

Authorship, Originality, and Ownership of AI-Generated Works under Pakistani
Copyright Law: A Case for Legislative Reform

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ABSTRACT

This research article critically examines the issues of authorship, originality, and ownership of AI-generated works under Pakistani copyright law, highlighting significant legal ambiguities and gaps in the existing framework. With the rapid advancement of generative artificial intelligence systems, traditional concepts of human authorship and creative originality are increasingly challenged. The study analyzes whether current provisions of the Copyright Ordinance 1962 adequately address works produced with minimal or no human intervention, and how such outputs should be classified in terms of legal protection and ownership. It further explores comparative legal developments in other jurisdictions to assess possible interpretative models for Pakistan. The research identifies key doctrinal limitations, particularly the human-centric notion of “author” and the absence of explicit recognition of AI-generated content. Using a doctrinal legal research methodology, the paper evaluates statutory provisions, judicial interpretations, and policy debates to propose a structured framework for reform. The findings suggest that Pakistan’s copyright regime requires urgent legislative modernization to accommodate AI-generated works while balancing innovation, incentive structures, and public interest. The study concludes by recommending clear legislative guidelines to define authorship, allocate ownership rights, and ensure legal certainty in the era of artificial intelligence.

Keywords: Artificial Intelligence, Copyright Law, Authorship, Originality, Legislative Reform

INTRODUCTION

AI may be one of the three biggest inventions of this century. It is already changing the way we produce, market, and sell our inventions and ideas. There is a growing number of AI systems that can perform complex human tasks such as writing, drawing, music composition, computer coding, advertising, and editing all without the need for human help. Programs like ChatGPT, Midjourney and DALL-E are all over the world used for enterprise, content, advertising, software, and social media. Shifting content demands over creativity is leading to a range of complex legal and ethical issues.

The primary purpose of copyright law has traditionally been to protect the products of human creativity. Authors who create original works of creativity have a right to claim ownership of those works. The ability of AI to create original works raises the questions of what copyright law will consider to be an author, can AI works be considered original, and what will be the conditions and who will be entitled to claim the rights for such works.

Courts across the globe have taken various stances on works produced by AI. In the UK, there is the computer-generated work provision under the Copyright, Designs and Patents Act 1988, while in the US, AI-generated works cannot be copyrighted due to the mandatory human authorship clause. Similar to the US, the European Union has the same position. With regard to AI, there must be human intellectual creation, control of AI, and the creation of systematic regulations. The Indian position has, to some extent, some solutions for the problem of computer-generated works under Copyright law, although it is very much lacking in judicial pronouncements and clarity.

In Pakistan, the Copyright Ordinance, 1962 is mainly for the protection of literary, artistic, dramatic, and musical works. The Copyright Ordinance was promulgated well before the advent of AI, and therefore completely omits AI-generated works. The presumption of human authorship, and the complete absence of provisions for authorship, ownership, originality, and liability for AI-generated works, will create a lot of ambiguity as to the legal situation of AI-generated works. This ambiguity carries with it a lot of dangers, such as AI-generated advertisements, deepfake videos, artworks, and digital illegal reproduction of art. The creation of AI-generated works raises new issues of the violation of privacy, violation of the right to reputation, economic displacement of human creators, and loss of reality.

Besides, there are no cases in Pakistan pertaining to Copyright law and AI-generated works. The Federal Investigation Agency and the National Counter Cybercrime & Internet Agency can deal with specific cyber crimes under the Prevention of Electronic Crimes Act, 2016. Currently, legal protection focuses on punishment for the misuse of AI, and not on the protection and regulation of AI content. Consequently, the current legal framework provides almost no protection to AI content creators, content entrepreneurs, policymakers, and enforcement agencies.

This research examines the state of AI content and copyright laws in Pakistan and offers a legal analysis pertaining to the authorship, originality, ownership, and accountability of AI content. This research will also explore the laws and policies of the UK, USA, EU, and India to discover the most effective and useful policies and to provide a comprehensive legal reform to Pakistan. This research will also attempt to provide legal content and clarity to Pakistan's copyright law and help to facilitate the legal discourse focused on the balance between AI, Intellectual Property, Copyright Law and Copyright Pakistan.

