non-English speaking regions” (Ibid). Western culture, especially internet culture in the West, in virtue of communication

language advantage that it relies on, permeates worldwide (Ibid.:497). In other words, Western culture failed to spread traditional culture and essence of traditional morality in China through internet. In this regard, it is a great controversial matter that responds to any challenge incurred by cyber culture, which is regarding socio-culture advances (Ibid).

Inter-sectional part of two 'culture lag' objects reveals the underlying 'culture clash', which I mentioned above. Then a consequential round of culture lags would take place subsequently in the culture conflict course (Sahay 1997). What has been discussed under the 'culture lag' theory corroborates with the theme of cultural analysis section. Culture lag, in a way, aggravates rough intellectual property protection situation. Traditional culture value has posed an important influence to people's identical construction on intellectual area. Even in the digital times, this impact would be more significant.

3.2. Reciprocal determinism theory

The core principle of Reciprocal Determinism theory illustrates "how what we do and who we spend time with our behavior impacts upon and changes the Life Conditions in the environment we experience and how we respond cognitively and emotionally as a Person to the environmental signal we then receive" (Nevid 2012). The environmental feedback's status will cause different and variable reaction of people's behaviour, for instance, beliefs, thoughts and manners. Normally, what people will do is based on what sense they obtain from the feedback (Ibid).

Behaviour has been deemed as the most essential factor of human beings, handling merely with what might be observed and could be expressed as a function of individuals and environment (Sansone et al. 2004). People's behaviour has been primarily developed through observation, imitation and modelling (Middleton, 2010) and, is on the basis of constant "interaction between the individual and the environment where they manipulates – a phenomenon described as Social Learning Theory". (Bandura1977).

In digital environment (a social circumstance), based on Albert Bandura's concept of reciprocal determinism (Bandura1978), the surrounding environment of human beings could be affected by their behaviour, which in turn can influence actions (and vice versa), "expectations regarding outcomes within certain situations can influence individuals' decisions and intention to change actions, thus impacting self-efficacy". (Bandura1982).

Therefore, in this regard, an individual cannot be completely free, and get his own way totally. As people's behaviour is under the control of environment and society, meanwhile, human beings are not the reactors whom are entirely and passively impacted. The interaction between individuals and the society promotes the inner self-regulated system in which cognition is treated as the intermediary agent. They decide mutually and interactively.

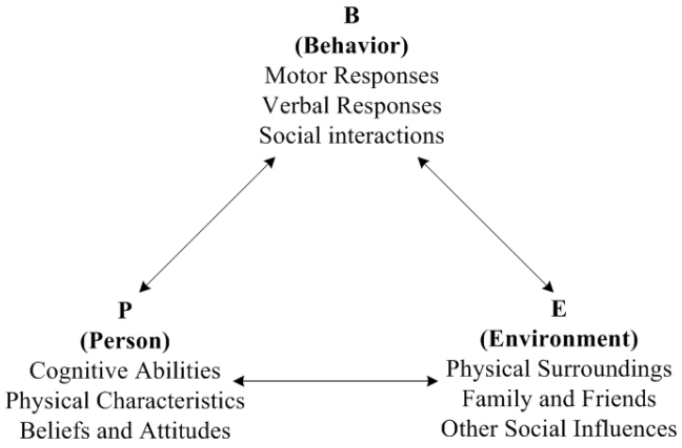

Figure 1. Reciprocal Determinism Theory Architecture [6]

For intellectual property architecture in China and Western countries, the awareness of intellectual property protection is stronger in most Western countries than in China. From Reciprocal Determinism theory perspective, it would be explained that early capitalism initially burgeoned in certain countries in Europe, where people's thinking was moulded by local condition. Conversely, China's economic system was fully liberated after the 1978 the Reform and Opening-up Policy.

Certainly, the outer context that influences individuals' behaviour and cognition was poorer than that in the Western countries (Ibid). Till now, the economic and civilized development in China has lagged behind those Western nations, although it moved much faster than those countries. We might observe from the current intellectual property protection situation in China, that the external environment at present has not been so helpful for shaping their ideology of intellectual property protection.

