

### 13. PAVING THE WAY FOR THE FILTERING OBLIGATION IN CHINA: INCORPORATING WITH SAFE HARBOUR AND FAIR USE

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#### ABSTRACT

In the data-driven age, the progress of filtering technologies applied to online copyright content would revolutionarily change the traditional copyright legal system, especially as far as rights management and infringement are concerned. With the rapid development of online content-sharing platforms and massive infringements that followed, increasing attention has been focused on internet service providers' *ex-ante* obligations, such as monitoring the use of copyright content online. Although the European Union (EU) Copyright Directive sets an example, the filtering obligation of internet service providers was still controversial in China because of the potential inconsistencies with the safe harbour and fair use regimes. However, the filtering mechanism has its own rationality for balancing the interests of all parties in the context of the platform economy, which meanwhile, can be improved technically along with algorithmic copyright enforcement. In the future, these obstacles in law-making may be removed by the 'bottom-up' way that a hierarchical filtering system in China has been established.

**Keywords:** *filtering obligation, notice and takedown, fair use, platform economy, algorithmic copyright enforcement.*

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### 1. INTRODUCTION

Since 2016, the controversial filtering obligation (monitoring obligation), which is currently in Article 17 of the EU Directive on Copyright in the Digital Single Market (hereafter DSM Directive),<sup>1</sup> changed the internet service providers' (hereafter the ISPs) role in the copyright enforcement process from reactive to proactive. Prior to the introduction of the DSM Directive in the EU, filtering technology about copyright was only a self-developed mechanism of ISPs. Accordingly, its main purpose was to prevent and control the risk of online copyright infringement. In fact, the European Parliament imposed this substantial proactive liability on ISPs, especially online content-sharing service providers (hereafter OCSSPs),<sup>2</sup> and increased the cost of copyright compliance. As far as the EU policymakers are concerned, the purpose of the filtering obligation is indeed to strengthen copyright protection, though it seems like an arrangement for avoiding liability for indirect infringement. Nevertheless, the benefits and costs involved in filtration far exceed copyright *per se*, because filtration actually constitutes a benefits and costs distribution system for the right holder, the end-user and the ISP, and it even has an impact on public interests.

Therefore, this article scrutinises the possibility and rationality of formulating a filtering obligation (or system) in China, provided the following two problems are addressed adequately: (1) will it completely disrupt the current, controversial safe harbour regime (also known as notice and takedown)?<sup>3</sup> and (2) what would be the impact on the fair use doctrine which is regarded as an exception and limitation of the exclusive rights? The overall purpose of the paper is to

<sup>1</sup> Council Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC [2019] OJ L130/92 (DSM Directive).

<sup>2</sup> *ibid*, DSM Directive, Recital 61 and art 17 etc.

<sup>3</sup> The 'notice and takedown' regime, which was championed by Digital Millennium Copyright Act passed in 1998 [hereinafter DMCA], became a model for many nations in the world.

offer some reasons to support the formulation of a filtering obligation (or system) in China, and to provide general policy guidance for policymakers in China and other nations currently considering such reform in accordance with international trends.

This research paper analyses the topic in four parts: Part 1 is the introduction. Part 2 will discuss the possibility of formulating the filtering obligation from the perspective of four parties (namely platform, authority, right holder and end-user), and the rationality of this obligation in light of three factors (technology, economy and law) in China. Part 3 will analyse the obligation's possible inconsistencies with safe harbour and fair use. Finally, Part 4 will provide a feasible model and propose a method for the establishment of a hierarchical and comprehensive system of filtering instead of a simple obligation, in the context of algorithmic copyright enforcement.

## 2. POSSIBILITY AND RATIONALITY OF THE FILTERING OBLIGATION

### A. FOUR PARTIES' GAME OF COPYRIGHT

In the age of the platform economy, platforms create value by organizing and utilising content markets.<sup>4</sup> For instance, 'YouTube', the emerging intermediary (platform) which is mainly focused on user-generated content (hereafter UGC), provides the basic infrastructure for connecting creators of videos (right holders) with consumers of videos (end-users). From an economic perspective, such a platform was described to be founded on 'two-sided markets', which are commonly characterised as markets where one or more platforms allow interactions between end-users and attempt to integrate both (or more) sides by charging them properly

on either side. Platforms court each side in these markets when seeking to make, or at least not lose, money overall.<sup>5</sup> At present, the role of the platform is more important than ever, particularly for copyright enforcement in content markets. And the prevailing model of liability for infringement through UGC is that the platform and the right holders are both involved in the enforcement of exclusive copyright rights. Hence, to extend this argument, it is necessary to analyse the filtering issue through the lenses of four parties: the platform, the authority (including the administration and the courts), the right holder and the end-user.

### (i) The Increasing Status of the Platform

As mentioned earlier, the platform economy is an innovation of the traditional business model. According to its features (for example the two-sided market and the externality of cross-networks), the platform economy means that the increase in buyers join the platform, has a direct impact on the potential revenue of the seller on the platform, or *vice versa*. The relationship between buyers and sellers is a kind of positive feedback, and the platform plays a core role in maintaining it. Accordingly, the key goal of the platform is to promote dynamic equilibrium between various individual demands and mass supply, in order to morph each end-user into a potential supplier. The rising status of platforms has fundamentally challenged the traditional dichotomy of producers and consumers.<sup>6</sup> Correspondingly, platforms should be of greater importance in the context of copyright systems than before. One should keep in mind that this disrupts the Coase theorem which is based on 'one-sided markets',<sup>7</sup> as the effective bargain between right holders and end-users may not be achieved without the platform in light

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<sup>4</sup> Catherine Jewell, 'Creative industries in the platform economy' (*WIPO Magazine*, December 2018) <[https://www.wipo.int/wipo\\_magazine/en/2018/06/article\\_0001.html](https://www.wipo.int/wipo_magazine/en/2018/06/article_0001.html)> accessed 21 September 2019.

<sup>5</sup> Jean-Charles Rochet and Jean Tirole, 'Two-sided markets: a progress report' (2006) 37(3) *The RAND Journal of Economics* 645 <<https://www.tse->

[fr.eu/sites/default/files/medias/doc/by/rochet/rochet\\_tirole.pdf](fr.eu/sites/default/files/medias/doc/by/rochet/rochet_tirole.pdf)> accessed 2 June 2020.

<sup>6</sup> Hanhua Zhou, 'Research on the Internet Law' (2015) 03 *China Legal Science* 20.

<<http://www.cqvip.com/qk/81418x/201503/665072330.html>> accessed 16 July 2020.

