A Feasibility Study on the Filtering Obligation of Copyrighted Content on Online Platforms as a Method to Enhance the Duty of Care

Xiaoya Yang

Zhongnan University of Economics and Law, Wuhan 430000, China

Abstract

This study examines the development, implementation considerations, and extraterritorial implications of required filtering of copyrighted material on online platforms. The regulatory exemplification has transitioned from the traditional "notice-and-takedown" to a "necessary measures," eventually leading to a new way in "filtering obligation." Digital content is everywhere, and because of this, the "notice-and-takedown" method continued to struggle with stopping such infringement, Now, with a move towards proactive "necessary measures," filtering content is becoming a key part of these measures. It gave the platforms a strong tool for managing copyright. However, using filters also raises questions about how well they work and how accurate they are.While advancements in filtering technology have yielded improvements, inherent limitations persist. From an economic perspective, the amount of resources required to develop filtering systems may create disparities across companies; however, collaborative data sharing and proprietary database generation may alleviate such concerns. In terms of policy, the shift away from pure technological neutrality to a "technologies for the good" logic gives a justification for the support of censorship instruments. The European Union has passed a legislative requirement for filtering, as part of its growing digital economy and copyright law environment. In the United States, on the other hand, the country is still split, without uniform policy at the federal level. The work advocates the feasibility of content filtering as part of online platform due diligence, but also calls for a broader conversation including technical, economic, and policy dimensions.

Keywords

Filtering Obligation; Duty of Care; Copyright Infringement.

1. Introduction

In this digital age, online platforms are an important avenue for both communication of information and trade in works protected by copyright. However, the Internet technology become popular and the amount of data is increasing exponentially, thus the problem is getting to be more and more severe. As the notice-and-takedown system, where online service providers are asked to take down or block access to infringing content after being told by copyright holders that users have uploaded or linked to it, has failed to effectively protect copyrighted works in the digital era. Hence, investigating the application of a filtration obligation in respect of copyright works on online platforms to strengthen the obligation of care, has important theoretical and policy dimensions.

2. The Development of the Filtering Obligation for Copyrighted Content

2.1. From "Notice-and-Takedown" to "Necessary Measures"

Handling copyrighted content online has currently gone from just “notice-and-takedown” to using “necessary measures,” and and ultimately to the explicit establishment of a "filtering obligation." In 2006, the “Regulations on the Protection of Information Network Dissemination Rights” initially established “notice-and-takedown” as a key component of the “safe harbor” principle. Subsequently, the “Civil Code” clarified that upon receiving a notice, “necessary measures” must be implemented. The increasingly rapid evolution of internet technologies has rendered the “notice-and-takedown” mechanism, in isolation, inadequate for effectively addressing the proliferation of copyright infringements, particularly in instances of repeated violations. Therefore, the adoption of “necessary measures” has become a crucial approach in mitigating this problem.

In judicial practice, the initially vague concept of "necessary measures" has gradually been clarified and refined, with the applicability of filtering obligations standing out prominently. Taking the case of Tencent v. Douyin, heard by the Xi'an Intermediate People's Court in 2022, as an example, the court explicitly stated in its judgment: "...given that the infringed content belongs to a highly popular 'blockbuster series,' the platform's management and control over infringing works cannot merely adhere to the 'notice-and-takedown' rule but should assume a more proactive management and duty of care, such as implementing filtering measures." This judgment, based on the categorical distinction between general works and well-known popular works, implicitly suggests that when dealing with popular works, service providers' necessary measures should encompass filtering obligations.

The landscape of copyright protection has been continuously evolving alongside technological advancements and developments in judicial practice. Within the traditional framework of copyright protection, measurement such as "removal, blocking, and disabling links" were considered the primary means to address copyright infringements. However, with the rapid growth in internet technologies and the increasing sophistication of infringement tactics, traditional measures have now reach its limitations. Many of the measurement are no longer effective in restricting copyright infringements within platform content, particularly when confronted with repeated and persistent infringements.

