US-China Law Review, March 2024, Vol. 21, No. 3, 109-115
doi:10.17265/1548-6605/2024.03.003

Liability of ISP Under Recommendation Algorithm

REN Huan

University of International Business and Economics, Beijing, China

The rapid progress of technology requires timely review and interpretation of copyright laws. Algorithm recommendation technology is an improvement for online communication. It is necessary to resolve whether internet service providers (ISPs) utilizing algorithm recommendation technology have a greater duty of care. The content provided by algorithm recommendation technology should be regarded as the recommendation of the ISPs. The ISPs ought to take a greater level of duty when using algorithm recommendations. The ISPs should not be exempted from liability for the principle of "technological neutrality" and the development of new business model.

Keywords: algorithm recommendation, liability of ISPs, filtration mechanism

Background

The view that "algorithm is the king of Internet" has become the primary driving force of platforms in China. Algorithm recommendation has become a prevailing technology for almost all software applications, including search engines, social media platforms, and browsers. This has injected a fresh wave of energy into the innovative growth of the Internet. However, algorithm recommendation also gives rise to waves of social problems. In September 2017, *People's Daily* released three consecutive commentaries discussing the societal issues arising from algorithm recommendation, which proposed that when software, code, and algorithms take over the role of editors in the traditional content distribution, the focus on attention-grabbing communication will result in an abundance of low-quality content. The debate around the algorithm recommendation is currently reaching its peak. Under copyright law, if there is no sufficient control over the source of a work, algorithm recommendation can easily lead or even amplify the spread infringing contents. The question arises whether internet service platforms (ISPs) can be exempt from copyright liability through the safe harbor rule, and whether it is necessary to impose a higher duty of care on the ISPs that rely on algorithm recommendation.

The Algorithm's Automatic Recommendation Should Be Considered as the Platform's Recommendation

There are indications of manual design present in the information data source and the algorithm model. The information data are sourced from media resources, web crawlers, and content generated by the platform. While data information does not have a direct impact on users, it does reveal the subjective characteristics of algorithm recommendations at the source. For instance, the content generated by the ISPs itself frequently comprises an

This paper was sponsored by the Postgraduate Innovative Research Fund (202237) of University of International Business and Economics.

REN Huan, Ph.D. student, School of Law, University of International Business and Economics, Beijing, China.

important portion of algorithm recommendation on the ISP. The algorithmic black box lends a concealed feature to the algorithm recommendation model's information processing. The ISPs regulate the information acquired from regular users by managing and controlling influential users with lots of followers and high click-through rates (Li, 2018).

Different algorithm recommendation models used by different ISPs reflect distinct value. TikTok generates "hot video" by weighting sophisticated algorithms that analyze big data. These algorithms focus on content concentration, intelligent recommendation flow pool, and overlapping recommendations. Kwai utilizes a decentralized screening process called "waterfall flow" to display videos. The goal of CCTV Video is to create a comprehensive algorithm that aligns with mainstream values by incorporating value dissemination, dynamic balance networks, social network evaluation systems, and positive energy related indicators.[1]

The platform could have the ability to regulate the outcomes of algorithm recommendations. Google promptly addressed the matter of categorizing selfies of black engineers as "chimpanzees" and assured that it will be handled as a top priority. Leading Chinese internet algorithm developers have expressed that if the company executives believe that their products need to be modified to address certain societal issues; and they can make some technical adjustments (Yan & Yuan, 2019). Human-machine integration is replacing code-based algorithms in algorithm recommendation. Initially, the algorithm assesses the quality of the article by automatically identifying quality scores, extracting article labels, and recognizing typographical errors. Subsequently, the human team evaluates articles and only those items that satisfy both algorithmic and manual assessments are eligible to be put in the personalized recommendation "distribution pool". Algorithm recommendation could have the ability to constantly adapt, refine, and modify itself in accordance with societal needs (Yu & Du, 2019).