<sup>7</sup> Ronald H. Coase, 'The Problem of Social Cost' (1960) 3 *Journal of Law and Economics* 1.

of the 'two-sided market' it creates.<sup>8</sup> Furthermore, in the world, the robust copyright protection has already been one of the giant OCSSPs' (like Google (YouTube), Facebook, Apple and Amazon, known as 'GAFA') priority concerns. In China, giant OCSSPs, such as Baidu, Alibaba and Tencent (known as 'BAT'), pay attention to this as well.

According to weaknesses in current copyright laws, these platforms began to set their own rules by the development of new technologies (like content filtration) in cyberspace.<sup>9</sup> In the US, Content ID of YouTube, which started in 2007, is by far the most famous filtering mechanism. When it has detected a suspected infringing work, Content ID provides four options to the right holders: (1) eliminate the infringing part of the work; (2) take the entire work down; (3) benefit from the advertising revenue of the work; (4) track the number of viewers of the work.<sup>10</sup> Content ID also concurrently attempts to apply the principles of fair use to these works according to features, defects, hashes, search algorithms, and data quality.<sup>11</sup>

In China, Tencent launched an online system called 'video genes comparison technology' (hereafter VGCT) in 2018.

VGCT automatically detects and determines whether a video infringes copyright by extracting the key frame and MD5<sup>12</sup> algorithm<sup>13</sup> from copyright works, and creating an enormous matching database based in the 'Tencent Cloud' (clouding computing). If the work is infringing copyright, the system would then take the infringing video down, or block the deep link, which provides access to illegal websites.<sup>14</sup> On 12 December 2018, the 'BAT' and other large platforms in China released a statement together – 'Convention on China Network Short Videos' Copyright Self-Regulation', which states that: '[...] to strengthen copyright management and adopt effective measures [...] for preventing users from illegally uploading and sharing their works without permission.'<sup>15</sup> This shows that Chinese platforms (most are OCSSPs) had adopted the same requirements in establishing a proactive automated rights management system like in other countries.

<sup>8</sup> Rochet and Tirole (n 5).

<sup>9</sup> Maayan Perel, Niva Elkin-Koren, 'Guarding the Guardians: Content Moderation by Online Intermediaries and the Rule of Law' (2020) SSRN <<https://ssrn.com/abstract=3542992>> accessed 20 April 2020; Katrina Geddes, 'Meet Your New Overlords: How Digital Platforms Develop and Sustain Technofeudalism' (2020) 43 Columbia Journal of Law and the Arts <<https://ssrn.com/abstract=3473990>> accessed 20 April 2020; Jane K. Winn, 'The secession of the successful: The rise of Amazon as private global consumer protection regulator' (2016) 58 Arizona Law Review 193.

<sup>10</sup> Maayan Perel, Niva Elkin-Koren, 'Accountability in Algorithmic Copyright Enforcement' (2016) 19 Stanford Technology Law Review 473.

<sup>11</sup> Toni Lester, Dessislava Pachamanova, 'The Dilemma of False Positives: Making Content ID Algorithms More Conducive to Fostering Innovative Fair Use in Media Creation' (2017) 24 University of California Los Angeles Entertainment Law Review 51.

<sup>12</sup> MD5 (Message-Digest algorithm 5) is a widely used cryptographic hash function with a 128-bit hash value. It is commonly used to check the integrity of files. It proposed that an algorithm MD5 would

encrypt copyright content. View Xijin Wang, Linxiu Fan, 'The application research of MD5 encryption algorithm in DCT digital Watermarking' (2012) 25 Physics Procedia 1264.

<sup>13</sup> In practice, the relevant case is: *Baidu v. Focus Technology Ltd., Nanjing*, Jiangsu High Court, SU MIN ZHONG 1514 (2018). In the case, the appellee has attempted to testify regarding the infringement of the platform by means of MD5 codes extracted from copyright works. <<https://xin.baidu.com/wenshu?wenshud=ad11540a0cc442c5056fb87b413c8228a50536d7>> accessed 21 April 2020.

<sup>14</sup> Xiaojun Tian, Yudi Guo, 'The Copyright Governance on the Short Video Platforms: in the view of Establishing the Platform's Filtering Obligation' (2019) 03 Publishing Research 66. <<http://www.cnki.com.cn/Article/CJFDTotal-CBFX201903021.htm>> accessed 21 April 2020.

<sup>15</sup> Zhiming Qi, 'With the High-Quality Development of the Short Video Industry, How Should the Way of Copyright Protection Be Opened?' (*People.cn*, 21 December 2018)

<<http://media.people.com.cn/n1/2018/1221/c14677-30481302.html>> accessed 23 September 2019.

## (ii) The Ambiguous Standpoints of Authorities

In China, there is usually a long negotiation between platforms and authorities to reach an agreement on copyright issues. Because of varying motivations, the administration paid more attention to reducing costs of governance in cyberspace.<sup>16</sup> However, in the past decade, viewpoints on China's copyright-related administrations were sometimes paradoxical in the field of filtering (monitoring) obligations. In 2014, the Legislative Affairs Office of the State Council issued the 'Notice of the Legislative Affairs Office of the State Council on Promulgating the Copyright Law of the People's Republic of China (Revised Draft for Examination) for Public Comments.'<sup>17</sup> In this notice, Article 73 (1) states that: 'A network service provider, while providing storage, search, interlinking and other simple network technical services to network users, shall not bear the obligations of examination (it means filtering or monitoring) in respect of copyright or related rights.' On the contrary, in 2015, the National Copyright Administration of China (hereafter NCAC) promulgated the 'Notice on Regulating Copyright Order of Online Disk Services'<sup>18</sup> wherein, Article 2 states: 'The network disk service provider shall establish the necessary management mechanism and use effective technical measures to actively block and remove the infringing works to prevent users from illegally uploading, storing and sharing other works.' Subsequently, several short video platform companies emerged in the content markets such as

ByteDance ('TikTok'). By the end of 2018, the audience of short videos in China numbered approximately 648 million, accounting for 78.2% of the total end-users.<sup>19</sup> Due to the massive infringing works on such short video platforms, the NCAC ordered these short video companies to rectify and reform, and hence, 570,000 infringing works were removed in 2018.<sup>20</sup> However, there are still a number of unauthorised works that are hosted on these platforms. Thus, presently, the governance of copyright-related administration in China is far from adequate.

From the perspective of the courts, the opinions of the Supreme People's Court (hereafter SPC) and the Lower Peoples' Courts were different in some cases. The SPC hold a negative view on the monitoring obligation. In 2011, the SPC issued notice on the 'Opinions on Issues concerning Maximizing the Role of Intellectual Property Trials in Boosting the Great Development and Great Prosperity of Socialist Culture and Promoting Independent and Coordinated Development of Economy' (hereafter 2011 Opinions),<sup>21</sup> in which Section II Para. 6 demonstrated that: '[...] not imposing a general obligation of prior examination and a relatively high degree of duty of care upon the network service providers [...].' Then, in 2012, Article 8, Para 2 of the 'Provisions of the Supreme People's Court on Certain Issues Related to the Application of Law in the Trial of Civil Cases Involving Disputes over Infringement of the Right of Dissemination through

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<sup>16</sup> Zhou (n 6).