3.3. Local protectionism

The heavy burden carried by China historically was expounded under the so-called Sealed China. In 1978, China's reform and opening-up policy was first contemplated and then launched.[7] It was regarded as the real step-up that China moved forward to meet the Western world. Massive obstacles in managing mechanism and property rights system has been replaced by culture gap although economy disparity is reduced (Li 2014).

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[6] Based on the elements description of Bandura's Reciprocal Determinism Theory

[7] The process of new policies was from rural reform to urban reform, from reform of economic structure to structures in all fields, and from internal vitalization to external opening-up. Deng Xiaoping was the major leader and chief architect of Chinese reform and opening-up policies.

China has had additional adaptable political surroundings that supported the improvement of its IP framework. In any case, its IP improvement has been beneath a sorry excuse for conventional lawful instrumentalism (Chao 2009). At the point when China provides an idea of IP insurance amazingly, its inspiration is not to confirm IP itself (Qu 1999). Besides, the exchange sanctions by Western nations likewise forced China to think about its IP security level (Li 2014:96). Thus, "[t]here is an inclination in enactment, local and even by the educated community, which is making an attempt to enhance Chinese IP assurance models but very much like may well be expected to accomplish [W]estern countries' demands" (Li 2014:573). Moreover, the Chinese culture has emphatically affected an open degree, which is the reason why the current IP law is as yet confronting trouble in transplanting its cultural elements (Ibid).

Local protectionism could also be another obstruction for China on the way to implementing IP laws and regulations. Local protectionism originates from Chinese standard local political society. The solid regulative force of authorities provides a chance to make local protectionism. The local protectionism is an immense hindrance for IP security (U.S. The National Bureau of Asian Research, 2013).[8]

Chinese intellectual property records is a transplanting procedure of ruining things through unreasonable eagerness (Stoianoff 2012). China has never created an IP law on its own. External pressure has urged China to end its ever applicable transplantation method replaced by a long-term manner. Some researchers have expressed the supposition that Chinese IP advancement is a procedure of progress from uninvolved to positive transplantation (Wu 2007), but this positive transplantation has been driven by impacts and affectations from abroad (Hu 2007).

Ordinarily the procedure of transplanting a foreign legitimate framework is no more than the following routine: at first, fixing a framework, then authorization, then slowly blending this with running to the end of the procedure of localization. Indeed, a reason of the above procedure is general society psychology of positive acknowledgment, accompanied with a comparative social environment for both the beneficiary and supplier (Li 2014). Hence, there is a difficulty known with the legitimacy of transplanted law wherever the law is transplanted utilizing a coercive and outside methodology, or wherever the transplanted lawful society breaks down into neighbourhood society (Ibid). Chinese IP law has solely transplanted the exterior legitimate system, although the IP legal culture still includes a profound Chinese tradition. This is a reason why the Chinese IP framework is less powerful than the Western IP framework (Ibid:579).

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[8] 'The IP Commission Report'. This report was published on behalf of The Commission on the Theft of American Intellectual Property by The National Bureau of Asian Research. May, 2013. Available online at <http://www.ipcommission.org/report/ip_commission_report_052213.pdf>. Accessed on 29.05.2017.

4. Conclusion

Legal transplantation could also be divided into two types: one is passive transplantation; the other is positive transplantation (Wang 2004). Passive transplantation means that the procedure of transplanting a law is a forced procedure. The immediate or basic force of this sort of transplantation comes from outside . The transplanted nation or area has virtually no chance to choose whether to transplant or not. Instead, positive legitimate transplantation depends on the wants of society, so it has a right to choose whether to transplant and what to transplant.

