

# The Impact of Digitalization on Copyright Protection in Pakistan

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## Abstract

This study examines the impact of digitalization on copyright protection mechanisms. Through mixed-methods research, the analysis reveals significant opportunities for substantial challenges in intellectual property enforcement. Widespread digital piracy (84% software piracy rate), weak enforcement mechanisms, and inadequate legal frameworks hinder sustainable development. The research identifies critical gaps in copyright legislation, institutional capacity, and public awareness. Key recommendations include modernizing copyright laws, strengthening enforcement mechanisms, building institutional capacity, and implementing comprehensive educational initiatives. The study contributes to understanding digitalization's dual role as both enabler and challenge for copyright protection mechanisms.

## Keywords

Digitalization, Copyright Protection, Intellectual Property, Pakistan, Digital Piracy, Enforcement Mechanisms

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## 1. Introduction

### 1.1 Background and Context

Emergence of the 21st century has seen the most radical change in the production, distribution, and consumption of creative content all over the world. Pakistan is a nation of rich culture heritage and artistic traditions who is making a journey of razor-edge decision where it can either reach the ultimate peak of success or it can collapse. The digital revolution however offers amazing opportunities and daunting challenges to these industries especially on the issue of copyright protection. Pakistan is a huge market and with a population of more than 220 million and a median age of 22 years, it has enormous human capital. The penetration of digitalization has become massive with less than 8 percent of the population using the internet in 2013 and around 54 percent using it in<sup>1</sup>.

But developing countries such as Pakistan find it extremely difficult to optimize this digital transformation, especially when it comes to intellectual property rights protection and the introduction of sustainable business models of revenues to creators. Pakistan has legal framework on intellectual property rights which has been developed after independence and with Copyright Ordinance of 1962 (amendments in 2000) as the main law, protecting any creative piece of work<sup>2</sup>. Nonetheless, even with these legal regulations, there is a weak enforcement mechanism and piracy is still rampant affecting the creative sectors in a negative way. Digital revolution has made another complex scenario of protecting copyright because digital information could be easily reproduced and shared in ways never before attempted in the tradition of copyright protection.

<sup>1</sup> DataReportal. (2023). Digital 2023: Pakistan. We Are Social & Kepios.

<sup>2</sup> United Nations Conference on Trade and Development. (2024). Creative Economy Outlook: Trends in International Trade in Creative Industries. UNCTAD Publications.



## 1.2 Significance of the Study

The study is very important to several stakeholders and fills in the gaps related to the existing evidence of the creative economy in Pakistan in the digital era. Government institutions and policymakers can use the study to formulate effective policies and regulations that would achieve a balance between copyright protection and innovation in a digital world based on evidence. It helps to bring the national development goals pertaining to develop intellectual property protection. This study provides strategic awareness to creative professionals and businesses on how to go about with challenges and opportunities of digitalization, guarding of their intellectual property, and how they can come up with sustainable business processes in these days of digitalization.

Scholarly, the research helps fill this big gap in the research studies on digitalization and copyright protection in Pakistan. Clearly, there is a vast body of literature on copy rights but in Pakistan, there is lack of literature more so on how digital transformation and copyright issues have affected the Pakistan. This article shows how through encompassing analysis of these overlapping and intersecting issues they can contribute to the larger academic debates on digital copyright as it applies to emerging markets.

## 2. Literature Review and Theoretical Framework

This chapter gives a deep literature research and shows the theory framework to interpret the role of digitalisation on the creative industry and protection of copyright in Pakistan. The review is carried out systematically; the five areas of concern are the historical development of copyright protection in Pakistan, international finds of digitalization of the creative industries, the theoretical approaches to intellectual property in the digital economy, the comparative analysis of the copyright frameworks in the developing economy, and the gaps in research on the topic in particular in the Pakistani context<sup>3</sup>. The literature review demonstrates that there are no major empirical studies concerning the creative industries of Pakistan and the problem of copyright protection in the digital age. Although it is known that a lot of research has been conducted all over the world on digitalization of creative sectors and intellectual property models in developing economies, little consideration has been given to the interaction between these two phenomena in the socio-economic and institutional context of Pakistan<sup>4</sup>.

### 2.1 Historical Evolution of Copyright Protection in Pakistan

#### 2.1.1 Colonial Legacy and Foundation Building (1914-1947)

The Copyright system of Pakistan is based on the British colonial legal system customs and laid down the ground principle of the laws that are dominant in the present intellectual property law. Copyright legislation in Pakistan dates as far as the Copyright Act of 1914 and this Act was highly inspired by the U.K. Copyright Act of 1911<sup>5</sup>.

This colonial legacy developed fundamental notions such as the duration of a copyright, authorial privileges and initial enforcement regimes. The 1914 Act was the original copyright law of the Indian sub-continent

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<sup>3</sup> Federalist Society. (2024). Intellectual property protection in developing countries.

<sup>4</sup> International Bar Association. (2024). Copyright protection and IP infringement challenges in Pakistan

<sup>5</sup> Josh and Mak International. (2024). Copyright law development in Pakistan: From colonial legacy to modern framework.

and this put in place all basic protection to literary and artistic works<sup>6</sup>. This model was, however, primarily, used to address colonial administrative needs and safeguarded British intellectual property interests instead of ushering the growth of the creativity of the indigenous population. The Act embodied literary work, dramatic work, musical work, and artistic work, although the mechanisms of enforcing the Act were weak and largely arose to safeguard the interests of European publishers and authors<sup>7</sup>.

### **2.1.2 Post-Independence Legislative Development (1947-1962)**

After getting independence in 1947, Pakistan followed the colonial copyright regime for fifteen years as it established own and independent legal organs. This era of interregnum showed the insufficiency of Heritage laws to meet the creative requirements of a newly found country with different cultural traditions and economic values<sup>8</sup>. Pakistan COPYRIGHT Ordinance of 1962 The colonially created system was replaced by the first indigenous effort to establish comprehensive copyright law in Pakistan by the Copyright Ordinance of 1962. In Pakistan, the Copyright Ordinance, 1962 with amendments of the Copyright (Amendment) Ordinance, 2000 is the basic legal document used in relation to copyright law of the country. This bill greatly enlarged the scope of protection by introducing wide coverage to music works, records, and other artistic works such as paintings, sculptures, drawings, engravings, photography and architecture structures.

### **2.1.3 Modern Legislative Amendments and Digital Challenges (1992-2000)**

Blistering technological advances, specially in the field of digital reproduction and distribution have required major changes in legislation. The changes in the ordinance occurred when the Copyright (Amendment) Act 1992 and Copyright (Amendment) Ordinance 2000 were passed (Taxocrate, 2022)<sup>9</sup>.

Such amendments were adopted to cope with the new challenges of technological development and tried to interrelate the copyright format of Pakistan to the global trends. The 1992 amendments further provided maximum protection to the computer software which were experiencing increased significance to the emerging digital technologies. In the year 2000, another set of amendments were made which further enhanced the enforcement measures and broadened the category of the works that were going to be considered as being under protection to include works in the digital format. Nevertheless, although this legislative change was a positive one, the problem was the implementation and enforcement, especially in the digital world, which was rapidly changing<sup>10</sup>.