<sup>17</sup> The Legislative Affairs Office of the State Council, 'Notice of the Legislative Affairs Office of the State Council on Promulgating the Copyright Law of the People's Republic of China (Revised Draft for Examination) for Public Comments' (10 June 2014) <[http://www.gov.cn/xinwen/2014-06/10/content\\_2697701.htm](http://www.gov.cn/xinwen/2014-06/10/content_2697701.htm)> accessed 14 September 2019.

<sup>18</sup> The NCAC, 'Notice on Regulating the Copyright Order of Online Disk Services' (14 October 2015) <<http://www.ncac.gov.cn/chinacopyright/contents/483/266843.html>> accessed 13 September 2019.

<sup>19</sup> The China Online Audio-visual Program Service Association, '2019 China Network Audiovisual Development Research Report' (28 May 2019) <[http://www.cac.gov.cn/2019-05/28/c\\_1124552171.htm](http://www.cac.gov.cn/2019-05/28/c_1124552171.htm)> accessed 20 April 2020.

<sup>20</sup> The NCAC, 'Copyright rectification to short-video platforms achieved staged results, and 570,000 works were off the shelf' (07 November 2018) <<http://www.ncac.gov.cn/chinacopyright/contents/518/388297.html>> accessed 16 July 2020.

<sup>21</sup> FA FA 18 (16 December 2011) <<http://en.pkulaw.cn/display.aspx?id=75782a20e39b904dbdfb&lib=law&SearchKeyword=Notice%20of%20the%20Supreme%20People%27s%20Court%20on%20Issuing%20the%20Opinions%20on%20Issues%20concerning%20Maximizing%20the%20Role%20of%20Intellectual%20Property%20Right%20Trials%20in%20Boosting%20the%20Great%20Development%20and%20Great%20Prosperity%20of%20Socialist%20Culture%20and%20Promoting%20the%20Independent%20and%20Coordinated%20Development%20of%20Economy&SearchCKeyword=>>> accessed 20 April 2020.

Information Networks' (hereafter 2012 Provisions)<sup>22</sup> stated that: 'Where a web service provider fails to take the initiative to examine a web user's act of infringement of the right of dissemination through information networks, the people's court shall not decide that it is at fault on these grounds.' To the contrary, lower courts delivered some judgements to uphold the proactive duty of care. For example, the decisions in *Universal Music v Yahoo.cn* (2007),<sup>23</sup> *iQIYI.com v ByteDance* (2017),<sup>24</sup> and *Douyin v Baidu.com Inc. & Baidu network communication Tech Ltd.* (2018)<sup>25</sup> all addressed this issue in the affirmative. It is worth noting that in *iQIYI.com v ByteDance* (2017),<sup>26</sup> the Beijing Haidian District Court held that, provided the infringement was so obvious that the defendant should have actual knowledge or a 'red flag' knowledge of the infringement, the act of defendant should constitute the contributory infringement. In Prof. Xiong's opinion, the divergence between China's courts, as mentioned above, can be attributed to the rigid legal transplantation of the 'notice-and-takedown' regime from the US (common law) to China (civil law); so that the 'notice-and-takedown' clause in copyright laws and the joint infringement clause in tort law are difficult to both be consistently applied in China. Hence, courts would misinterpret the existing duty of care (red flag) and affiliate

the active monitoring obligation to this duty.<sup>27</sup> For preventing such misinterpretation in the future, the timely reform of the duty of care doctrine is imperative in China.

### (iii) The Aggravating Helplessness of Right Holders and End-Users

In general, right holders and end-users are both facing the same problems in relation to platforms: (1) hard to track, identify and prove the infringements online; (2) unmeasured transaction costs on licensing; (3) failure of copyright collective management in cyberspace; (4) abuse of the safe harbour by platforms, invalid notices and imperfect complaint and redress mechanisms.<sup>28</sup> These problems have become worse in accordance with the increase in UGC.<sup>29</sup>

According to traditional copyright frameworks, right holders need to conduct online monitoring by themselves, find infringing content and send notices, then follow the platform's 'counter notice feedback takedown' constantly.<sup>30</sup> In this circumstance, on numerous platforms with the technical advantages, the right holders are undoubtedly in a weaker position and bear the huge burden of protection. While the right holders are expected to identify and notify the infringing content that they wish to remove, the platform

<sup>22</sup> FA SHI 20 (17 December 2012)

<<https://uk.practicallaw.thomsonreuters.com/PLCCoreDocument/ViewDocument.html?DocumentGuid=Ib4c39068480811e498db8b09b4f043e0&ViewType=FullText&HasDraftingNotes=False&ResearchReportViewMode=False&SessionScopelsValid=True&IsCourtWireDocument=False&IsSuperPrivateDocument=False&IsPrivateDocument=False&ClientMatter=Cobalt.Website.Platform.Web.UserData.ClientMatter&AuthenticationStrength=0&IsMedLitStubDocument=False&IsOutOfPlanDocumentViewClicked=False&TransitionType=Default&ContextData=%28sc.Default%29&BillingContextData=%28sc.Default%29>> accessed 20 April 2020.

<sup>23</sup> Beijing Second Intermediate Court, ER ZHONG MIN CHU 02622 (2007).

<sup>24</sup> Beijing Haidian District Court, JING 0108 MIN CHU 24103 (2017); Beijing Intellectual Property Court, JING 73 MIN ZHONG 1012 (2019).

<sup>25</sup> Beijing Internet Court, JING 0491 MIN CHU 1 (2018).

<sup>26</sup> Above n 24, paras 1-2 in the section of the Court's decision.

<sup>27</sup> Qi Xiong, 'Legislative Theory and Interpretive Theory in the China's Copyright Law' (2019) 04 Intellectual Property 3.

<<http://www.airitilibrary.com/Publication/alDetailedMesh?DocID=zscq201904001>> accessed 21 April 2020.

<sup>28</sup> Jennifer M. Urban, Joe Karaganis and Brianna L. Schofield, 'Notice and Takedown: Online Service Provider and Rightsholder Accounts of Everyday Practice' (2017) 64 Journal of the Copyright Society of the USA 371.

<sup>29</sup> Martin Senftleben, 'Bermuda Triangle—Licensing, Filtering and Privileging User-Generated Content under the New Directive on Copyright in the Digital Single Market' (*Filtering and Privileging User-Generated Content Under the New Directive on Copyright in the Digital Single Market*, 4 April 2019)

<<https://ssrn.com/abstract=3367219>> accessed 20 September 2019.

