

CHAPTER

8

INTELLECTUAL PROPERTY CHALLENGES IN DIGITALISATION ERA

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8.1 INTRODUCTION

The late 20th century saw a shift from traditional industrial economies to a digital economy driven by information technology. Innovations on the internet, cloud computing, and telecommunications have transformed industries, communication, education, and entertainment (Mohd Javaid et al., 2024). While digital technologies have fostered accessibility and creativity, they have also increased risks of intellectual property (IP) infringement, unauthorised usage, and piracy. This shift has forced lawmakers, businesses, and creators to rethink traditional IP protection mechanisms.

Copyright is among the most impacted areas, as digital content—including text, audio, video, software, and artworks—can be easily duplicated and distributed, leading to financial losses for creators (Litman, 2001). Evolving digital platforms require updated legal frameworks to combat violations. Additionally, patent and trademark protections face challenges from rapid technological advancements. Social media platforms like Facebook, Instagram, and TikTok have

reshaped user-generated content, while e-commerce giants such as Amazon and Alibaba have transformed product distribution. Mobile applications like Uber and WhatsApp have altered communication and services, and artificial intelligence tools such as OpenAI are redefining content creation. Cloud computing and big data solutions, including Google Drive and OneDrive, have revolutionised information storage and access.

These advancements have intensified concerns over copyright infringement, trademark dilution, and patent disputes, necessitating stronger legal measures (Samuelson, 2020). As digitalisation evolves, IP laws must adapt to balance innovation and protection. This chapter examines the complexities of IP management in the digital age, analysing the effect of digital technologies on intellectual property.

8.2 COPYRIGHT CHALLENGES IN THE DIGITAL WORLD

The rapid advancement of the internet has transformed the way information is accessed, uploaded, and distributed globally. Digital platforms allow users to share music, books, and videos in high-quality formats without degradation, posing significant challenges to copyright enforcement. The decentralised nature of digital networks, where data is stored across multiple nodes, makes it nearly impossible to permanently remove copyrighted content once uploaded (Mohd Javaid et al., 2024). As a result, the digital age has introduced complex copyright infringement issues, affecting various forms of media, including e-books, music, videos, digital art, and other digital assets.

8.2.1 Common Types of Copyright Infringement in the Digital Age

The expansion of digital content has had a profound impact on the publishing industry, particularly in the form of e-book piracy. The use of electronic books among publishers, retailers, and libraries for educational, recreational, and personal purposes has steadily increased

(Bennett & Landoni, 2005; Embong et al., 2012). Since e-books are typically distributed in formats such as PDF and Microsoft Word, they can be easily uploaded and downloaded globally, facilitating unauthorised sharing without quality loss. One major reason for e-book piracy is the high cost of textbooks, which pushes students to seek illegal alternatives (Carbaugh & Ghosh, 2005). Furthermore, platforms such as Library Genesis provide access to copyrighted books for free, leading to substantial financial losses for authors and publishers (Digimarc, 2017). As accessibility to digital copies continues to challenge traditional publishing models, stronger copyright enforcement mechanisms are essential to safeguard intellectual property in the digital age.

The entertainment industry has also been significantly affected by digital piracy. The rise of over-the-top (OTT) streaming services, including Netflix and Amazon Prime Video, has revolutionised content delivery (Turner, 2019). However, many users seeking to avoid high subscription costs resort to piracy (Blackburn et al., 2019). Online piracy involves unauthorised duplication and distribution of digital content, including movies, music, and software, without compensation to copyright holders (Higgins et al., 2007). According to Britton (2018), movie piracy remains the most prevalent, followed by music piracy, with peer-to-peer (P2P) file sharing, illegal download sites, and unauthorised streaming services being the primary methods of infringement. The continued existence of piracy methods highlights the ongoing struggle faced by copyright enforcers in a digital world where content is easily replicated and distributed.

Another major copyright enforcement challenge stems from cloud storage services such as Google Drive and Mega.nz, which allow users to share copyrighted content via private links. These encrypted platforms provide enhanced privacy, making it difficult for copyright holders to track and prevent unauthorised sharing (Goel et al., 2010). The conflict between user privacy and copyright enforcement raises concerns about the effectiveness of traditional anti-piracy measures in protecting digital content.