The unanticipated technological expansion that is marked by the advent and growth of internet and other ground-breaking innovations has caught the legal system largely unprepared and has brought many unintended ramifications on copyright laws creating many complications that jeopardize the efficacy of the most comprehensive international copyright regulatory model. Regarding DRM architecture construction, or even intellectual property protection, the Western countries have primarily adopted judicial approach, whereas in China, both judicial and administrative protection ways are used.[9] The solid administrative interference and fragile judicial system give the two-folded track framework an innate imperfection in China's copyright protection mechanism.

With the progression of the network age and the incessant shrinkage of the world into a 'global village' which enhances, stimulates, and encourages a heightened participatory environment, the developing nations like China would have to re-evaluate and restructure their copyright regulatory model to reflect and accommodate local peculiarities in ways that are tailored and applicable to the Chinese context within the acceptable provisions of conventional international standards of the DRM regulatory model.

Needless to say, the transplantation and implementation of international copyright regulatory framework by China has led to escalating concerns about borrowed laws from other jurisdictions. More than ever, there is an overwhelming need for careful evaluation and scrutiny of foreign regulatory model against the extent of its applicability and relevance in local context. The DRM regulatory model in China indicates that there is no single answer to the development of a successful policy response to the copyright challenges in the digital age, but a synergistic combination and articulation of 'law, infrastructure, cultural change, institutional collaboration and better business model'. For the developing countries, legal transplant though unavoidable in most cases, could still be carefully selected and tailored to the socio-cultural and economic demands of that country (Yu 2006).

[9] Judicial and administrative protection on Intellectual property rights are called 'two-fold track' system or 'double track' system in China.

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References

Ackermann, Thomas (2014) "Competition law and consumer law: why we need a common consumer model". In Kai Purnhagen and Peter Rott, eds. *Varieties of European economic law and regulation*. Berlin, Heidelberg: Springer.

Chao Xi, Michael (2009) *Corporate governance and legal reform in China*. (Law in East Asia series.) London: Wildy, Simmonds & Hill Pubulication.

ChaoYang, Hu (2007) "On the social adaptability of IPR system". *Legal Forum* (Chinese Version) 3, 85.

Dusek, Val (1993) *Philosophy of technology: an introduction.* New York: Paragon House.

Geiger, Christopher (2010) "The future of copyright in Europe: striking a fair balance between protection and access to information". *Intellectual Property Quarterly* 14, 1, 1–14.

Geller, Paul Edward (2000) "Copyright history and the future: what's culture got to do with it?". *Journal of Copyright Society of the U.S.A.* 47, 256.

Graham, D. and S. Uma (2008) *Global intellectual property law*. Cheltenham: Edward Elgar.

Graham, Mark and William H. Dutton, eds. (2014) *Society and the Internet: how networks of information and communication are changing our lives*. Oxford: Oxford University Press.

Han Dong, Wu (2007) "Intellectual structure and cultural explanation on transplanting". *China Legal Science* (Chinese Version) 6, 55.

Hill, Howard (2014) "Understanding net neutrality: we need a better analogy". *The National Memo*. Available online at <http://www.nationalmemo.com/net-neutrality-better-analogy/>. Accessed online at 29.05.2017.

Koops, Bert. J., ed. (2006) *Starting points for ICT regulations: deconstructing prevalent policy one-liners*. T.M.C. Asser Press.

Leenes, Ronald (2011) "Framing techno-regulation: an exploration of state and non-state regulation by technology". *Legisprudence* 5, 2, 143–169. Available online at <http://dx.doi.org/10.5235/175214611797885675>. Accessed on 29.05.2017.

Legrand, Pierre (1997) "The impossibility of legal transplants". *Maastricht Journal of European and Comparative Law* 4, 111–124.

Li Jun, Wang (2004) "On the definition of replanting of law". *Legal Forum* (Chinese Version) 2, 42.

Li, Luo (2006) "Coordination of the social norms: technology and law". *Social Science in China* 1, 72–84.