<sup>30</sup> Guobin Cui, 'Research on the Content Filtering Obligation of Internet Service Providers' (2017) 2 China Legal Science 215. <<https://www.civillaw.com.cn/uploadfile/Impic/20181121/20181121104127179.pdf>> accessed 16 July 2020.

must react by assessing the notices and by taking action appropriately. In the last few years, the right holders begun advocating for reconstructing the 'notice and takedown' regime. Some right holders expressed a preference that the platform, not only take down the notified content, but also prevent its reappearance in the future. In this context, the so-called 'notice and staydown' model emerged.<sup>31</sup> In addition, end-users are more eager to use and share online content (some content contain copyright works) freely and legally. The application of the fair use regime therefore becomes more important in relation to the UGC.

In a word, the platform's governance is a systematic program. The traditional 'notice and takedown' regime only offers right holders an ex-post infringement management of copyright. However, as analysed above, it is currently more important to adopt ex-ante solutions to prevent infringements, one of which is establishing a filtering obligation.

## **B. RATIONALE FOR ESTABLISHING THE FILTERING OBLIGATION IN CHINA**

### **(i) Technological Factor: The Data-Driven Age and Mature Technologies**

In the current data-driven age, the best way to regulate a platform is to think alike, which means that regulations should become data-driven as well. With the development of new technologies and phenomena such as Big Data, Cloud Computing, Blockchain, and Artificial Intelligence (hereafter the AI), automated rights managements have matured.<sup>32</sup> In particular, AI, including machine learning and hash-based file identification, is capable of detecting bulk information faster and smarter. In practice, the duty of care on the platform, would be determined by the following four aspects: (1) the types of service offered; (2) the types of behaviour of users; (3) the object of rights; and (4) the sophistication of

technological levels.<sup>33</sup> Over 20 years ago, the formulation of the Digital Millennium Copyright Act passed in 1998 (hereafter DMCA) was based on the technological level of that time in the US, and at present it may be reasonable to set up a filtering mechanism because of the three factors: (1) emerging OCSSPs; (2) a dramatical increase in UGC, and (3) mature filtering technologies. However, the next issue of concern is how to balance the relationship between the protection of incentives and the dissemination of works.<sup>34</sup>

### **(ii) Economical Factor: The Benefit of Right Holders Outweighs the Cost of Filtering Technologies**

In theory, the benefits of using a filtering mechanism by right holders far outweigh the costs of developing filtering technologies.<sup>35</sup> As technological progress leads to a sharp rise in the benefits to both the platforms and the right holders, copyright laws may not require adjusting, provided the market itself can promote voluntary cooperation between the two parties. According to the Coase theorem,<sup>36</sup> the most efficient agreement would be achieved regardless of whether the platform or the right holders undertook a filtering obligation in the case of negligible transaction costs, as long as the cooperative installation of filtering measures can effectively prevent online piracy, thereby increasing the benefits of right holders (or reducing their losses). Nevertheless, in practice, it is impossible that transaction costs are negligible, so that the probability of coming to a unanimous agreement between right holders and platforms is very low. Thus, formulating a filtering obligation could probably eliminate or reduce those transaction costs and increase the benefits to right holders accordingly. In terms of the Kaldor Hicks Principle, along with the decreasing costs of technologies, a filtering obligation can effectively enhance the redistribution of social resources, and the Pareto

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<sup>31</sup> Martin Husovec, 'The Promises of Algorithmic Copyright Enforcement: Takedown or Staydown: Which is Superior: And Why?' (2018) 42 *Columbia Journal of Law & the Arts*, 53.

<sup>32</sup> Husovec (n 31) 53.

<sup>33</sup> Xiao Si, 'Formulating the Duty of Care to Intellectual Property rights on Network Service Providers' (2018) 1 *Science of Law* 78.

<<http://www.airitilibrary.com/Publication/alDetailedMesh?DocID=flkx201801008>> accessed April 21, 2020.

<sup>34</sup> Senftleben (n 29).

<sup>35</sup> Cui (n 30).

<sup>36</sup> Coase (n 7).

improvement may therefore finally reach online content markets.<sup>37</sup>

### (iii) Legal Factor: The Uncertainty on the Existing Duty of Care

Reviewing the application of the ‘notice-and-takedown’ regime in China over the past decade, the courts and administration continuously enriched the online copyright infringement liability regime, for example the ‘red flag’ development. Article 9 of 2012 Provisions, defined a list of six circumstances where the ‘red flag’ knowledge of ISP may be presumed. Article 9 can be deemed to be a duty of care in the copyright legal system in China. In practice, the ‘notice-and-takedown’ reflects the objectivity of the procedure, while the duty of care is slightly subjective, and it should be noted that its implementation depends on the judges. Thus, Article 9 is usually interpreted differently in a case by case approach. This caused the uncertainty of the liability regime to be aggravated gradually.

In summary, these three factors of technology, economy, and law, are important reasons for establishing the filtering obligation (mechanism) in China. However, two controversial problems that remain are: (1) What is the effect on the safe harbour regime, and (2) what is the effect on the fair use

doctrine? In order to protect the unity and integrity of the Chinese copyright legal system, these questions have to be answered before any legislation can be enacted on a filtering obligation.

## 3. THE POSSIBLE INCONSISTENCIES WITH THE SAFE HARBOR RULE AND THE FAIR USE DOCTRINE

### A. IS THE SAFE HARBOR IN DEEP WATERS?

In general, the emergence of a filtering obligation is not only a challenge to safe harbour,<sup>38</sup> but also an opportunity for its reform. Historically, safe harbour was a result of a compromise between the content industry (such as right holders) and the technology industry (such as platforms). Due to a lack of consideration of public interests (like the rights of end-users), this regime was criticised for a long time. The ex-post enforcement mechanism created by the DMCA did not provide ISPs with enough motivation to protect copyright.<sup>39</sup> In the past, it was challenging to achieve an agreement between right holders and ISPs under the safe harbour regime. However, because of the emerging platform economy, the role of platforms has currently changed from ‘mere conduits’ to ‘gatekeepers.’<sup>40</sup> A case in point is the establishment of the filtering obligation in the DSM Directive.<sup>41</sup>

<sup>37</sup> Nicholas Kaldor, ‘Welfare Propositions of Economics and Interpersonal Comparisons of Utility’ (1939) vol. 49, no. 195 *The Economic Journal* 549; John R. Hicks, ‘The Foundations of Welfare Economics’ (1939) vol. 49, no. 196 *The Economic Journal* 696.

<sup>38</sup> We can find the safe harbor regime stipulated in different jurisdictions: (1) China: *Tort Law of People’s Republic of China* (2009) art 36, and *Regulation on the Protection of the Right to Network Dissemination of Information* (2006, revised in 2013) arts 14-16, 24; (2) US: the DMCA art 512; (3) EU: art 14 of Council Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market [2000] OJ L178/1 (E-Commerce Directive).