Algorithm recommendation depend on two fundamental components: content analysis and user tags. In order to provide precise content recommendations, platforms must implement typological procedures, which involve identifying different categories such as movies, sports, news, etc., and tag-based intervention methods for both users and content. The platform can analyze and handle user provided content with various data processing techniques. These techniques include filtering out irrelevant information (such as clickbait), decreasing the weight of popular articles during current events (hot spot penalties), decaying the relevance of older content over time (time decay), and showing fines for certain violations. The process involves the platform actively selecting and modifying the content provided by users. According to Google search engine engineers, "people are seeking our editorial expertise when they use Google to some extent" (Levy, 2011). Chinese courts have already ruled that the defendant who deliberately controls and manages the dissemination of unauthorized content on the internet was subjectively at fault, because defendant could not have been unaware that it was being disseminated on the internet without permission.[2] Therefore, platforms actively editing or selecting content through algorithm recommendation can be considered subjectively malicious if they infringe intellectual property rights.

---

[1] CCTV first disclosed three major differences from Tiktok and Kwai: algorithm, content aggregation mode and technical system, December, 13, 2019, https://www.sohu.com/a/360176901_159592?scm=1002.44003c.fe017c.PC_ARTICLE_REC, lasted visited on April 1, 2024.

[2] No. (2005) 13739 The First Intermediate People's Court of Shanghai Municipality [er Zhong min chu zi di 13739 hao minshi panjueshu].

The Platform Should Bear a Higher Duty of Care for the Content Recommended by Algorithm

Copyright law should not protect the interests of only one party; it ought to maintain a balance between ISPs and copyright owners (Kong, 2011). Copyright law must prohibit platforms from engaging in infringement in order to foster innovation and economic advancement of algorithm recommendation. Indulging platforms fails to offer enough legal protection for copyrighted works. The platform employs algorithm recommendation to precisely provide information to users, enhancing user engagement and loyalty, and achieving more visits. Based on the estimation by the Microsoft Research Institute, the algorithm recommendation accounts for approximately 30% of page views on Amazon and over 80% of movie views on Netflix (Sharma, Hofman, & Watts, 2015). This has resulted in a decrease in Netflix's monthly unsubscribe rate and an extension of its membership payment period, leading to annual savings of up to $1 billion for Netflix (Gomez-Uribe & Hunt, 2016). As of January 5, 2020, the TikTok, which utilizes advanced algorithm, exceeded 400 million daily active users.[3]

Algorithmic platforms rely on high-quality content to attract a lot of visits and retain loyal users. While algorithm platforms do distribute income to copyright holders, platforms employing algorithm recommendation effectively escape liability for copyright infringement and joint infringement of content by utilizing unilaterally standard form contracts, disclaimer provisions, and safe harbor rules. Algorithm platforms will not readily implement technical measures to prevent infringement and piracy due to the significant costs associated with development (Wang, Luo, & Guan, 2020). As a result, copyright holders who only have limited profit will ultimately be faced with the challenge of widespread piracy. The safe harbor rule is a compromise result that arises from the underdeveloped technology of automatically identifying, comparing, and filtering uncopyrighted content on networks. Following the substantial advancement of network technology, it is worthwhile to engage in a debate on the safe harbor rules. Technology to prevent piracy and infringement can never be realized without driving the development of copyright protection technology through attribution of liability to the platform.

Furthermore, the expenses cannot be used as an adequate explanation to employ algorithmic recommendation on platforms that actively or indirectly facilitate copyright infringement. While the technology to prevent piracy may not achieve a certain result of stopping piracy, it can only serve as a disclaimer for the platform rather than a justification for non-infringement.

Algorithmic recommendation in China mostly contributes to copyright disputes related to the cutting and distribution of television and movie works. The cost of piracy infringement is extremely low, and the rights holders are unable to effectively prevent it. In the "iQIYI v. ByteDance" case, pirates illegally broadcasted and intercepted 1314 short videos of the TV series "Yanxi Strategy". With the help of algorithmic recommendation, a single movie was played 800,000 times.[4]

The Grokster case took place during a time when copyright holders were no longer able to bring lawsuits against all direct infringers to protect the copyright of their works. Today, due to the rapid growth of algorithmic recommendations, the dissemination of unauthorized content has accelerated, and the adverse effects of

[3] Tiktok data report in 2019! https://www.sohu.com/a/365408452_262742, last visited on April 2, 2024.
[4] Defendant claimied that "Yanxi Strategy" was illegally broadcasted, iQiyi sued Today's Headlines for millions of dollars in compensation, http://bjhdfy.chinacourt.gov.cn/article/detail/2018/09/id/4016864.shtml, last visited on April 2, 2024.

infringement have grown dramatically. In the face of thousands of infringing contents being distributed and recommended, it is difficult for copyright owners to exhaust all infringing content through their own checks. If the copyright law continues to stipulate that copyright owners must submit complaints to platforms in accordance with the "notice-and-takedown" rule, it will unjustly amplify the burden for copyright owners while unduly diminishing the duty of the platforms.