2.2. From “Necessary Measures” to “Filtering Obligations

Filtering measures, characterized by a more proactive approach to copyright protection, have been progressively incorporated into the concept of necessary measures. This shift reflects both a keen understanding within judicial practice of copyright protection demands and the impact of technological advancements on the legal framework. By employing technical means to monitor and filter platform content in real time, filtering measures can effectively intervene before infringing acts occur, thereby significantly enhancing the efficiency and efficacy of copyright protection. However, a logical deficiency may underlie the perspective that casts filtering measures as an integral component of necessary measures. Specifically, this viewpoint appears to rest on the assumption that, given the expanding scope of necessary measures and existing judicial precedents including filtering measures within this scope, filtering measures naturally become a constituent part of necessary measures. This line of reasoning, however, neglects the stability and authority inherent in legal systems. In civil law countries, the establishment and refinement of legal institutions necessitate rigorous legislative processes and cannot be readily altered based solely on the practices of judicial proceedings.

Furthermore, considering filtering measures as a component of necessary measures effectively blurs the boundaries of legal responsibility to some extent. In the domain of copyright protection, the responsibility of online service providers should be determined based on the

nature and content of the services they provide. Simply incorporating filtering measures into the category of necessary measures could impose an excessive burden on online service providers and potentially engender unfair competitive conditions.

The role and value of filtering measures in copyright protection should not be entirely dismissed. As a technological tool, filtering measures possess unique advantages and potential within copyright protection. However, in integrating them into the legal system, the advantages and disadvantages must be carefully weighed, fully considering technical feasibility, economic costs, and legal responsibilities, among other factors.

Therefore, while filtering measures have been partially adopted in judicial practice and viewed as a component of necessary measures, this does not mean they can be directly regarded as official or statutory regulations. Instead, they should be viewed as a beneficial exploration and experiment, serving as an important reference for future legislation and judicial practice. In future legislative processes, one might consider, on the basis of full deliberation and broad solicitation of opinions, incorporating filtering measures into the legal system of copyright protection in a more reasonable and scientific manner, thereby better balancing the interests of copyright holders, online service providers, and the general user base.

3. The Possibility of Introducing Filtering Measures for Copyrighted Content

During the initial phase of technological experimentation in copyright protection, YouTube became a leading platform to implement filtering techniques in practice, branding this innovative technology the Content ID system. The system functions with a meticulous and effective process: initially, YouTube utilizes digital fingerprinting to thoroughly analyze diverse multimedia content submitted by users, precisely extracting distinctive characteristics and transforming them into digital signatures. Subsequently, the system compares these signatures against YouTube's vast proprietary database of copyrighted works, which compiles authorized material from a multitude of copyright owners globally. Upon identifying similarities or exact matches between the signatures of uploaded content and those already in the database, YouTube promptly initiates a range of subsequent actions, such as silencing the content, blocking or removing the infringing sections, or even permitting the infringing content to remain visible under certain conditions via a copyright revenue-sharing mechanism, while simultaneously tracking the infringement source to pursue further legal remedies. This effectively mitigates copyright violations and protects the lawful rights and interests of copyright holders. The specific measures encompass the following steps: (1) muting; (2) blocking; (3) monetization; (4) tracking. Before delving into the possibility of introducing filtering measures, it is essential to first clarify that filtering measures, in essence, constitute a proactive and preventive action.

3.1. Debate on the Accuracy of Filtering Technologies: Pros and Cons

3.1.1. Advancements in Technological Accuracy

Before the enactment of the Digital Millennium Copyright Act (DMCA) in the United States, some professionals argued that the infringement liability imposed on online service providers (OSPs) under the proposed bill was overly stringent. The industry was even more vocal, stating that without reasonable limitations on the liability of OSPs, they would reduce necessary investments in relevant fields. [3] Given the strong opposition, the final version of the DMCA readjusted the allocation of responsibilities between OSPs and copyright holders. It primarily assigned the responsibility of detecting infringements to copyright holders, while OSPs were only required to take necessary measures upon receiving infringement notifications to be exempted from liability.

In interpreting this responsibility allocation scheme, federal courts pointed out that OSPs should not be burdened with an excessive duty to prevent copyright infringements, considering the technological limitations at that time. In other words, due to the constraints of technological conditions, it was impractical to impose such a responsibility on OSPs as a matter of course. Similarly, during the revision process of China's Copyright Law, similar issues arose. Article 69 of the Copyright Law stipulates that if an OSP only provides purely technical services, it is not required to undertake the obligation of copyright review. The National Copyright Administration also explained that, given the technological status at that time, it was not feasible to effectively review whether online content had been authorized by copyright holders, making it unreasonable to impose such a review obligation (i.e., a filtering obligation) on OSPs.