<sup>39</sup> Zhiwen Liang, ‘The Copyright Regulatory Model for Internet Service Providers’ (2017) 2 *Science of Law* 100. <<http://www.airitilibrary.com/Publication/alDetailedMesh?DocID=flkx201702009>> accessed 21 April 2020.

<sup>40</sup> Giancarlo Frosio, Sunimal Mendis, ‘Monitoring and Filtering: European Reform or Global Trend?’ (2019) No. 05 Centre for International Intellectual Property Studies (CEIPI) Research Paper <<http://dx.doi.org/10.2139/ssrn.3411615>> accessed 28 September 2019.

<sup>41</sup> European Commission, ‘Modernisation of the EU Copyright Rules’ (last update: 8 July 2019) <<https://ec.europa.eu/digital-single-market/en/modernisation-eu-copyright-rules>> accessed 20 April 2020; European Commission, ‘Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Promoting a Fair, Efficient and Competitive European Copyright-based Economy in the Digital Single Market, COM (2016) 592 final’ (14 September, 2016) <**Error! Hyperlink reference not valid.**<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016DC0592>> accessed 23 December 2019.

From an economic perspective, filtration could help to close the value gap. In 2016, the EU draft directive aimed to close the value gap that was an alleged unfair distribution of revenues generated from the online use of copyright works between parties along the value chain.<sup>42</sup> According to the safe harbour, right holders usually could not monetize the exchange of UGCs and ad-funded platforms like YouTube. However, many empirical studies have shown that the digital environment for the content industry has actually promoted the benefits and so-called 'added value' of technological innovation, rather than the value gap.<sup>43</sup> In terms of the Hand Formula,<sup>44</sup> when the product of the probability of infringement and infringing loss is more than the cost of the preventive measure, it is economically reasonable to take the preventive measure. Accordingly, it is only feasible to require a filtering obligation for platforms when the risk of copyright infringements has reached a high level. Since the cost of copyright compliance for giant platforms already increased dramatically, as mentioned before, Google found it worthwhile to develop its own filtering mechanism called 'Content ID.' Therefore, even though the cost of developing their own filtering systems are too high for the most platforms, it is obviously beneficial to the whole value chain (especially right holders) to close the value gap.

From a legal perspective, an automated filtering mechanism might increase the probability of 'false positives.' However, a complaint and redress mechanisms that exists in safe harbour could make up for this shortcoming. The monitoring ability of

platforms was so far, not perfect due to the technological imperfections and the number and variety of works that exist in the digital environment, which easily lead to the phenomenon of 'false positives' in filtration.<sup>45</sup> Some scholars, however, pointed out that: (1) the accidental and wrong takedown did exist, but the incidences of wrongful takedown was not equal to the instances of abuses of technological measures; and (2) the remedy after the delete-by-mistake was unfavourable in practice.<sup>46</sup> Therefore, the 'notice-and-staydown' mechanism based on algorithmic copyright enforcement was recommended, to set up unified filtering standards and to reduce 'false positives.'

## B. DOES IT MEAN THE DEATH OF THE FAIR USE?

It should be noted that, the emergence of a filtering obligation would not eliminate the application of fair use, especially in light of algorithmic copyright enforcement.<sup>47</sup> In fact, the algorithm would make the filtration more quantitative and feasible in the digital realm. Nevertheless, as Bell said, if an automated rights management system (like filtration) can give platforms the power to monitor various uses and reuses of copyright works, it can also give them the ability to bar such usage as they find objectionable.<sup>48</sup> In practice, the current situation is that a filtering mechanism, such as YouTube's Content ID, was still treated as threat to fair use (like the parody exception for UGC) in the US.<sup>49</sup> In 2015, in *Lenz v Universal Music Corp.*,<sup>50</sup> the US Court of Appeals for the Ninth Circuit held that YouTube had abused its Content ID and violated fair use. In the EU, the European

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<sup>42</sup> *ibid.*

<sup>43</sup> Giancarlo Frosio, 'To Filter, or Not to Filter - That Is the Question in EU Copyright Reform' (2018) 36 *Cardozo Arts & Entertainment Law Journal* 331.

<sup>44</sup>  $\text{Probability} \times \text{Loss} > \text{Burden}$  ( $P \times L > B$ ). See *U. S. v. Carroll Towing*, 159 F. 2d 169, 173 (2d Cir. 1947).

<sup>45</sup> Perel and Elkin-Koren (n 10).

<sup>46</sup> Zoe Carpou, 'Robots, Pirates, and the Rise of the Automated Takedown Regime: Using the DMCA to Fight Piracy and Protect End-Users' (2016) 39 *Columbia Journal of Law & the Arts* 551.

<sup>47</sup> We can find the fair use stipulated in: (1) China: Copyright Law of the People's Republic of China (2010) [hereinafter 2010 Copyright Law], art 22; Regulation on the Protection of the Right to Network

Dissemination of Information (2006), art 6; (2) European Union: Council Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society [2001], art 5; (3) US: Copyright Act (1976), art 107.

<sup>48</sup> Tom W. Bell, 'Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine' (1998) 76 *The North Carolina Law Review* 557.

<sup>49</sup> Taylor B. Bartholomew, 'The Death of Fair Use in Cyberspace: YouTube and the Problem with Content ID' (2015) 13 *Duke Law & Technology Review* 66.

<sup>50</sup> 801 F.3d 1126 (9th Cir. 2015).



Court of Justice (hereafter the ECJ) case – *Belgische Vereniging van Auteurs, Componisten en Uitgevers CVBA (SABAM) v Netlog NV*,<sup>51</sup> pointed out that peer-to-peer service provider that adopt filtering measures to prevent the spread of pirated files, will damage users’ personal data and users’ dissemination and access to information rights. In *Scarlet Extended SA v Société belge des auteurs, compositeurs et éditeurs SCRL (SABAM)*,<sup>52</sup> the ECJ upheld similar opinions.