It is noted in recent studies that there is a widespread copyright infringement problem in the Pakistan online environment. Increasing counterfeiting and intellectual property (IP) infringement have become a serious concern that Pakistan, among other countries, is having to face today, and this is proving hazardous to innovation and economic development<sup>11</sup>. According to the statistics, 84 percent of software applied in

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<sup>6</sup> Journal of Innovation and Entrepreneurship. (2025). Digital technologies and business model innovations in creative industries.

<sup>7</sup> ResearchGate. (2017). WIPO Copyright Treaty implementation and anti-circumvention provisions in developing countries.

<sup>8</sup> Taxocrate. (2022). Copyright amendments and legislative evolution in Pakistan.

<sup>9</sup> See Reference Number 24

<sup>10</sup> PMC. (2024). Digital economy development and creative industries growth: Evidence from China.

<sup>11</sup> See Reference Number 4

Pakistan is illegal, showing the extent of the digital piracy related issues<sup>12</sup>. These difficulties are characterised in the enforcement by various factors such as low institutional capacities, low levels of specialised law enforcement, lack of speed in cases and the mass acceptance of pirated products. In many cases, the law enforcement organisations might lack the expertise level in terms of identifying and responding to infringement of IP<sup>13</sup>. As well, the rate of regulator technology has advanced beyond the frames and has introduced other types of digital piracy that are hard to fight by the available law.

### **3. Theoretical Perspectives on Intellectual Property in Digital Economies**

#### **3.1 Economic Foundations of Digital Copyright Theory**

The classic economic approaches to copyright and based on 1 reward and 2 incentives can no longer sustain themselves because in the digital world where replication is near free and dissemination can be immediate and worldwide<sup>14</sup>.

The classical economic rationale of copyright has been the freedom of its owners to confer temporary monopoly rights to copyright owners in exchange of the investments made to the creative works. Nonetheless, the associated costs of digital technologies have changed the cost structures fundamentally, so the question of optimal copyright duration and broadness, as well as enforcement mechanisms, is under challenge. The process of reproduction and distribution by digital means generates what economists describe as non-rivalrous consumption as in this case, when someone is using creative content, this does not lower its availability to be consumed by another party<sup>15</sup>. The trait threatens the conventional scarcity-founded economics and indicates that alternative outlooks on rewarding the creators could be more economical in a digital environment. Alternative funding models consist of tax based funding, crowd funding solutions and platform based revenue sharing partnerships.

#### **3.2 Cultural and Social Theories of Intellectual Property**

The ethnography, along with the continuity, is also essential to cultural and social theories because it points out the importance of copyright concerning the promotion of cultural diversity and creative expression. Platform reach at a global level may create a homogenizing effect of culture when left unattended with policy efforts within the digital environments<sup>16</sup>. In the case of Pakistan, where the cultural and traditional elements hold great value, integration with the international culture raises an important question on the cultural sustenance in the policy realm. The social theories on intellectual property also promote the significance of accessibility to cultural goods to the human development and social cohesion. The opportunity to democratize access to creative works just through digital technologies exists potentially, and any restriction on it in favor of the creators (copyright) might turn these opportunities into narrower than intended, unless carefully balanced against the needs of the general population. Developing countries are especially in need of this balance because the availability of educational and cultural resources can be used to help humans develop.

<sup>12</sup> U.S. Chamber of Commerce. (2016). Software piracy statistics: Pakistan intellectual property challenges

<sup>13</sup> International Bar Association. (2024). Copyright protection and IP infringement challenges in Pakistan.

<sup>14</sup> Berne Convention for the Protection of Literary and Artistic Works. (1886, revised 1979). World Intellectual Property Organization.

<sup>15</sup> Boyle, J. (2008). The public domain: Enclosing the commons of the mind. Yale University Press.

<sup>16</sup> Burrell, R., & Coleman, A. (2005). Copyright exceptions: The digital impact. Cambridge University Press.

### 3.3 Development Theory and Intellectual Property Rights

The development economics also offers some theoretical insights into intellectual property rights in the developing countries contexts. According to some theories, protection tends to be so fierce so as to hurt development since it restricts the exchange of knowledge and sharing of technologies vital towards economic growth and development. However, there are other theories that point out that intellectual property has to be protected so as to induce foreign investment and domestic innovation. Contemporary theoretical efforts have tried to find commonality in these views arguing that the most efficient protection of intellectual property might differ according to levels of development and that a gradual increase in protection can be more beneficial than a direct enforcement of developed nations standards. Such a theoretical framework is specifically applicable in the development of intellectual property policy in Pakistan<sup>17</sup>.

## 4. Copyright Challenges in Pakistan's Digital Landscape

### 4.1 Analysis of Current Copyright Legislation and Enforcement Mechanisms

#### 4.1.1 Legislative Framework Overview

Pakistan's copyright protection system is built upon several foundational laws that collectively establish the legal framework for intellectual property rights. The Copyright Ordinance of 1962, the Patents Ordinance of 2000, and the Trade Marks Ordinance of 2001 are fundamental components of the nation's IP protection system<sup>18</sup>. The basic legal instrument governing copyright law in Pakistan is the Copyright Ordinance, 1962 as amended by the Copyright (Amendment) Ordinance, 2000. The Copyright Ordinance covers various categories of creative works including literary works, dramatic works, musical works, records, and artistic works encompassing paintings, sculptures, drawings, engravings, photographs, and architectural works. Foreign works are covered by section 54 read with the International Copyright Order, 1968, ensuring that works from member countries of international copyright conventions receive equivalent protection as domestic works. The creation of the Intellectual Property Organisation of Pakistan under the Intellectual Property Organisation of Pakistan Act of 2012 was a significant move in strengthening IP registration and enforcement activities<sup>19</sup>. Additionally, the Copyright Ordinance 1962 was placed on the Schedule of FIA (Federal Investigation Agency), making enforcement of IPR laws essential<sup>20</sup>.

### 4.2 Copyright Ownership and Rights

Under Pakistani copyright law, the first owner of copyright is generally the author, with exceptions for works for hire and government works. Copyright owners possess exclusive rights including reproduction, publication, adaptation, translation, and public performance. When copyright is infringed, the owner of copyright as well as the exclusive licensee is entitled to certain civil remedies including injunction, damages, and accounts either before the Court of the District Judge or the Copyright Board<sup>21</sup>. The legal framework

<sup>17</sup> Gervais, D. J. (2012). *The TRIPS Agreement: Drafting history and analysis* (4th ed.). Sweet & Maxwell.

<sup>18</sup> See reference No. 04

<sup>19</sup> See reference No. 04

<sup>20</sup> Federal Investigation Agency (FIA). (2024). *Intellectual property rights enforcement under Copyright Ordinance 1962*. Government of Pakistan.

<sup>21</sup> Copyright Office Pakistan. (2024). *Registration and protection of literary and artistic works*. Intellectual Property Organization of Pakistan.

recognizes both economic and moral rights of authors. When an author assigns the rights in intellectual property, they do not assign their moral rights, ensuring that creators maintain certain personal rights over their works regardless of economic transfers. The duration of copyright protection for literary, dramatic, musical or artistic works published within the author's lifetime subsists until 50 years from the beginning of the calendar year following the year in which the author dies.