The Principle of "Technology Neutrality" Should Not Serve as a Justification for Exempting Platforms From Liability

The principle of "technological neutrality" originated from the "substantial non-infringing use standard" established in Sony case. One of the supporting facts for this principle was that it was not technically possible for a distributor to create a product that could exclusively record legally authorized programming.[5] Given the technology limitations of the 1990s, it would have been challenging for ISPs to comply with copyright holders' requests to manually and comprehensively filter out uncopyrighted content. Judicial precedents have restricted the safe harbor rule since it has notable deficiencies in terms of being too indulgent towards pirate infringers and without ethical assessment of technological usage. In Eleven Record Labels v. Yahoo, a Chinese court ruled that even if an ISP is not actually aware of a third party's piracy infringement, if it fails to fulfill its duty of care, it will be considered as if it "should have known" the existence of infringement (Cui, 2013).

Legislation and justice have not always adhered to the principle of "technological neutrality", and the application of the principle of technological neutrality is at the same time restricted by the red flag rule. In the Viacom Inc v YouTube, Google Inc, the Court of Appeals did not recognize the principle of "technology neutrality" and directly held that the ISP was exempt from liability. Instead, the Court of Appeals combined the high probability of the facts that the perpetrator's intentional avoidance of the existence of the infringement facts, and ruled that the ISP met the "knowledge" standard under the red flag rule.[6] In Australian Michael Trkulja v. Google, the court found that the autocomplete algorithm was controlled by the platform and that the platform was a "publisher of information".[7] In contrast to autocomplete algorithm, model algorithms that can more accurately locate users and provide them with information are undoubtedly providing information to users. By deploying algorithms, the platforms could have shifted from removing infringing content to guiding and intervening in users' uploading content.

The judicial rulings of Chinese courts have gone further than the principle of "technological neutrality" by encouraging ISPs to take measures in preventing users from pirating copyrighted works. In the XinLiShi v. Youku, the court ruled that Youku had implemented effective measures to prevent piracy and had promptly and reasonably tackled piracy.[8] In Crazy Stone, the court ruled that the defendant did not fulfill their duty in relation to specific internet service, and could focus on reviewing content that was highly suspected of being pirated.[9] In IO Group v. Veoh Networks, Inc, the court in US held that Veoh not only did not encourage copyright

[5] Sony Corporation of America v. Universal City Studios, Inc., 464 U.S.417,442 (1984).
[6] Viacom Intern., Inc. v. YouTube, Inc., 676 F.3d 19 (2d Cir. 2012).
[7] Trkulja v. Google Inc LLC & Anor (No. 5) [2012] VSC 533.
[8] No. (2018) 361 Shanghai Intellectual Property Court [hu 73 min Zhong 361 hao minshi panjueshu], No. (2007) 22129 Shanghai Yangpu District People's Court [hu 0110 min chu 22129 hao minshi panjueshu].
[9] No. (2007) 129 The First Intermediate People's Court of Shanghai Municipality [hu yi Zhong min wu (zhi) chu zi di 129 hao].

infringement, but also proactively took steps to limit the incidence of copyright infringement, in compliance with the DMCA's policies.[10] Although some scholars have suggested that the principle of "technology neutrality" could lead to uniformity in the decisions of all Chinese courts, the widespread of pirated content may be compelling courts to strengthen the liability of the ISPs.