If the algorithm was constructing a new paradigm in copyright enforcement, then fair use should automatically be applied in the algorithmic environment. Even if the perfection of this mechanism with the help of all parties would take many years, it is still deemed worth the wait.<sup>53</sup> In addition, although they are almost automated, algorithmic mechanisms have to offer right holders some independent choices, including the abandonment of rights. In the data-driven age, and in order to spread the work more widely, right holders may allow end-users to create derivative works thereby generating more revenue and influence for such right holders. It follows that when designing the filtering mechanism, right holders should be given more choices, including an option of abstaining.<sup>54</sup>

A ‘Ratio Test’<sup>55</sup> is the current method of setting parameters of permitted use, and the execution is dependent on appropriate and proportionate content recognition technologies (algorithms). With the development of technologies, it is possible that the rates of underreporting or

misreporting by filtering mechanisms would be greatly reduced or even negligible. Subsequently, questions arise about how to set up filtering standards relating to fair use and whether those standards are reasonable and legal. In law, a reasonable standard should achieve a balance between the low rate of underreporting and the low rate of misreporting. That is, the lower the rate of underreporting, the higher the rate of misreporting. The right holders expect a low rate of underreporting, while end-users prefer a low rate of misreporting, in order to enjoy more content. Hence, the choice of the standard is the result of weighing up different interests.<sup>56</sup>

#### 4. PROPOSAL: SHIFTING FROM FILTERING OBLIGATION TO FILTERING SYSTEM

The analysis has shown that soon the establishment of a filtering obligation in China may face three main obstacles. First, in respect of technology, the reasonableness and feasibility of filtrations will still be questionable; meanwhile, a filtering standard based on an algorithm would be hard to set up and unified. Second, in respect of the economic considerations and to reach a balance among all the parties, a precise, flexible and dynamic distribution of filtering costs would be required. It should be noted that even in the EU, the balance remains illusory and the status quo is unfulfilled.<sup>57</sup> Third, in respect of the law, the State Council has not revised the Copyright Law since 2010.<sup>58</sup> One of the reasons for the

<sup>51</sup> [2012] Case C-360 /10.

<sup>52</sup> [2011] Case C-70/10.

<sup>53</sup> Niva Elkin-Koren, ‘Fair Use by Design’ (2017) 64, no. 5 University of California Los Angeles Law Review 1082.

<sup>54</sup> Matthew Sag, ‘Internet Safe Harbors and the Transformation of Copyright Law’ (2017) 93 Notre Dame Law Review 499.

<sup>55</sup> Fred von Lohmann, ‘Fair Use Principles for User Generated Video Content’ (The Electronic Frontier Foundation (EFF), 31 October 2007) <<https://www.eff.org/deeplinks/2007/10/fair-use-principles-ugc>> accessed 12 October 2019.

<sup>56</sup> See Cui (n 30). Prof. Cui suggested that the ‘absolute quantity’ and ‘relative proportion’ standards, and the algorithm that should be used reasonably and designed according to these two standards.

<sup>57</sup> It is noticeable that art 17 para.10 of DSM Directive planes a stakeholder dialog to discuss the filtering obligation from various

communities in the EU. View EU commission, ‘Copyright Stakeholder Dialogues’ (*Streaming Service of the European Commission*, 15 October 2019)

<<https://webcast.ec.europa.eu/copyright-stakeholder-dialogues>> accessed 17 October 2019.

<sup>58</sup> Though the Legislative Affairs Office of the State Council launched a promotion for revision (in fact, the forthcoming 3<sup>rd</sup> revision), the proposal never went any further until 26 April 2020, the Draft Amendment to the 2010 Copyright Law was submitted to the 17<sup>th</sup> meeting of the standing committee of the 13<sup>th</sup> National People’s Congress for deliberation. However, unfortunately, there was none of clauses related to ‘Duty of Care’ or ‘Monitoring Obligation’ in this draft. View Tian Lu, ‘Punitive damages introduced into the Draft of the Amended Copyright Law of China’

lack of revision is the fact that the revision of the liability regime of ISPs is so controversial that the legislature could not balance the varying interests and coordinate such liability with other regimes (like the safe harbour provisions or the fair use doctrine). Hence, in the context of platforms and data-driven economies, when compared with the EU and US, the practical and feasible way to achieve this objective in China is formulating a hierarchical filtering system rather than a simple filtering obligation.

## A. FORMULATING A HIERARCHICAL FILTERING SYSTEM IN CHINA

### (i) Top-Level Doctrine

As mentioned above, formulating a clause for a general duty of care (without specifying the filtering obligation)<sup>59</sup> on ISPs in China's copyright law,<sup>60</sup> may currently be more feasible. The general duty of care will make room for interpretation by judges on a case-by-case basis and could be elaborated on in the emerging case guidance project on intellectual property cases.<sup>61</sup> In China's copyright infringement liability system, there are two ways of disseminating works by the an ISP: (1) the ISP disseminates the work by itself and strictly bears the direct infringing liability; (2) the ISP does not disseminate the work, but provides the 'conduit' to the end-users, therefore incurring contributory infringement liability. The second scenario may ascribe a duty of care to the ISP, but this duty cannot be found in the 2010 Copyright Law, Civil Code or Tort Law of China. Accordingly, under the current legal system, the limitation of the duty of care is blurred. In clarifying the limitations of the duty of care, the solution is to set up a general duty of care in China's copyright law in coordination with other laws (or other rights, such as privacy). The general

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(*IPKat*, 26 May 2020)

<<http://ipkitten.blogspot.com/2020/05/punitive-damages-introduced-into-draft.html>> accessed 16 July 2020.

<sup>59</sup> Cui (n 30). Prof. Cui said that adopting technical filtering measures is the most reasonable choice to fulfil this duty of care, but it is not the only option.

<sup>60</sup> In this paper, the phrase of 'copyright law' stands for the Copyright Law of the People's Republic of China rather than relevant regulations, norms or opinions from the SPC.

duty of care would offer courts on the lower levels a guidance for following regulations.

### (ii) Mid-Level Regulations

In copyright-related regulations and other relevant administrative regulations, the authorities could specify a general clause for the duty of care in copyright Law, such as filtering obligations, ratio tests, and the complaint and redress mechanisms. Firstly, the regulation could clearly stipulate that: 'eligible platforms (the ISP) should establish a copyright filtering mechanism.' Such statute would guide platforms to cooperate with the right holders to establish a feasible filtering mechanism and information synchronization mechanism. Secondly, in the light of Article 17 Para. 6 of the DSM Directive, some platforms will enjoy exemptions from filtering obligations, in accordance with the different levels of their annual turnover, market power, scale and so on. Thirdly, the regulations may provide some exceptions to the filtering obligation, such as stipulating 'high industry standards' and 'professional diligence' provisions.<sup>62</sup> Lastly, courts can interpret the laws and regulations, but they can neither directly design technical standards nor indicate the direction of development for technologies. Hence, the NCAC could organize and guide major platforms to formulate filtering technical standards which should be revised constantly.

### (iii) Ground-Level Norms

As mentioned before, because of their role's transition from the technical 'gatekeeper' to the algorithmic 'cyber-regulator', giant platforms, such as 'GAFA' and 'BAT', attempted to establish a number of standardised self-disciplines in order to balance the interests of all the parties.<sup>63</sup>

<sup>61</sup> Mei Gechlik, Chenchen Zhang and Li Huang, 'China's Case Guidance System: Application and Lessons Learned' (*Stanford Law School*, 2018) <<https://cgc.law.stanford.edu/guiding-cases-surveys/issue-3/>> accessed 30 August 2019.