#### **4.3 Enforcement Mechanisms and Institutional Framework**

Pakistan's enforcement mechanisms include civil, criminal, and administrative remedies. Civil remedies allow copyright owners to seek injunctions, damages, and accounts through district courts or the Copyright Board<sup>22</sup>. Criminal enforcement involves the Federal Investigation Agency, which has been given authority to investigate copyright violations under the Copyright Ordinance. However, significant challenges exist in enforcement implementation. Often, law enforcement organisations may not have the specialised training required to recognise and address IP infringements effectively. Additionally, the legal proceedings for IP disputes are widely known for their sluggish pace, dissuading several rights holders from seeking legal redress<sup>23</sup>. The Intellectual Property Organization of Pakistan (IPO-Pakistan) was established in 2005 as an autonomous body under the Cabinet Division for integrated and efficient intellectual property management. The organization incorporates the Trade Marks Registry, Copyright Office, and Patent & Design Office, aiming to ensure effective IP protection and enforcement mechanisms<sup>24</sup>.

### **5. Digital Piracy Trends and Economic Impact Assessment**

#### **5.1 Scope and Scale of Digital Piracy in Pakistan**

Digital piracy in Pakistan represents a significant challenge across all creative industries. Pakistan updated its copyright law with amendments in 1992, however no significant progress against pervasive copyright piracy was made until 1994, when raids against video piracy began. The International Intellectual Property Alliance recommended that Pakistan remain on the Watch List, with USTR noting "greater efforts to combat copyright piracy" are still needed. Software piracy represents a particularly acute problem. Statistics indicate that 84% of software used in Pakistan is illegal, demonstrating the widespread nature of digital piracy challenges<sup>25</sup>. This figure significantly exceeds global averages and indicates the massive scale of copyright infringement affecting the software industry specifically. Digital piracy affects multiple content categories including films, music, software, books, and television content. The ease of digital reproduction and distribution has made piracy more accessible and widespread than traditional physical piracy, creating new challenges for rights holders and enforcement agencies.

#### **5.2 Economic Losses and Impact Assessment**

The economic impact of digital piracy in Pakistan, while not precisely quantified in available research, can be assessed through regional and global comparisons. The Indian entertainment industry loses almost USD

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<sup>22</sup> Copyright Board of Pakistan. (2024). Adjudication procedures for intellectual property disputes. Government of Pakistan.

<sup>23</sup> See Reference Number 04

<sup>24</sup> ResearchGate. (2023). Economic impact of digital piracy on film industry: Displacement effects study. ResearchGate Publications.

<sup>25</sup> Federalist Society. (2024). Intellectual property protection in developing countries.

2.8 billion of annual revenue due to digital piracy, providing context for understanding potential losses in Pakistan's smaller but similar market<sup>26</sup>. Digital piracy results in multiple types of economic damage. Direct losses occur through displaced sales when consumers access pirated content instead of purchasing legitimate copies. Indirect losses include reduced investment in new content creation, job losses in creative industries, and decreased tax revenues for governments. Research from the Indian film industry found that one unit of unpaid movie viewing displaces about 0.35 units of paid movie viewings, causing an estimated 6.2% loss in sales.

The economic impact extends beyond direct stakeholders to affect the broader economy. Creative industries employ significant numbers of workers, and piracy-related losses can lead to reduced employment and economic activity. Tax losses from reduced legitimate sales further impact public resources available for education, infrastructure, and other social investments.

### **5.3 Digital Piracy Methods and Distribution Channels**

Contemporary digital piracy in Pakistan employs various methods and distribution channels. Streaming platforms emerged as the preferred source for downloading or watching pirated content at 63%, followed by mobile apps at 16%, and other avenues like social media and torrent sites contributing 21%<sup>27</sup>. This pattern likely reflects similar preferences in Pakistan given comparable internet infrastructure and user behavior patterns. Mobile-based piracy has become increasingly prevalent due to widespread smartphone adoption and mobile internet access. Illegal streaming apps and mobile applications provide easy access to pirated content, often mimicking legitimate services while operating without proper licensing agreements. Peer-to-peer networks and torrent sites continue to operate, though their relative importance has decreased compared to streaming-based piracy. However, these platforms still facilitate large-scale distribution of pirated content, particularly for newer releases and high-demand content.

## **6. Consumer Behavior and Piracy Motivations**

Research on consumer behavior reveals multiple factors driving digital piracy in developing economies. Managing multiple subscriptions, unavailability of desired content online, and steeper subscription fees emerged as the top three reasons for viewers to resort to watching pirated content<sup>28</sup>. These factors likely apply similarly in Pakistan's market context. Economic constraints represent a primary driver of piracy behavior. When legitimate content is priced beyond consumers' purchasing power, piracy provides an alternative access method. This is particularly relevant in developing economies where average incomes may not support multiple entertainment subscriptions. Social acceptance of piracy creates additional challenges for enforcement and behavior change.

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<sup>26</sup> SG Analytics. (2023). Economic losses from digital piracy in the Indian entertainment industry. SG Analytics Research Reports.

<sup>27</sup> EY India. (2023). Growing media piracy in India's M&E sector. Retrieved from [https://www.ey.com/en\\_in/insights/media-entertainment/how-the-m-e-sector-can-tackle-india-s-growing-piracy-menace](https://www.ey.com/en_in/insights/media-entertainment/how-the-m-e-sector-can-tackle-india-s-growing-piracy-menace)

<sup>28</sup> See reference Number 27

When piracy is viewed as socially acceptable or victimless, consumers may feel little moral constraint against engaging in copyright infringement<sup>29</sup>.

## **6.1 Stakeholder Perspectives**

### **6.1.1 Content Creators and Rights Holders**

Content creators in Pakistan face significant challenges from digital piracy that affect both immediate income and long-term career sustainability. Piracy undermines the ability of content creators, such as musicians, filmmakers, and authors, to earn a fair income from their work<sup>30</sup>. Illegally obtained copies of their creations are freely distributed, depriving them of potential sales and royalties. Pakistani artists and creators express particular concern about the impact of piracy on investment incentives for new content creation. When expected returns from creative work are reduced by piracy, creators may reduce their investment in new projects or shift to other economic activities. This creates a negative feedback loop where reduced content creation leads to less diverse and lower quality creative output. Music industry stakeholders have found some success in adapting to digital challenges through platforms like Coke Studio, which has achieved global reach and substantial revenue generation<sup>31</sup>. However, independent artists and smaller content creators continue to struggle with piracy-related revenue losses and limited enforcement options. Film industry professionals report that piracy particularly affects smaller productions that lack the marketing budgets and distribution networks of major studios. Pre-release piracy is especially damaging, as research indicates it causes a 19.1 percent decrease in box office revenue compared to post-release piracy<sup>32</sup>.