However, in recent years, an increasing number of judicial practice cases have demonstrated the practical possibility of imposing filtering obligations on OSPs. Taking the "Dafra v. Google" case heard by the Brazilian Superior Court of Justice in 2014 as an example, the court dismissed Google's defense based on technological infeasibility, arguing that Google had the capability to prevent the re-uploading of infringing content as requested by the plaintiff. Additionally, in the aforementioned "Yunnan Chonggu Case," the judge also pointed out the obvious limitations of the "notice-and-takedown" rule, suggesting that the obligations of OSPs should not be confined to this alone. With the continuous development of technology, filtering obligations should be incorporated into the scope of necessary measures.

3.1.2. Significant Flaws in Existing Filtering Technologies

Currently, mainstream filtering technologies mainly include metadata filtering, hash function comparison, and feature-based questioning techniques. These technologies all rely on databases to operate. Specifically, metadata filtering identifies infringing content by comparing the metadata information of works; hash function comparison matches files based on their hash values containing the content of works; and feature-based questioning techniques focus on the characteristics of work content to identify and filter copyright-infringing content.

However, these filtering technologies face numerous challenges in practical applications. When users intentionally or unintentionally modify works or convert file formats, the metadata or hash values of the works change accordingly. In such cases, the filtering system may misjudge due to these altered values, leading to improper filtering and failing to achieve the desired filtering effect. Such improper filtering is highly likely to infringe upon users' reasonable rights to expression. For instance, users may only engage in reasonable secondary creations or format conversions of works but face restrictions due to misjudgments by the filtering system.

Moreover, the manipulability of filtering standards poses hidden risks for the abuse of private power. Taking Google's early ContentID system as an example, Google not only utilized the system to control information content but also marketed this "control power" to copyright holders. Copyright holders and OSPs reached certain "cooperations" to restrict users' fair use and free expression through filtering technologies. More severely, when this "control power" is "monetized," i.e., when copyright holders or OSPs use filtering technologies to gain economic benefits, filtering technologies become effective tools for controlling information dissemination. This undoubtedly constitutes a significant disaster for users' private rights such as freedom of speech and fair use.

3.2. High Economic Costs Inducing Unfair Competition Dilemmas

At present, the implementation costs of filtering technologies remain prohibitively high, and their practical feasibility is still subject to significant debate. Despite the continuous development and innovation of filtering technologies, the economic investment required to construct a comprehensive filtering system remains substantial. If the filtering obligation is elevated to a statutory obligation for OSP platforms, numerous small platforms will face severe financial pressures and be unable to bear the economic costs. In contrast, enterprises

possessing advanced filtering system development technologies will gradually dominate the market with their technological advantages.

From the perspective of competition law, the phenomenon of uneven filtering effectiveness caused by differences in platform capabilities seriously disrupts the market competition order. Large platforms, leveraging their technological advantages in filtering, can more effectively curb copyright infringements, attract more users and copyright resources, and further consolidate their market positions. In contrast, small platforms, due to financial constraints, are unable to equip themselves with effective filtering systems and are at a disadvantage in copyright protection. User rights and interests are difficult to be fully guaranteed, and they may eventually be eliminated from the market. Over time, the industry will form a "Matthew effect" where the strong become stronger and the weak become weaker, hindering market innovation and diversified development and undermining a fair competitive market environment.

3.3. Collaboration, Sharing, and Macroeconomic Regulation to Address Unfair Competition Concerns

Meanwhile, there is a perspective arguing that the high economic costs of filtering measures do not necessarily imply that every online service provider (OSP) needs to make redundant investments. From a technological implementation standpoint, the core of filtering measures lies in the self-built information databases provided by copyright holders for content comparison on platforms. If multiple online platforms can reach cooperative agreements on the implementation of filtering measures, these databases can be replicated and shared at nearly zero marginal costs. For instance, Google's Content ID system could collaborate with other online service providers. Even if a paid sharing model is adopted, the cost would still be significantly lower than the capital, human, and time resources required for other online service providers to independently develop filtering systems.