<sup>62</sup> DSM Directive (n 1), art 17, para 4(b).

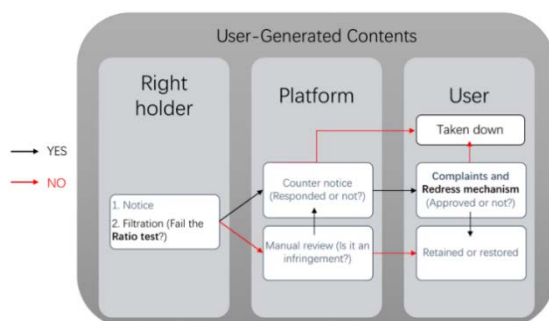
<sup>63</sup> Maria Lillà Montagnani and Alina Yordanova Trapova, 'Safe harbours in deep waters: a new emerging liability regime for Internet intermediaries in the Digital Single Market' (2018) 26.4 *International Journal of Law and Information Technology* 294.

In fact, under the filtering mechanism, platforms not only play the role of ‘gatekeeper’, but also that of the executor of the algorithms. Thus, it is possible that platforms’ obligation might become the obligation of the algorithms *per se*.<sup>64</sup> In order to maintain the balance between users, platforms, right holders and authorities, it is necessary to: (1) establish a reasonable algorithm design obligation for ISPs; (2) disclose the notification and counter-notices; (3) introduce an exemption clause for the black-box test;<sup>65</sup> (4) add human intervention while training the algorithm; and (5) strengthen the traceability and transparency of the algorithm. The platform should be encouraged to disclose relevant algorithms and especially, to enhance the credibility of the transparency reports.<sup>66</sup>

## B. THE SUGGESTED MODEL OF FILTERING SYSTEM IN ALGORITHMIC COPYRIGHT ENFORCEMENT

To sum up, a comprehensive system of filtration, in coordination with the safe harbour provisions and the fair use doctrine, is illustrated in the Fig. 1, as follows:

Figure 1. A Suggested Model of Filtering System



As shown above, in algorithmic copyright enforcement, it is important to establish the communication mechanism between the right holders, the platforms and the end-users.

At the first stage, the right holder has two options: (1) the traditional ‘notice-and-takedown’; (2) subscribe to the automated filtering system. In this regard, option (1) would be to go through the ‘notice-counter-notice-takedown-or-staydown’ procedure. Option (2) would be to let automated filtration apply firstly to find an infringing work through the ratio test of fair use, and subsequently provide a double-checked opportunity for manual review. Finally, the mechanism would decide whether to retain, delete or restore works for future filtering (back to the first stage). It is noticeable that the algorithm involved in the system would be viewed and would be accountable for its efficacy, in the light of transparency, due procedure and public oversight.<sup>67</sup>

## 5. CONCLUDING REMARKS

In conclusion, there are three factors concerning the whole analysis: technology, economy, and the law. Obviously, reform of the law is more difficult than the technology and economy. According to the prevailing ‘two-sided’ markets,<sup>68</sup> traditional social governance may be transformed from the consubstantial oneness of society to a multiplex society. In other words, the ‘top-down’ way of the rule-of-law may change into a ‘two-sided’ interaction between the authority and the society consisting of various communities. Under the guidance of the authority, and when the time is right, the ‘bottom-up’ way of law-making will become true, particularly for intellectual property law. This would provide a more flexible framework to accommodate emerging and innovative business models and public interests. Therefore, provided these technological, economical, and legal issues are solved, it is expected that the filtering obligation would be provided for in copyright law, and would in future be managed at all levels from the ground and mid-level to the top-level.

<sup>64</sup> Yang Tan, ‘The Copyright Regulatory Model for Internet Service Providers’ (2017) 2 Science of Law 100.

<<http://www.airitilibrary.com/Publication/alDetailedMesh?DocID=zscq201906008>> accessed 21 April 2020.

<sup>65</sup> In fact, opening source code of the algorithm will seriously affect the trade secrets of the platforms. At present, the simplest method in the industry is to check whether the content of the input end of

the algorithm has a blind spot, so the content of the input end of the training algorithm is retained and provided. For the purposes of third-party testing and verification, it should also meet the requirements of third parties.

<sup>66</sup> Lester and Pachamano (n 11).

<sup>67</sup> Perel and Elkin-Koren (n 10).

<sup>68</sup> Rochet and Tirole (n 5).

## BIBLIOGRAPHY

- Baidu v Focus Technology Ltd., Nanjing, Jiangsu High Court, SU MIN ZHONG 1514 (2018)*
- Bartholomew T, 'The Death of Fair Use in Cyberspace: YouTube and the Problem with content ID' (2014) 13 Duke Law & Technology Review 66
- Belgische Vereniging van Auteurs, Componisten en Uitgevers CVBA (SABAM) v Netlog NV, Case C-360 /10 (2012)*
- Bell T W, 'Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine' (1998) 76 The North Carolina Law Review 557
- Carpou Z, 'Robots, Pirates, and the Rise of the Automated Takedown Regime: Using the DMCA to Fight Piracy and Protect End-Users' (2016) 39 Columbia Journal of Law & the Arts 551
- China's Regulation on the Protection of the Right to Network Dissemination of Information (2006, revised in 2013)
- Coase R H, 'The Problem of Social Cost' (1960) 3 Journal of Law and Economics 1
- Copyright Law of the People's Republic of China (2010)
- Council Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market [2000] OJ L178/1
- Council Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L167/10
- Council Directive 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC [2019] OJ L130/92
- Cui G, 'Research on the Content Filtering Obligation of Internet Service Providers' (2017) 2 China Legal Science 215
- Douyin v Baidu.com Inc. & Baidu network communication Tech Ltd, Beijing Internet Court, JING 0491 MIN CHU 1 (2018)*
- Elkin-Koren N, 'Fair Use by Design' (2017) 64, no. 5 University of California Los Angeles Law Review 1082
- European Commission, 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Promoting a Fair, Efficient and Competitive European Copyright-based Economy in the Digital Single Market, COM (2016) 592 final' (14 September, 2016) <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016DC0592>> Accessed by 23 December 2019
- European Commission, 'Modernisation of the EU Copyright Rules' (last update: 8 July 2019) <<https://ec.europa.eu/digital-single-market/en/modernisation-eu-copyright-rules>> Accessed 20 April 2020
- Frosio G, 'The Death of 'No Monitoring Obligations': A Story of Untameable Monsters' (2017) Journal of Intellectual Property, Information Technology and E-Commerce Law (JIPITEC) <<https://ssrn.com/abstract=2980786>> Accessed 12 September 2019
- Frosio G, 'To Filter, or Not to Filter - That Is the Question in EU Copyright Reform' (2018) 36 Cardozo Arts & Entertainment Law Journal 331
- Frosio G and Mendis S, 'Monitoring and Filtering: European Reform or Global Trend?' (2019) No. 05 Centre for International Intellectual Property Studies (CEIPI) Research Paper <<http://dx.doi.org/10.2139/ssrn.3411615>> Accessed 28 September 2019
- Frosio G, Geiger C and Izyumenko E, 'Intermediary Liability and Fundamental Rights' in Giancarlo Frosio (ed), *The Oxford Handbook of Online Intermediary Liability* (OUP 2019)
- Gechlik M, Zhang C and Huang L, 'China's Case Guidance System: Application and Lessons Learned' (Stanford Law School, 2018) <<https://cgc.law.stanford.edu/guiding-cases-surveys/issue-3/>> Accessed 30 August 2019
- Geddes K, 'Meet Your New Overlords: How Digital Platforms Develop and Sustain Technofeudalism' (2020) 43 Columbia Journal of Law and the Arts