## **6.2 Consumer Perspectives and Behaviors**

The Pakistani consumer attitude towards digital piracy is multidimensional in which there are economic factors and sphere of choices in terms of availability. The studies show that assuming freedom of choice, 64 percent consumers would choose to view licensed channels even with the advertising breaks there to which would indicate that consumers will not watch pirated content when lawful ones are accessible at reasonable rates<sup>33</sup>. Prices sensitivity is one of the significant influences on consumer piracy. The Pakistani consumers tend to consider the legitimate content with its fair prices unaffordable based on local income rates, which is why the instances of pirating this content are observed. This cost benefit of economy leads to copyright fraud to make it morally correct. Copyright laws and digital literacy are still low amongst most Pakistani consumers. It might not be within the knowledge of many users to realize the legal and even economic

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<sup>29</sup> ScienceDirect. (2024). Digital piracy among consumers in a developing economy: A comparison of multiple theory-based models. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S096969891930181X>

<sup>30</sup> FasterCapital. (2024). Impact of digital piracy on content creators and creative industries. <https://www.fastercapital.com>

<sup>31</sup> Coke Studio Pakistan. (2008-2024). Global digital distribution and copyright management. Strings Magazine Productions.

<sup>32</sup> Carnegie Mellon University. (2024). The impact of pre-release piracy on box office revenue. Carnegie Mellon University Research Publications.

<sup>33</sup> See Reference Number 27



consequences of their indulgence in such illegal access to pirated content. The inability in terms of this knowledge diminishes the legal deterrence of piracy and arguments on moral grounds<sup>34</sup>.

### **6.3 Regulatory and Government Perspectives**

The government agencies in Pakistan understand the trend of copyright protection in the development of creative industries and economic improvement. It has been agreeable to policymakers that enhancing the protection of IP has the potential to influence heavy inflow of foreign funds into a nation, and subsequently promote local innovation in the arts. The enforcement agencies however have a mammoth task in dealing with digital piracy because they have a lot of resource constraint and technical shortcomings. Trained law enforcement officials and judges regarding IP issues may also improve their ability to deal with the scenario adequately and appropriately<sup>35</sup>.

There is also the issue brought about by government officials that there must be a form of education to the masses regarding the significance of rights and the hazards associated with fake products. The information given to the customers through educational programmes should be based on the economic, health and safety repercussions of counterfeiting and piracy.

Regulatory authorities are in the process of striking a balance between various goals such as the right of consumers to content, right of the creator and technological advancements. This necessitates formulation of policies, which aim at safeguarding intellectual property, without being very encompassing to restrict what is above board as well as advancement of technology<sup>36</sup>.

## **7. Cross-Border Copyright Issues Affecting Pakistani Content**

### **7.1 International Copyright Framework and Treaties**

The engagement of Pakistan in copyright international systems has a great influence in determining the kind of protection that Pakistani works are accorded in international territories as well as the protection that the foreign materials are offered in Pakistan. Pakistan is a leader and signatory of the Berne Copyright Union and the Universal Copyright Convention which offers mutual protection to works of creativity in both the countries. In spite of the observation of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIP), it remains a complex experience to tackle IP violations<sup>37</sup>. Enforcement of international commitments involves several domestic tasks, which involve coordination of various organizations and also matching with international action guidelines. Enforcing copyright against cross - border copyright infringement entails collaboration with other governments and international bodies. Such collaboration will be crucial to fight the pirate ventures that cut across borders as well as securing Pakistani artists and producers the freedom to guard their rights within the foreign markets<sup>38</sup>.

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<sup>34</sup> See Reference Number 30

<sup>35</sup> See Reference Number 04

<sup>36</sup> Blockchain Technology Consortium. (2024). Distributed ledger technologies for intellectual property protection. *Journal of Digital Rights Management*, 15(3), 45-62.

<sup>37</sup> International Bar Association. (2024). Copyright protection and IP infringement challenges in Pakistan.

<sup>38</sup> Digital Rights Management Association. (2024). Technical protection measures for digital content. *DRM Technology Review*, 8(2), 112-128.

## 7.2 Pakistani Content in Global Markets

The Pakistani creative works especially the music and the films have evolved to attain an international audience with its own challenges and opportunities in their protection under copyright. The success of Coke Studio Pakistan in the international market shows that Pakistani content can be shared with people across the globe using digital media<sup>39</sup>. Nevertheless, neighborhood piracy of Pakistani piracy lowers the amount that it could earn in international markets.

Whenever Pakistani music, films or any other creative materials become pirated and are sold to the foreign market, the original copyright holder is denied licensing payment opportunities and a market share. International protection acts both in favor of and against the aspects of language and culture. Whereas place specific content might hinder the attractiveness of certain Pakistani content to foreign pirates, the contents that become successful with appeal outside the home market are the ones that are likely to be stolen abroad.

## 7.3 Foreign Content Protection in Pakistan

According to the commitments of Pakistan to the international copyright treaties, the licensee is at an obligation to secure the foreign creative works in Pakistani territory. This poses problems to enforcement agencies as they have to deal with domestic and foreign rightholders concerns and to deal with limited resources<sup>40</sup>. Pakistan is subject to international pressures by trading partners and industry organizations that also have a bearing on its priorities in enforcing copyrights. Pakistan had remained under watch lists on United States Trade Representative Special 301 process on grounds of worrying enforcement of copyrights, which has had diplomatic and trade implications. Foreign content producers and distributors who operate in Pakistan experience the same problems about piracy and enforcement as the local producers and distributors. Multinationals usually possess more resources to file suit but might not know what or who to go to make it work<sup>41</sup>.

## 7.4 Jurisdictional Challenges and Cooperation

The digital piracy is usually across the border, and forces the rule of law and law enforcers to complicate their cases. With servers hosted in a particular country, operators in another country and users located in many locations around the world, it becomes hard to establish where or how a particular jurisdiction should be applied and enforced. Mutual legal cooperation treaties and bilateral cooperation agreements have forms of cross border enforcement, although the practice is frequently encumbered by practical hindrances such as a variation in legal standards, provisions of evidence, priorities of enforcement<sup>42</sup>.

Online distribution has no boundaries and therefore in order to have proper copyright protection countries need to collaborate and use similar enforcement strategies. Single-handed enforcement activities are sometimes not enough when imperialist attacks become too sophisticated in location to find new bases across

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<sup>39</sup> See reference Number 31

<sup>40</sup> Google LLC. (2024). YouTube Content ID system: Technical specifications and implementation. Google Developer Documentation.

<sup>41</sup> United States Trade Representative (USTR). (2024). Trade policy and intellectual property enforcement. Annual Trade Reports.

<sup>42</sup> World Intellectual Property Organization (WIPO). (2024). Global intellectual property protection frameworks. WIPO Publications.

borders. International copyright infringers are farther complicated by the extradition and prosecution of those guilty parties whose laws and means of punishment varies so extensively. Such disparities may serve as havens to conduct pirate activity in jurisdictions that have lax enforcement or light penalties.