The Development of New Business Models Must Not Be at the Expense of Infringing on the Legitimate Rights and Interests of Others

The advancement of the Internet is contingent upon free competition, technological development, and business model innovation. However, this competition must be limited to prevent infringement upon the lawful rights and interests of others, which has been reiterated in numerous cases by courts and administration. For instance, despite the fact that the autocomplete algorithm makes it easier for users to input and retrieve information, the court in Milan, Italy, ruled that Google, as a platform for publishing information, is not eligible for safe harbors rule, because Google "hosts the results of all users' searches" and shares them with other users after the algorithm has processed them in a specific manner (Karapapa & Borghi, 2015). In China, online shopping has eliminated time and space constraints. However, the State Administration for Industry and Commerce (SAIC) has raised concerns about Alibaba's search tools, which utilize automatic classification and algorithms. The SAIC argues that Alibaba, whether knowingly or unknowingly, intentionally or negligently, enables unlicensed business, trademark infringement, false advertising, and consumer infringement. Alibaba was seen as playing a role in facilitating and supporting these illegal activities (Zhao, 2016). The promotion of new business models necessitates the support of copyright law, which in turn must achieve an ideal balance between copyright holders and technological advancement.

The evolution of technology is a dual-edged process. Although current technological tools are insufficient to completely achieve the blocking of pirated information, copyright content filtering technology is advancing in cost and technical level, and being used to detect and prevent online piracy (Cui, 2017). YouTube has emerged as the frontrunner in using Content ID identification and filtering technology, which analyzes uploaded files by comparing them to reference files, automatically detects disputed materials, and uses the copyright holder's preferred approach to solve pirated works. Baidu has introduced a "DNA anti-piracy document identification" system for "Baidu Wenku" service (He, 2012).

The Internet's anonymity enables the copyright holder and the platform to better deal with the issue, more than the rights holder to directly locate infringers. While algorithmic recommendation cannot definitively "delete" or "disconnect" content, and legal measures cannot compel individuals to do so (Kong, 2011), the optimistic expectation of eliminating infringing content in the future when technology advances, is a narrow-minded perspective to the issue.

The definition of "necessary measures" in China's copyright law should be adjusted to align with the progress of the ISPs. While the phrase "necessary measures such as deletion, blocking, and disconnecting" provides a broad overview, it is not necessary for the additional measures listed after "etc." to be of the same level as "deletion, blocking, and disconnecting" (Kong, 2020). It is worth considering the filtering measures as

[10] IO Group v. VEOH Networks, 2008 U.S. Dist. LEXIS 65915 (N.D.C., 2008).

well. The ISPs have been directed to implement filtering mechanisms to prevent users in some cases. In the Scarlet, the Brussels District Court mandated that the ISPs use filtering mechanisms (Wang, 2009). In Baidu library, a Chinese court ruled that implementing filtering procedures was a reasonable course of action.[11] The EU Parliament has approved the EU Digital Single Market Copyright Directive, which stipulates the criteria for exceptions to platform liability.[12] This directive mandates that the ISPs must adhere to the "notice-and-takedown" rule and demonstrate that they have made all possible efforts to obtain authorization from the copyright holder, but without success.[13] The EU Digital Single Market Copyright Directive mandates the filtering procedures for user-uploaded content, considering the current state of technology. Undoubtedly, this measure is controversial as it has the potential to undermine freedom of expression, affect fair use of the public, and restrict copyright holders the right for counter-notification. Given the persistent use of new technologies to evade copyright infringement, numerous challenges will continue to arise (He, 2012). Even in the absence of new standards, the safe harbor rule still faces notable constraints and problems (Zhang, 2019).

Conclusion

Promoting collaboration between ISPs and copyright owners is the appropriate approach to align with future industry developments. The safe harbor rule and the Grokster, Napster, and Sony rulings also have the same objective. Technology-driven copyright protection have also sparked fresh ideas for protecting copyright. Examples of collaborative efforts for development include the use of Creative Commons for open-source software (Creative Commons (CC), 2024), Tencent's declaration of originality system, the utilization of quality chain technology, and the Google Brain team's disclosure of the visualization challenge posed by neural network algorithms (Zhang, 2019). Although the copyright law currently does not explicitly require ISPs to assume a higher level of liability or follow to specific technical standards, it may be positive to incorporate these measures in specific cases.

References

Creative Commons (CC). (2024). What we do. Retrieved April 2, 2024 from https://creativecommons.org/about/

Cui, G. B. (2013). A farewell to safe harbor: Remodeling ISPs' indirect infringement rule. *Chinese Journal of Law, 26*(4), 138-159.