Furthermore, in response to the unfair market competition concerns raised by opponents, the state can intervene and guide through macroeconomic regulatory means. On one hand, the government can introduce special support policies, providing financial subsidies, tax incentives, and other support to small online service providers, thereby lowering the economic threshold for them to undertake filtering measures. On the other hand, an industry-wide public information database can be established to integrate resources from various parties, achieve information sharing, and avoid redundant construction. Through these initiatives, a balancing mechanism can be constructed between large online service providers capable of bearing the costs of filtering measures and small ones unable to do so, ensuring that all platforms have equal competitive conditions in terms of copyright protection. This effectively circumvents the occurrence of unfair market competition and maintains a healthy and orderly market competition environment.

Based on the multi-dimensional analysis presented earlier, the author believes that employing filtering measures as an effective means to strengthen the duty of care for online service providers is practically feasible. From a policy orientation perspective, this viewpoint also receives strong support. In the early stages of internet development, the principle of "technological neutrality" served as a core defense argument for technology providers to evade responsibility. At that time, proponents of this view argued that technology providers were only responsible for building technological platforms and should not bear fault liability for infringements committed by technology users through these platforms. Numerous online service providers used this as a shield to refuse responsibility for damages arising from user infringements. For example, in early copyright infringement disputes, some online service providers insisted that they only provided information storage and transmission services, lacking both the capability and obligation to review whether user-uploaded content was infringing, attempting to thereby evade infringement liability. [5] However, in recent years,

with the rapid development of internet technology and profound changes in business models, the applicability of the technological neutrality principle has been continuously eroded. Nowadays, technology is no longer merely a neutral tool; its design and application processes are imbued with the subjective value orientations of designers. [6] Online service providers, who once adhered to the "non-intervention" philosophy and merely played the role of information "conduits," are now deeply involved in the information dissemination process through algorithmic technologies. Through complex algorithmic models, online service providers can not only accurately analyze users' behavioral habits and interests but also actively filter, sort, and recommend vast amounts of information, thereby comprehensively guiding users' information acquisition.

The "Opinions on Strengthening the Governance of Science and Technology Ethics" issued by the General Office of the CPC Central Committee and the General Office of the State Council explicitly emphasize the continuous promotion of "science and technology for good and the benefit of humanity." This policy orientation profoundly reflects the contemporary demand for the coordinated advancement of technological development and ethical construction. In the academic realm, research paradigms are also undergoing a profound transformation from "technological neutrality theory" to "science and technology for good theory." From a technological ethics perspective, the so-called "good" in a technological context carries dual connotations: firstly, it refers to the ethical value attributes inherent in technology itself; secondly, it embodies the positive social benefits achieved through the application process and outcomes of technology.

Filtering technology, as a central instrument in the regulation of online spaces, embodies a specific value-driven approach. Examining its inherent technical characteristics reveals that filtering is not a value-free tool; instead, it operates with defined value assumptions and operational objectives. Its primary function centers on the precise detection of illicit and infringing material online, offering crucial technical assistance to service providers in order to facilitate swift corrective actions. This, in turn, aims to protect the rights and interests of copyright owners and sustain a secure and well-managed digital ecosystem. This functional role inherently diverges from the principle of “technological neutrality,” which asserts that technology itself is devoid of value judgments. Conversely, filtering technology, from its initial design, carries a distinct value mission: to locate and screen out unlawful and infringing content.

Among various aspects, in the field of public law governance, the criticality of filtering technology is becoming more and more evident. When confronted with the situation where harmful information such as online violent information and terrorist information spreads particularly wildly everywhere, filtering technology, with its efficient and accurate identification ability, It has become a key line of defense for safeguarding national security, maintaining social stability and protecting public interests. Without the effective support of filtering technology, public law regulations on harmful information would face immense challenges, struggling to achieve timely and effective governance objectives.

Given this, establishing a scientific, rational, and comprehensive system of norms for filtering technology is instrumental in guiding market entities to engage in orderly competition and cooperation within the framework of the rule of law and business ethics, fostering the benign development of the market ecosystem. Simultaneously, it can enhance the precise identification and efficient regulation of piracy and infringement, thereby improving the effectiveness of copyright protection. The proper and compliant application of filtering technology not only aligns with the value orientation of technology serving the public interest but also represents a key practical pathway for promoting the synergistic advancement of technological ethics and innovation, as well as practicing the concept of "science and technology for good."