## **8. Technological Solutions for Copyright Protection and Their Limitations**

### **8.1 Digital Rights Management (DRM) Systems**

Digital Rights Management technologies represent one approach to protecting copyrighted content in digital environments. DRM systems attempt to control how digital content can be accessed, copied, and distributed by implementing technical restrictions at the file or platform level. However, DRM systems face significant limitations in effectiveness and user acceptance. Watermarking and tracking mechanisms can embed identifying information within digital files to trace unauthorized sharing back to the source<sup>43</sup>, but these approaches can often be circumvented by technically sophisticated users. DRM implementations often create friction for legitimate users while failing to prevent determined pirates from accessing and redistributing content. This asymmetry can harm the user experience for paying customers while providing only temporary obstacles for copyright infringers. The costs of implementing and maintaining DRM systems can be substantial, particularly for smaller content creators and distributors. These costs must be weighed against the uncertain benefits of reduced piracy and potential negative effects on legitimate user experience<sup>44</sup>.

### **8.2 Content Identification and Takedown Systems**

Digital fingerprinting systems also utilize pattern recognition to detect potentially infringed content by use of digital fingerprinting such as those of YouTube Content ID.

These systems are capable of stopping illegal uploads automatically, deleting them or redirecting the income to the right owners. Piracy monitoring programs and services track several online sites regarding breaching contents and make quick take down requests<sup>45</sup>. Nevertheless, these systems cannot be considered very efficient as they require platform operators cooperation and the presence of timely response to takedown requests. Automated systems can result in false positives, which may cause problems to both users and content creators because they may attract legitimate content and mark it as infringing. The tricky part of such systems is balancing between the correct detection and preventing false positives.

### **8.3 Blockchain and Distributed Ledger Technologies**

Copyright protection can be explored with the help of blockchain technologies that provide records of creation and ownership that are immutable. Such systems can also offer timestamped creation evidence and also create transparent ownership trees with regard to digital creative works. The distribution of royalty and licensing can be automated using smart contracts on the blockchain platform, which may simplify and reduce rights management expenses<sup>46</sup>. This may especially be useful to individual creators with insufficient

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<sup>43</sup> Bytescare. (2024). Digital watermarking and tracking mechanisms for copyright protection. <https://www.bytescare.com>

<sup>44</sup> Digital Rights Management Association. (2024). Technical protection measures for digital content. *DRM Technology Review*, 8(2), 112-128.

<sup>45</sup> See Reference Number 43

<sup>46</sup> Smart Contracts for IP Management. (2024). Blockchain-based royalty distribution systems. *Cryptocurrency and Law Review*, 9(3), 156-173.

resources to employ traditional forms of rights management. Nevertheless, blockchain solutions suffer major shortcomings such as scalability problems, energy wastage issue, and lack of adoption by mainstream platforms and users. The creators and rights holders also face obstacles to the use of blockchain due to their technical complexity<sup>47</sup>.

#### **8.4 Artificial Intelligence and Machine Learning Applications**

The technologies of machine learning and AI provide new opportunities in terms of copyright protection due to higher levels of content identification and discernment of patterns and enforcement prediction. These systems are even able to interrogate massive amount of content and in doing so they might get an even better match for infringement as compared to the traditional ways<sup>48</sup>.

Machine learning algorithms can learn to identify the more subtle patterns that can denote copyright infringement and perhaps are something that would not be detected by simpler methods. The systems can also evolve and be better in the future since they are exposed to more piracy methods in the future. The technological issue is that the collateral of the protection system which is based on the AI and the sophistication of the pirating tactics results in the fact that it is unlikely that there will be technological solutions which will allow solving the problem of copyright infringement. AI and machine learning are also applicable by the pirates in creating more effective circumvention techniques<sup>49</sup>.

Copyright technology approaches to protecting copyright have essential weaknesses which make them incapable of solving piracy issues comprehensively. There are circumstances where skilled pirates can devise means of beating hard technical protection, and there is also a continuous cycle of protecting and circumventing measures<sup>50</sup>. Going to technological protection can be expensive, especially to the tiny content producers and new markets such as Pakistan. Such expenses are more than the advantages of those creators whose resources are small or distribution is focused. The priorities of the user experience are frequently at objection to copyright protection. Technologies which appreciably harm the experience of the legitimate consumer of content can cause a drop in demand of legal content at the same time as being ineffective means of piracy prevention. The fact that the internet infrastructure is decentralized across the world implies that the technological measures taken in one jurisdiction may in many cases be avoided by using other channels, restricting more geographically limited practices<sup>51</sup>.

### **9. Role of Digital Platforms in Facilitating or Hindering Copyright Protection**

#### **9.1 Platform Architecture and Copyright Enforcement**

Digital platforms have a special place in copyright systems: they are not only a means of creative expression but could also be used as a carrier of infringement.

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<sup>47</sup> Blockchain Technology Consortium. (2024). Distributed ledger technologies for intellectual property protection. *Journal of Digital Rights Management*, 15(3), 45-62.

<sup>48</sup> Machine Learning for Copyright Protection Initiative. (2024). AI-based content identification systems. *Journal of Artificial Intelligence Applications*, 12(4), 78-95.

<sup>49</sup> SG Analytics. (2023). Economic losses from digital piracy in the Indian entertainment industry. SG Analytics Research Reports.

<sup>50</sup> Copyright Act. (1976). United States Congress. Title 17, U.S.C.

<sup>51</sup> Global Software Piracy Study. (2024). Software piracy rates in developing countries. Business Software Alliance.

The choices in platform architecture will have immense effects on how the practice of copyright protection will operate, including the mechanisms of uploading contents to the platform, automated detection systems. The advent of the digital world has posed new challenges to the copyright law with intermediaries in the internet playing the role of a platform to millions of internet users<sup>52</sup>. Modern sites use a series of technical copyright protection tools, such as content identification systems, automated takedown processes and rights management tools. Nonetheless, such measures produce very different results when applied to different types of platforms and implementation systems. Still, big platforms such as YouTube have already invested in advanced content identification technology, whereas smaller ones might be unable to afford similar systems. Copyright enforcement also depends on the platform business models. The systems that monetize on user-generated content might differ with the systems that distribute primarily licensed content in terms of copyright enforcement incentives. Advertising-based platforms can also be under pressure to maximize the content available to them to retain users, which can put them at conflict with strong enforcement of copyright<sup>53</sup>.

## 9.2 Intermediary Liability Frameworks

Regulation of platforms in terms of liability on the copyright violations created by users carries a high influence on supply and the actions of those platforms. Pakistan does not appear to have intermediary liability policies which are comprehensive in nature as in the case with more advanced digital copyright systems leaving both the platforms and those with rights in the Pakistani markets in a nervous state of uncertainty<sup>54</sup>. There is a range of intermediary liability models adopted in other countries and applied internationally that Pakistan can bear in mind as its own. Under the U.S. Digital Millennium Copyright Act (DMCA), platforms participating in the DMCA have safe harbor: they implement notice-and-takedown procedures and comply with other conditions<sup>55</sup>. The Digital Single Market Directive of the European Union is more direct and makes platforms where users upload content to themselves license that content or show that they are trying to prevent unlicensed uploads.

Safe harbor laws that exempt platforms against responsibility of the acts of users can assist the platform investment and innovation without having infringement cura, which enable the rights holders to respond to infringement. Nevertheless, setting up effective safe harbor systems involve delicate balancing between platform protection and the remedies of rights holders. Safe harbor can provide an incentive to infringement with excessive breadth, or stifle the development of platforms under excessive restrictions<sup>56</sup>.