Cui, G. B. (2017). On the copyright content filtration obligation of cyber service providers. *China Legal Science, 34*(2), 215-237. doi:10.14111/j.cnki.zgfx.2017.02.011

Gomez-Uribe, C. A., & Hunt, N. (2016). The Netflix recommender system: Algorithms, business value, and innovation. *ACM Trans. Management Information Systems, 6*(4), 1-19. Retrieved from https://doi.org/10.1145/2843948

He, T. X. (2012). Study on the copyright pre-license of the audiovisual sharing platforms: Taking the new copyright business method of YouTube as an example. *Intellectual Property, 26*(10), 90-96.

He, T. X. (2012). Study on the copyright pre-license of the audiovisual sharing platforms: Taking the new copyright business method of YouTube as an example. *Intellectual Property, 26*(10), 90-96.

[11] No. (2017) 2045 People's High Court of Beijing [Gao min zhong zi di 2045 hao minshi panjueshu].

[12] Proposal for a directive of the european parliament and of the council on copyright in the digital single market—Outcome of the European Parliament's first reading (Strasbourg, 25 to 28 March 2019). https://data.consilium.europa.eu/doc/document/ST-7717-2019-INIT/EN/pdf, last visited on April 2, 2024.

[13] 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 (Text with EEA relevance). https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019L0790&qid=1713506882479, last visited on April 2, 2024.

Karapapa, S., & Borghi, M. (2015). Search engine liability for autocomplete suggestions: Personality, privacy and the power of the algorithm. *International Journal of Law and Information Technology, 23*(3), 261-289. Retrieved form https://doi.org/10.1093/ijlit/eav009

Kong, X. J. (2011). On the new mechanism for balancing interests in online copyright protection. *People's Judicature, 55*(11), 53-62. doi:10.19684/j.cnki.1002-4603.2011.17.010

Kong, X. J. (2020). Application of "internet article" to new types of network service—From "notice-and-takedown" rule to "notice and taking necessary measures". *Journal of Political Science and Law, 36*(1), 52-66.

Levy, S. (2011). The "panda" that hates farms: A Q&A with Google's top search engineers. Retrieved April 2, 2024 from http://www.wired.com/business/2011/03/the-panda-that-hates-farms/all/

Li, L. R. (2018). Pseudo-neutrality in web intelligence recommendation algorithms. *Modern Communication (Journal of Communication University of China, 40*(8), 82-86.

Sharma, A., Hofman, J. M., & Watts, D. J. (2015). Estimating the causal impact of recommendation systems from observational data. In *Proceedings of the 16th ACM conf. Economics and Computation* (pp. 453-470). Retrieved from https://doi.org/10.1145/2764468.2764488

Wang, Q. (2009). The determination of indirect infringement by "information location service providers"—An appraisal of the first-instance decision in the case of FanYa v. Baidu. *Intellectual Property, 19*(2), 3-12.

Wang, T., Luo, Y. X., & Guan, X. T. (2020). Platform liability for internet torts from the perspective of stakeholder theory. *Publishing Research, 36*(6), 19-26.

Yan, S. J., & Yuan, F. (2019). Outsiders inside: Ethical responsibilities of algorithm engineers in journalism and communication. *Modern Communication (Journal of Communication University of China), 41*(9), 1-5.

Yu, G. M., & Du, N. N. (2019). Value iteration of intelligent algorithmic distribution: "Boundary adjustment" and legitimacy enhancement—Taking the four upgrade iterations of "today's headlines" as an example. *Shanghai Journalism Review, 37*(11), 15-20. doi:10.16057/j.cnki.31-1171/g2.2019.11.002

Zhang, J. Y. (2019). Jurisprudential basis of the algorithmic law enforcement and its regulation in the intelligent society: Taking the automatic copyright infringement monitoring of the online content sharing platform as an example. *Law and Social Development, 25*(6), 81-98.

Zhang, L. H. (2019). The Iteration and Innovation of Algorithm Regulation. *Legal Forum, 34*(2), 16-26.

Zhao, P. (2016). The limits of private censorship—On the administrative liability of online trading platforms for user content. *Tsinghua University Law Journal, 10*(6), 115-132.