4. The Possibility of Introducing Copyright Content Filtering Obligations from an Extraterritorial Perspective

4.1. The European Union: Legislation Establishing a Mandatory Filtering Mechanism

Unlike the copyright legislative practices in countries or regions such as the United States and China, the European Union's existing legal framework explicitly incorporates copyright content filtering obligations as mandatory norms in its statutes. On September 14, 2016, the European Commission officially issued the Directive on Copyright in the Digital Single Market (hereinafter referred to as the "EU Copyright Directive"), introducing, for the first time at the EU level, a mandatory copyright content filtering mechanism. This legislative initiative was underpinned by profound historical contexts and industrial demands.

During the period from 2000 to 2010, internet technology witnessed rapid development, with information dissemination modes evolving from traditional one-way outputs from websites to users to interactive exchanges between users and websites. Meanwhile, significant disparities existed among EU member states in copyright legislation and regulation, further complicated by linguistic and cultural diversity, exacerbating the complexity of copyright protection. Against this backdrop, constructing a unified and efficient EU copyright law framework became an urgent priority.

In the process of building a unified EU copyright framework, service providers in the music industry pioneered the concept of the "Value Gap." The Value Gap refers to the substantial disparity between the revenue generated by online service providers from music copyrighted works and the remuneration received by music copyright holders from online platforms. The core issue lies in the fact that online platforms often circumvent normal copyright licensing rules when providing music services, leading to a severe imbalance in the distribution of benefits between copyright holders and online service providers. [7]

Furthermore, large amount of online service providers exploited loopholes in the "Notice and Takedown" rule to in order to unfairly utilize the valuable intellectual property resources of the music industry. Under the "Notice and Takedown" regulation, online service providers only review and handle user-uploaded content upon receiving infringement notifications from copyright holders, resulting in the prolonged existence of a substantial amount of infringing content on online platforms, severely infringing upon the legitimate rights and interests of copyright holders. To effectively balance the distribution of benefits between copyright holders and online service providers and narrow the widening Value Gap, the EU Copyright Directive introduced a mandatory filtering mechanism. According to this mechanism, copyright holders and online service providers are first required to reach a cooperation agreement, with copyright holders providing online service providers with a database of their copyrighted works. When users upload content, the online service provider's filtering system automatically compares the uploaded content with the data in the copyright database. If similar or infringing content is detected, the user-uploaded content is automatically blocked and cannot be uploaded to the online platform.

Compared with the traditional "Notice and Takedown" rule, the new filtering mechanism offers significant advantages. Under the "Notice and Takedown" rule, user-uploaded content is not subject to prior review, and online service providers only take action upon receiving infringement notifications from copyright holders. This ex post facto review mechanism is not only inefficient but also struggles to effectively curb the dissemination of infringing content. In contrast, the new filtering mechanism enables prior review of user-uploaded content, promptly detecting and preventing the upload of infringing content, thereby more effectively safeguarding the legitimate rights and interests of copyright holders.

4.2. The United States: Adopting Voluntary Filtering Measures

The United States established the safe harbor provisions in the Digital Millennium Copyright Act (DMCA). Over the past two decades since its implementation, the United States has twice attempted to introduce a mandatory filtering mechanism, both of which have failed to materialize.

4.2.1. First Attempt: The Stop Online Piracy Act (SOPA)

Section 103(b) of the Stop Online Piracy Act (SOPA) stipulates that if an intellectual property rights holder identifies a website as a "site dedicated to theft of U.S. property," they may send notifications to the website's payment system providers and advertising service providers, demanding that they terminate their services to the website. Section 103(a)(1) defines a "site dedicated to theft of U.S. property" as a website that "offers services in a manner that facilitates or assists others in infringing intellectual property rights." [7] However, this definition is extremely vague. In practice, any website that provides storage space, search, or linking services could potentially be deemed as facilitating or assisting others in infringing intellectual property rights under the Act.