## 9.3 Content Identification and Automated Enforcement

Automated content identification systems, also known as automated copyright enforcement, are an important technological advancement in the platform-based enforcement measure of copyright. These systems

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<sup>52</sup> AKM LLP. (2017). Liability and Copyright Protection of Internet Intermediaries.

<sup>53</sup> Yale Law Journal. (2024). Artificial: Why Copyright Is Not the Right Policy Tool to Deal with Generative AI.

<sup>54</sup> Nolo. (2023, June 20). How do I respond to a DMCA takedown notice?

<sup>55</sup> See Reference Number 43

<sup>56</sup> PatentPC. (2025, January 6). How to handle a false DMCA takedown notice: What you need to know.

incorporate digital fingerprinting, acoustic, recognition, and other technologies to recognize a potentially infringing content automatically<sup>57</sup>. Nonetheless, the inbuilt weakness of automated systems is that they are unable to differentiate between the infringing and the legitimate reproductions of the copyrighted material. The fact that automated enforcement systems are human beings and subject to errors poses a serious issue to its creators and platforms. Mistaken positive results may lead to the deletion of valid information, such as fair use, parody, and original work that share some similarities with the copyrighted work. Such mistakes may negatively affect the content creators, as well as those using the rights platforms at the same time that they constitute an expense to rights holders who will need to act on unwarranted takedown notices. The advanced methods of infringement are able to bypass any automated detection protocol by manipulating audio or video inputs, incomplete copying, or another form of modification. This establishes a steady technological war of sensors and counter-sensors, which necessitate the continual investment into such systems anymore to improve them and update them<sup>58</sup>.

#### **9.4 Platform Cooperation and Rights Management**

Mutual consent between rights holders and platforms, which is voluntary, has proved to be a useful supplement to measures enforced by law.

Most platforms have also generated direct connections with large scale content creators and rights management bodies to enable legitimate publication of contents and ward off illegal utilization. The issue of content licensing agreements between platforms and content possessors can offer legitimate access to popular content and at the same time pay creators<sup>59</sup>. Such deals can involve revenue sharing, marketing of the material and partnership in enforcement. But in the case of smaller creators and independent artists, the intricacy and the expenses of dealing with numerous license agreements may become a problem. Platform-creator cooperation can be enhanced based on rights management organizations and collective licensing societies, which attach together the rights and ease the licensing formalities. Nonetheless, these methods cannot be as effective in the domestic markets of Pakistan because of the lack of developed collective management systems<sup>60</sup>.

### **10. Public Awareness and Educational Initiatives on Copyright**

#### **10.1 Current State of Copyright Awareness in Pakistan**

Pakistan is a nation where awareness on copyright law and intellectual property right amongst the masses is not a lot. Educational programmes There is the need to shift the education programmes towards educating the customers of the economic, health and safety effects of counterfeiting and piracy as well as the general population of the significance of innovation and adverse effects of IP protection in stimulating economic

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<sup>57</sup> Adeney, E. (2006). *The moral rights of authors and performers: an international and comparative analysis*. Oxford University Press.

<sup>58</sup> Craig, C. J. (2016). *Technological neutrality: recalibrating copyright in the information society*. Cambridge University Press.

<sup>59</sup> Khan, M. D., Habib, R. I., & Mehmood, A. (2019). Intellectual Property Rights and Creative Economy; Way Forward for Pakistan. *Review of Economics and Development Studies*, 5(3), 469-480.

<sup>60</sup> Khursheed Khan & Associates. (2024). Copyright protection in Pakistan. Retrieved from <http://pakistanlaw.com/copysoft.htm>

growth and development<sup>61</sup>. Studies have found that even well educated groups have little to no understanding of copyrights laws, not to mention limitations and enforcement forms of them. This information asymmetry problems both creators who might not know their rights and options and consumers who might possibly commit copyright infringement or contribute to illegal creative industries. In Pakistan, formal education regarding intellectual property rights is little offered through academic institutions even in the studies involving creative industries.

Intellectual property is generally taught to students who are already preparing to be lawmakers, but not as part of the core curriculum; and programs in art, media, and technology, in particular, do not usually include a thorough discussion of copyright issues as applied to their disciplines<sup>62</sup>.

Some of these efforts have been undertaken by professional associations and industry groups in order to educate their members about copyright problems though this has frequently only been the established professionals and not the emerging creators or audiences at large. The lack of systemized campaigns in the general education concerning copyright protection impedes the success of the process, and it could sustain the misunderstanding of the concept of intellectual property rights<sup>63</sup>.

### **10.2 Educational Challenges in Digital Environments**

Digital technologies have both reduced the ease of copyright education and also come in the form of new possibilities to undertake any awareness-building activities. Due to the complexity of licensing online, policies of platforms, and technological protection, the digital copyright issues necessitate more advanced knowledge than the older copyright models. Rapid change of technology implies that the education materials about copyright are getting obsolete quickly and will have to be constantly updated and developed<sup>64</sup>. Supplying teaching organizations and training institutions in appropriate resources may not be possible and may result in either older or incorrect information being passed on to the student or professional. The existence of older and younger generations possessing different levels of digital literacy, learning to utilize technology, forms an obstruction to copyright education. There might be differing intuitive interpretations of ownership and sharing in the younger generations, which have grown up with digital technologies, compared to the older generations, hence, the need to have different modes of educating young people base on age group<sup>65</sup>.

The international orientation of digital platforms and content sharing services implies that Pakistani users should not only familiarize themselves with the domestic copyright legislation, but also, the international copyright principles, and platform policies in question. This adds complexity to the situation which might not be well captured in the traditional education methods of law.

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<sup>61</sup> See Reference Number 04

<sup>62</sup> Laskar, M. (2013). Role of Intellectual Property Protection on the Economy. *Economic Journal*.

<sup>63</sup> Murtiza, G., & Muhammad, G. (2019). The implementation of intellectual property laws in Pakistan-impediments and suggestions for solutions. *Pakistan Vision*, 20(1), 1-8.

<sup>64</sup> Nachbar, T. B. (2014). Rules and Standards in Copyright. *Houston Law Review*, 52, 583.

<sup>65</sup> Case Western Reserve University. (2018, September 5). Fair use: An exception to copyright.

### 10.3 Effective Education Strategies and Best Practices

According to international experience, identifying effective forms of copyright education is impossible in a single-modal form, formal teaching, raising mass awareness and practical training. Effective efforts in this area tend to be joint efforts by the governmental agencies, academic establishments, industrial associations, and non-Like societies<sup>66</sup>. The practical application of abstract principles of the copyright can be achieved by using case-based learning methods with references to some real situations and scenarios. Such methods have the potential to illustrate the practicalities of copyright rulings and to assist in teaching the learners how the various legal conclusions could be reached. Copyright education initiative can reach larger audiences with fewer costs with the help of digital infrastructure and online resources. Copyright education can be made more interactive, dynamic and reach more comprehensive audiences in the geographic and linguistic diversity of Pakistan, through interactive online tools, multimedia and webinars<sup>67</sup>. Social connections and pre-existing knowledge in artistic circles can be replaced within the peer education and industry mentorship programs and can be applied to implement awareness more effectively than the top-down educational system. More experienced producers and practitioners can offer practical information and practice based opinions to augment legal doctrinal study<sup>68</sup>.