- <<https://ssrn.com/abstract=3473990>> accessed 20 April 2020
- Hicks J R, 'The Foundations of Welfare Economics,' (1939) Vol. 49, no. 196 The Economic Journal 696
- Husovec M, 'The Promises of Algorithmic Copyright Enforcement: Takedown or Staydown: Which Is Superior: And Why?' (2018) 42 Columbia Journal of Law & the Arts 53
- iQIYI.com v ByteDance*, Beijing Haidian District Court, JING 0108 MIN CHU 24103 (2017)
- Kaldor N, 'Welfare Propositions of Economics and Interpersonal Comparisons of Utility' (1939) Journal, vol. 49, no. 195 The Economic 549
- Kuczerawy A, 'EU Proposal for a Directive on Copyright in the Digital Single Market: Compatibility of Article 13 with the EU Intermediary Liability Regime' in Bilyana Petkova, Tuomas Ojanen (eds), *Fundamental Rights Protection Online: The Future Regulation of Intermediaries* (Edward Elgar 2019)
- , 'From 'Notice and Take Down' to 'Notice and Stay Down': Risks and Safeguards for Freedom of Expression' in Giancarlo Frosio (ed), *The Oxford Handbook of Intermediary Liability Online* (OUP 2019)
- Lenz v Universal Music Corp.*, 801 F.3d 1126 (9th Cir. 2015)
- Lester T, Pachamano D, 'The Dilemma of False Positives: Making Content ID Algorithms More Conducive to Fostering Innovative Fair Use in Media Creation' (2017) 24 University of California Los Angeles Entertainment Law Review 51
- Liang Z, 'The Copyright Regulatory Model for Internet Service Providers' (2017) 2 Science of Law 100-108
- Lillà Montagnani M, Yordanova Trapova A, 'Safe Harbours in Deep Waters: A New Emerging Liability Regime for Internet Intermediaries in the Digital Single Market' (2018) 26.4 International Journal of Law and Information Technology 294
- Montagnani M L, Trapova A, 'Safe Harbours in Deep Waters: A New Emerging Liability Regime for Internet Intermediaries in the Digital Single Market' (2018) 26(4) International Journal of Law and Information Technology  
<<http://dx.doi.org/10.2139/ssrn.3221520>> Accessed 9 September 2019
- Opinions of the Supreme People's Court on Giving Full Play to the Functional Role of Intellectual Property Trials in Advancing the Great Development and Prosperity of Socialist Culture and Promoting Independent and Coordinated Economic Development, FA FA 18 (2011)
- Perel M, Elkin-Koren N, 'Accountability in Algorithmic Copyright Enforcement' (2016) 19 Stanford Technology Law Review 473
- Perel M, Elkin-Koren N, 'Guarding the Guardians: Content Moderation by Online Intermediaries and the Rule of Law' (2020) SSRN <<https://ssrn.com/abstract=3542992>> Accessed 20 April 2020;
- Provisions of the Supreme People's Court on Certain Issues Related to the Application of Law in the Trial of Civil Cases Involving Disputes over Infringement of the Right of Dissemination through Information Networks, FA SHI 20 (2012)
- Rochet J C, Tirole J, 'Two-sided Markets: A Progress Report' (2006) 37(3) The RAND Journal of Economics 645
- Sag M, 'Internet safe harbors and the transformation of copyright law' (2017) 93 Notre Dame Law Review 499
- Scarlet Extended SA v Société belge des auteurs, compositeurs et éditeurs SCRL (SABAM)*, Case C-70/10 (2011)
- Senftleben M, 'Bermuda Triangle—Licensing, Filtering and Privileging User-Generated Content under the New Directive on Copyright in the Digital Single Market' (*Filtering and Privileging User-Generated Content Under the New Directive on Copyright in the Digital Single Market*, 4 April 2019)  
<<https://ssrn.com/abstract=3367219>> Accessed 20 September 2019
- Si X, 'Formulating the Duty of Care to Intellectual Property rights on Network Service Providers' (2018) 1 Science of Law 78
- Tan Y, 'The General Filtering Obligation of the Online Content Sharing Service Provider: basing on the EU's directive on copyright and related rights in the Digital Single Market' (2019) 06 Intellectual Property 66

Tian X, Guo Y, 'The Copyright Governance on the Short Video Platforms: in the view of Establishing the Platform's Filtering Obligation' (2019) 03 Publishing Research 66

Tort Law of People's Republic of China (2009)

U. S. Copyright Act (1976)

U. S. Digital Millennium Copyright Act (1998)

*U. S. v Carroll Towing*, 159 F. 2d 169, 173 (2d Cir. 1947)

*Universal Music v Yahoo.cn*, Beijing Second Intermediate Court, ER ZHONG MIN CHU 02622 (2007).

Urban J M, Karaganis J, Schofield B L, 'Notice and Takedown: Online Service Provider and Rightsholder Accounts of Everyday Practice' (2017) 64 Journal of the Copyright Society of the USA 371

Wang J, 'Notice-and-Takedown Procedures in the US, the EU and China' in Jie Wang (ed), *Regulating Hosting ISPs' Responsibilities for Copyright Infringement* (Springer 2018)

Wang X, Fan L, 'The Application Research of MD5 Encryption Algorithm in DCT Digital Watermarking' (2012) 25 Physics Procedia 1264

Winn J K, 'The Secession of the Successful: The Rise of Amazon as Private Global Consumer Protection Regulator' (2016) 58 Arizona Law Review 193

Xiong Q, 'Legislative Theory and Interpretive Theory in the China's Copyright Law' (2019) 04 Intellectual Property 3

Zhang Q, 'The Rise of Soft Law in the New Format of Internet and Related Regulation' (2018) 02 Law Science 86

Zhou H, 'Research on the Internet Law' (2015) 03 China Legal Science 20.