Liebert, Wolfgang and Jan C. Schmidt (2010) "Collingridge's dilemma and technoscience: an attempt to provide a clarification from the perspective of the philosophy of science". *Poiesis Prax: International Journal of Ethics of Science and Technology Assessment* 7, 1, 55–71. 2010.doi:10.1007/s10202-010-0078-2. Available online at <https://www.axelarnbak.nl/wp-content/uploads/2014/01/Liebert-2010-Collingridge%E2%80%99s-dilemma-and-technoscience.pdf>. Accessed on 29.05.2017.

Luo, Li (2014) Intellectual property protection of traditional cultural expressions: folklore in China. London: Springer.

Middleton, Karen Williams (2010) *Developing entrepreneurial behavior, facilitating nascent entrepreneurship at the university*. Available online at <http://vcplist.com/wp-content/uploads/2013/11/Doctoral-Thesis-Developing-Entrepreneurial-Behavior_Karen-Williams-Middleton.pdf>. Accessed online at 29.05.2017.

Negroponte, Nicholas (1996) *Being digital*. London: Hodder & Stoughton.

Ogburn, William Fielding (1922) *Social change with respect to culture and original nature.* New York: B. W. Huebsch.

Pila, Justine (2013) "Pluralism, principles and proportionality in intellectual property". *Oxford Journal of Legal Studies* 34, 1, 181–200. Available online at <http://ojls.oxfordjournals.org/content/early/2013/10/21/ojls.gqt029.full>. Accessed online at 29.05.2017.

Postigo, Hector (2012) *The digital rights movement, the role of technology in subverting digital copyright.* Massachusetts London: The MIT Press Cambridge.

Qu, San Qiang (1999) "One hundred years: passive legislation: Chinese intellectual property history". *Peking University Law Journal* 2, 122.

Rajagopa, Raquel (2015) *Understanding consumer behavior and consumption experience: advances in marketing, customer relationship management, and e-services*. Pennsylvania: IGI Global publishing, doi 10.4018/978-1-4666-7518-6.

Report on disclosure issues related to the use of copy control and digital rights management technologies (2005) DSTI/CP15/FINAL. Available online at <http://www.oecd.org/sti/ieconomy/36546422.pdf>. Accessed on 29.05.2017.

Sahay, Amrohini (1997) "Materialistic and the invention of the cyber-cultural everyday". *New Literary History* 28, 3, 543–567. Available online at <http://www.grupciber.net/blog/wp-content/themes/grupciber/publicacoes/elisamaximo/(17)%20Cybermaterialism%20and%20the%20Invention%20of%20the%20Cybercultural%20Everyday.pdf>. Accessed online at 29.05.2017.

Sansone, Carol, Carolyn C Morf and A. T. Panter (1939) *The Sage handbook of methods in social psychology*. London: Sage Publications.

Schaffer, Jonathan (2004) "From contextualism to contrastivism". *Philosophical Studies* 119, 1–2, 73–103.

Stoianoff, Natalie P. (2012) "The influence of the WTO over China's intellectual property regime". *Sydney Law Review* 34, 65–89. Available online at <https://sydney.edu.au/law/slr/slr_34/slr34_1/SLRv34no1Stoianoff.pdf>. Accessed online at 29.05.2017.

Vanderburg, Willem H. (1985) "Technology, society, and culture, a framework for understanding". *Technology in Society* 7, 414.

Walker, Clive, David Wall, and Yaman Akdeniz, eds. (2000) *The Internet, law and society.* London: Longman Pearson.

Weber, Rolf H., Mirina Grosz and Romana Weber (2010) *Shaping Internet governance: regulatory challenges.* Berlin, Heidelberg: Springer

Woodard, James W. (1934) "Critical notes on the culture lag concept". *Social Force* 12, 3, 388.

Xu, Cong (2014) "Comparative analysis of intellectual property between China and the West: a cultural perspective". *Journal of Intellectual Property Rights* 19, 3, 202–208.

Yu, Peter K. (2006) "Anticircumvention and anti-anticircumvention". *Denver University Law Review* 84, 1, 14–78.