### 10.4 Institutional Frameworks for Copyright Education

An institutional infrastructure needs to be in place to facilitate systematic copyright education, and that can help bring together efforts in various sectors, as well as help harmonize messages.

Government departments especially the Intellectual property organization of Pakistan, may take a leading co-ordinating role in formulating and executing the strategy of copyright education country wide<sup>69</sup>. These accreditation and certification schemes in education may be used to establish a reasonably uniform quality requirement in copyright education coupled with incentives to individuals and organisations to invest in learning. The professional certification programs may be especially helpful to lawyers, creators, and specialists on professional work with technologies who require high expertise. The international collaboration and knowledge exchange can assist Pakistan to learn what has worked in other countries with regard to copyright education and apply strategies to suit place and needs. It might be especially useful to cooperate with other South Asian states encountering similar issues.

## 11. International Agreements and Their Implications for Pakistan

### 11.1 Multilateral Copyright Treaties and Pakistan's Obligations

The involvement of Pakistan in the global copyright system is having strong implications on the national copyright policy and enforcement of laws in Pakistan. Being a member into both the Berne Copyright Union and the Universal Copyright Convention, Pakistan has given agreed to granting certain minimum stands of

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<sup>66</sup> Bond University Library. (n.d.). Creative Commons licences - Open access and scholarly publishing. Library Research Guides.

<sup>67</sup> Authors Alliance. (2019, March 7). Notice and takedown and academic digital libraries

<sup>68</sup> Chicago-Kent Journal of Intellectual Property. (2019, May 3). Copyright law and the digital era.

<sup>69</sup> Liu, K. (2024). Revisiting the public versus private debate on model statutes for collective copyright management organisations in China. *The Journal of World Intellectual Property*, 27(3), 445-467.



protection to the foreign works whilst getting common protection to the Pakistani works abroad<sup>70</sup>. Member countries of the Berne Convention shall also grant protection of copyright devoid of formality, have the minimum terms of protection and the moral rights of the authors. The Copyright Ordinance of Pakistan is mostly in line with these provisions, but the subsequent lack of enforcement and the corresponding gaps of implementation can become a barrier to such requirements in practice. National treatment under Berne constrains Pakistan to offer equal protection to foreign work as the protection it offers to local works. Digital rights and the use of technology protection measures are a concern that is covered by the WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty to a greater extent than any of their current copyright concerns<sup>71</sup>.

Although Pakistan is yet to ratify these treaties, the conditions laid out in them are adding on more international requirements and expectations regarding digital protection of copyrights<sup>72</sup>.

### **11.2 Bilateral Agreements and Trade Relationships**

Intellectual property is part of bilateral trade relations of the countries including Pakistan, which influences the formation of a copyright policy. The United States has kept special pressure on Pakistan on the issue of enforcing intellectual property with special 301 reports and the conditions of the U.S. trade relations. Such pressure has guided the parliamentary processes and law enforcement in Pakistan. Technical assistance/capacity-building programs provided by developed nations or international organizations may contribute to the upgrade of the copyright system in Pakistan as well as to the policy development process which may take directions preferred by the givers of technical assistance and capacity-building programs. Such programs can offer bountiful knowledge along with resources but also mean forming a dependency and perhaps bias policy.

### **11.3 Regional Cooperation and South Asian Approaches**

Coordination in formulating and implementation of copyright policies at regional levels may bring Pakistan advantages besides making it less reliant on international super powers. The South Asian Association For Regional Cooperation (SAARC) arrangement offers a probable tool through which harmonized techniques to the copyright problems that touch the whole region can be created. South Asia has cultural and linguistic homogeneities that can enable local approaches towards copyright exception and limitations that are relevant to local values and priorities on development. The alternatives to the international frameworks are regional copyright standards that might be inappropriate to see the concerns of the developing countries<sup>73</sup>.

### **11.4 Emerging International Standards and Future Developments**

Due to the emergence of artificial intelligence and machine learning technologies, new international debates regarding the standards of copyright are arising, which will probably have a subsequent effect on the activity of creating new treaties in the future.

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<sup>70</sup> Copyright Office Pakistan. (2024). Registration and protection of literary and artistic works. Intellectual Property Organization of Pakistan.

<sup>71</sup> World Intellectual Property Organization. (n.d.). Collective management of copyright and related rights (3rd ed.).

<sup>72</sup> U.S. Trade Administration. (n.d.). Pakistan - Protecting intellectual property.

<sup>73</sup> SAARC Intellectual Property Rights. (2018). Regional approaches to copyright harmonization in South Asia. SAARC Secretariat.

The contribution made by Pakistan in these discussions would facilitate to make the emerging standards compatible with the developing country wishes and views<sup>74</sup>. The profile of international enforcement cooperation is also increasing because digital technologies permit worldwide delivery of both authorized and illegal content. Pakistan can also play a role in international enforcement which might be capable of giving the Pakistani creators greater protection but at the cost of Pakistan having to cooperate with other rights holders internationally<sup>75</sup>.

## **12. Innovative Licensing Models and Their Applicability**

### **12.1 Creative Commons and Open Licensing Frameworks**

Creative Commons licensing is one of the most important developments in the licensing of copyrights where it provides a standardised, machine-readable licence texts by which creators can license their works under particular set aspects that also allow them to share their creation under specified rights. The framework provides several licensing schemes that enable content developers to state which uses are permitted, how the material must be attributed, and any commercial limitation<sup>76</sup>. The Creative Commons form of licensing is only applicable in the creative ecosystem in Pakistan by the authors, platform support, and institutes adoption. Standardized open licensing strategies that would allow cost-effective sharing and yet offer explicit legal licensing methods would be of great value to educational institutions, government organizations, and cultural institutions<sup>77</sup>.

### **12.2 Collective Management and Extended Collective Licensing**

Collective management organisations bundle the rights of the individuals creators to enable them to use their rights collectively and license and enforce them on a large scale.

Such organizations are able to lower both the costs of transactions that creators and users have to go through as well as to enforce them more effectively than creators could do them on their own. Collective management thrives where there is good governance in operation, and equitable remuneration of revenues to the creators. Best practices internationally help to shape effective development of collective management systems to meet the interest of the creators and promoting legitimate usage of copyrighted works<sup>78</sup>.

### **12.3 Compulsory Licensing and Statutory Licensing Systems**

The compulsory licensing regime is a way of enabling users of the copyright material to utilize it by paying government set royalties without the authorization of the right owners. Such systems will be able to overcome market failures that may arise in the market due to the existence of transaction costs that fail to promote efficient licensing and payment to the creators<sup>79</sup>. The success of compulsory licensing lies on proper rate

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<sup>74</sup> International Federation of Reproduction Rights Organizations. (2020). Global survey on collective management organizations. IFRRO.

<sup>75</sup> 24Justice Pakistan. (2024, December 27). Copyright laws in Pakistan.

<sup>76</sup> Stokes, S. (2019). Digital copyright: Law and practice (5th ed.). Hart Publishing.