For copyright holders, this provision significantly safeguards their interests. They merely need to subjectively identify a website as infringing to request that payment system providers and advertising service providers sever ties with the website. However, for online service providers, this provision is akin to a sudden storm, completely overturning the predictability and certainty of the traditional safe harbor provisions. Online service providers, when faced with such demands, find it difficult to determine whether their actions constitute infringement, and any business activities could potentially expose them to infringement risks. This Act faced strong opposition from numerous internet companies and ultimately failed to pass.

4.2.2. Second Attempt: The U.S. Copyright Office's "Section 512 Study" in 2015

In 2015, the U.S. Copyright Office launched the "Section 512 Study" project, which centered on discussions about whether to abolish the "notice-and-takedown" rule and whether to introduce filtering obligations.

Proponents of introducing filtering obligations argued that when the safe harbor provisions were formulated, digital information technology was still in its infancy, and online infringement methods were relatively simple. However, online infringement and piracy have now become increasingly severe, far exceeding the levels at the time the safe harbor provisions were established in 1998. The provisions are no longer suitable for the current online environment and cannot effectively curb infringement activities. They also pointed out that the original safe harbor provisions aimed to balance the interests of internet companies in being exempt from infringement liability and the public's right to freedom of expression without censorship.

Opponents, on the other hand, argued that the main proponents of introducing filtering obligations were internet giants such as Google and Facebook, which possess substantial financial and technological capabilities to implement filtering mechanisms, but not all enterprises have such abundant resources. Due to significant disagreements between the two sides, the study project ultimately failed to make substantive progress, and relevant discussions were shelved.

5. Conclusion

Given the rapid development of digital information technology and the limitations of the safe harbor provisions, the introduction of filtering technology is imperative. As previously discussed, there are three main types of filtering technologies, each with its own advantages and disadvantages, as well as differing technical principles. When incorporating filtering technology into the scope of online service providers' duty of care, legislators should

comprehensively weigh the pros and cons of various filtering technologies to formulate the most suitable plan tailored to China's national conditions.

In response to the current objections raised against filtering technology, the author believes that these issues are insufficient to offset the convenience brought by the introduction of filtering technology in governing the online infringement environment. For instance, concerns about infringing upon private rights can be effectively regulated through technological advancements and legislative improvements. Regarding the issue of unfair competition arising from high economic costs, the author argues that if filtering technology is to be introduced, the costs should not be entirely shifted to online service providers. Imposing both the substantial technological costs and the duty of care on online service providers is clearly unfair. The costs associated with the introduction of filtering technology should be shared by all sectors of society, with public authorities and social organizations playing active roles. In summary, the introduction of filtering technology is urgent, and the construction of a reasonable filtering technology system requires collaborative efforts from all parties involved.

References

[1] Directive on Copyright in the Digital Single Market, 2019/790, European Parliament and of the Council, 17 April 2019.

[2] European Commission. (2015). A digital single market strategy for Europe: Boosting growth and creating jobs across the EU. European Commission.

[3] He, L. H., Dai, X., He, L. H., et al. (2024). On the application and implementation of copyright content filtering obligations for online platforms. Science Technology and Law, (02), 64-76.

[4] Liu, Y. H., & Li, Y. F., Liu, Y. H., et al. (2023). Questioning the mandatory copyright filtering obligation of short video platforms and optimizing the rules of liability. Law Science Magazine, 44(03), 138-156.

[5] Wan, Y. (2021). The Chinese option for the mandatory filtering mechanism of copyright law. Studies in Law and Business, 38(06), 184-196.

[6] Wei, L. L. (2018). Theory and practice of network platform responsibility: Also on the connection with China’s e-commerce platform responsibility system. Journal of Beijing University of Aeronautics and Astronautics (Social Sciences Edition), 31(06), 7-15.

[7] Xiong, Q. (2023). The multiple attributes and local generation of copyright filtering mechanism. Law Science, (07), 121-133.

[8] Zeng, X., Zhang, L., Zeng, X., et al. (2022). Reconstruction of “notice and removal” obligation of network service providers in the era of algorithms. Inquiry into Business Economics, 29(06), 75-83.

[9] Zhang, J. C. (2024). On the copyright content filtering obligation of online service providers: Constraints and solutions. Science Technology and Law, (01), 81-90.