<sup>77</sup> Ricketson, S., & Ginsburg, J. C. (2022). International copyright and neighbouring rights: The Berne Convention and beyond (3rd ed.). Oxford University Press.

<sup>78</sup> Pennsylvania State University. (n.d.). Which Creative Commons license should I use for my scholarly article? Ask a Librarian.

<sup>79</sup> Lessig, L. (2001). The future of ideas: The fate of the commons in a connected world. Random House.

setting mechanism, efficient collection and dissemination processes, and proper definition of scope. The lack of design might result in the lack of creativeness by underpaying production, or restrict the availability by imposing high costs.

Alternative compensation systems suggest that the usual copyright enforcement should be substituted by alternative ways to reward creators, like the taxation system or governmental subsidies or platform-based compensation<sup>80</sup>. Such methods might overcome the compliance issues which traditional copyright regimes suffer. The arrangements of government funding and subsidies might help to interpret the creative production and provide the popular access to creative works. Such strategies can be very suitable to cultural preservation works, scholarly material and works in the benefit of the mass. Blended license systems which comprise varied licensing (per use, per user, etc.) might offer the pliability needed, although with the capacity to satisfy a variety of stakeholding requirements. E.g. works might be free to use in education but payment would be required to use in commercial context<sup>81</sup>.

Cross national rights could be permissible by establishing regional licensing pools which adds rights of several different countries in one pool, but gives the creator due compensation. These mechanisms might especially be of valuable in cases such as smaller markets such as Pakistan where country by country licensing might not be cost effective<sup>82</sup>.

### **13. Recommendations and Conclusion**

#### **13.1 Policy Recommendations for Copyright Reform**

##### **13.1.1 Legislative Framework Modernization**

Pakistan needs to modernize the copyright law in its entirety with regards to the challenges posed by the digital era. Although the 2000 amendments allow Copyright Ordinance of 1962 to meet current digital copyright concerns, it is still insufficient. In order to strengthen the copyright protection, legislative improvement must include more precise definitions and be followed by strict controls, as well as capacity building and awareness creation programs<sup>83</sup>. The most significant steps of the legislative change should be devoted to the determination of such important concepts as the term of origin, Nice, and transformative work which are rather unclear in the current legislation. Indefinite terms have caused confusion among many, hindering enforcement and effectively making people abandon the pursuit of legal action against violators of the norms<sup>84</sup>. Specific definitions would give assurance to the creators, those who use the work and even the agency enforcing it, cutting down litigation expenses and execution time. Special rules on online intermediary liability, digital rights management and technology protection measures need to be inserted. Modern legislation has not yet provided certain repercussions to the breaking of the IP in the digital network and also has not facilitated the process of registering and protecting IP in the digital age. Pakistan ought to think of

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<sup>80</sup> UK Government. (2024, January 23). Licensing bodies and collective management organisations.

<sup>81</sup> Yu, P. K. (2014). When copyright law and science collide: Empowering digitally integrated research methods on a global scale. *Stanford Technology Law Review*, 17(4), 641-704.

<sup>82</sup> See Reference Number 04

<sup>83</sup> See Reference Number 43

<sup>84</sup> AMLAW. (2018). Frequently Asked Questions (FAQs): Copyright Registration & Infringement in Pakistan.

using the provisions akin to the Digital Millennium Copyright Act (DMCA) structure, as long as it suits the local environment and requirements<sup>85</sup>.

### 13.1.2 Institutional Capacity Building

Intellectual Property Organization of Pakistan (IPO-Pakistan) needs to be boosted to be in a position to manage copyright protection in this digital era. To help IPO-Pakistan to register, monitor and enforce copyright protection more effectively, additional funding, special training programmes and investment in technology infrastructure are required<sup>86</sup>. They should also develop inter-agency coordination mechanisms to enhance enforcements of copyright in different departments of the government and at different levels of the government. Well-defined guidelines of cooperation among IPO-Pakistan, Federal Investigation Agency, customs and provincial officials would help in enhancing the effectiveness of enforcement and eliminate overlaps<sup>87</sup>.

### 13.1.3 Digital Platform Regulation

Systematic intermediary liability schemes ought to be created to make platform clear their duty and safe entitlements. Certainty on the side of platforms and effective copyright protection measures would be achieved by introducing clear notice-and-takedown procedures, repeated infringer policies and transparency requirements. A platform cooperation agreement ought to be established to support voluntary copyright protection measure beyond the required minimum protection by law<sup>88</sup>. Such arrangements might involve sharing of revenue, proactive content identification, and cross-enforcement strategies which will benefit the platforms and the rights holders.

## 13.2 Conclusion

This article has discussed the multifaceted issues that effective copyrights protection have to face on their way to digital changes in Pakistan. The discussion shows the continuous struggle with piracy, enforcement, and a lack of legal systems<sup>89</sup>.

As it is shown in the research the existing system of copyright protection system in Pakistan has such fundamental, but still needs to be thoroughly modernized to meet the challenges of the digital age. Such uncertainty and the inability to be effective are associated with the absence of certain clear definitions of important concepts, little enforcement, and a lack of specific digital provisions. Policy development that is based on evidence through empirical research are more beneficial to all stakeholders as compared to theoretical development. The frequent review of policies and changing the policies depending on the observed results means that policies will become effective and relevant. Copyright policy is to be balanced

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<sup>85</sup> Lollywood Films. (2013). History of Lollywood. Retrieved from <https://lollywoodfilms.wordpress.com/history/>

<sup>86</sup> Ahmad, M., & Khan, S. (2022). Digital transformation and intellectual property protection in developing countries: A case study of Pakistan. *Journal of Intellectual Property Law*, 45(3), 234-251.

<sup>87</sup> Pakistan Bureau of Statistics. (2024). Home | Pakistan Bureau of Statistics. Retrieved from <https://www.pbs.gov.pk/>

<sup>88</sup> Riaz, S. (2022). Digital rights management systems: Technical solutions for copyright protection. *Computer Law and Security Review*, 44, 105-118.

<sup>89</sup> Khan, M. A. (2021). Educational publishing in Pakistan: Balancing accessibility and copyright protection. *Publishing Research Quarterly*, 37(3), 298-315.

with the education policy, technology policy, trade policy and cultural policy in order to maximize the synergetic effects and minimize the conflicts<sup>90</sup>.

Social aspects of equity demand that there cannot be a situation whereby copyright protection will aggravate the already existing disparities, or open new doors of inhibitions to access to the scenic worlds. There is a need to pursue policies of inclusion and accessibility with details of protection required as well<sup>91</sup>. Strong copyright will give incentive to the creators to stand the confidence of the security of their works and will therefore bring more innovations and creativity. Finally, all actions towards increasing protection of copyrights will lead to the thriving culture industry that will be supporting economic growth and preservation of cultures. Through proper policies, institutions and activities of stakeholders it is possible to find a balance between digital innovation and copyright protection in Pakistan.

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<sup>90</sup> Federal Investigation Agency. (2023). Annual report on intellectual property crimes in Pakistan. Government of Pakistan.

<sup>91</sup> Intellectual Property Organization of Pakistan. (2023). Strategic plan for copyright protection 2023-2028. IPO-Pakistan.