Problem Statement

The rapid rise of Artificial Intelligence (AI) in media and creative industries has exposed significant gaps in Pakistan's copyright framework. The Copyright Ordinance 1962 is based on human authorship and does not address AI-generated works, creating uncertainty regarding authorship, originality, and ownership. It remains unclear whether rights belong to programmers, users, or whether such works fall into the public domain. Additionally, existing laws, including PECA 2016, focus on cybercrime rather than intellectual property rights, leaving regulatory gaps that enable misuse such as deepfakes and content cloning. This study highlights the need for legislative reform.

Research Questions

- i. Are AI generated works eligible for copyright protection in Pakistan?
- ii. Where should AI authorship and ownership be designated?
- iii. Do AI generated works satisfy the legal requirement of originality?
- iv. What is the country-specific law regarding AI and copyright?

- v. What is the gap in Pakistan’s law?

Research Objectives

- i. To analyse the existence of copyright law in Pakistan as it relates to AI.
- ii. To evaluate the authorship and ownership of AI works and determine who should legally be regarded as the author and owner.
- iii. To assess whether AI generated works fulfil the requirement of originality under the Copyright Ordinance of 1962.
- iv. To assess and identify the existing gaps in Pakistan's Copyright Law and recommend what is required to address issues related to authorship, ownership, originality, and accountability regarding AI works.

Significance of the Study

This study is important because it addresses an unresolved contemporary legal issue in Pakistan. It adds to the intersection of AI and intellectual property law; assists legal reformers; and provides a legal framework for the courts and law enforcement officials in cybercrime litigation regarding AI Generated works and Deep Fakes.

RESEARCH METHODOLOGY

This study employs a qualitative, doctrinal, and comparative legal research methodology. It examines the legal status of AI-enabled content in the Pakistani Copyright law. Given the state of AI in Pakistan, this study will analyze statute, legal frameworks, case law and doctrine on authorship, originality, ownership, and AI liability. Comparative law is also necessary as in Pakistan, the study of AI generated content is in its infancy, and very little research has been conducted on the topic.

Research Design

The study’s research design is both doctrinal and analytical. The doctrinal design of the study comprises the interpretation and examination of legal texts, statutes, ordinances, judgments, and scholarly writings on the law of copyright and artificial intelligence. The analytical design is concerned with the critical assessment of the extent to which the existing copyright law of Pakistan and its related legal frameworks are likely to be modified to address the challenges posed by AI generated content.

The research design includes a comparative legal analysis of the United Kingdom, United States of America, European Union, and India with the purpose of identifying AI generated content legislation and determining the possible legal reforms that may be embraced by Pakistan.

Research Scope

This study will be limited to Copyright law only, with respect to AI generated literary, artistic and digital works in the legal framework of Pakistan. The research will focus on AI generated content and will investigate the concepts of authorship, originality, ownership and liability.

This research investigates the various legal systems’ ways of controlling the regulation of AI work output

within selected international jurisdictions of the UK, U.S.A, EU, and India. This study also analyzes Pakistan's cybercrime legislation and the law enforcement agencies' response to AI content, including deepfake technology and content.

Types of Data

This study contains both primary and secondary legal data. Primary data include statutes, regulations, case law, court decisions, and international legal documents relating to copyright and artificial intelligence. Secondary data include academic journals, books, statements of policy, research, legal commentaries, as well as works relating AI-generated works and IP law.

Data Collection Methods

The research brings together digitised and nondigitized approaches. It will identify legal literature and research and reports and teaching resources located within the HEC digital library, within Google Scholar, SSRN, HeinOnline, and other legal research focused databases.

Analysis of Data

Data will be analyzed by applying doctrinal, comparative, and critical legal studies. This research will provide insights on the ability of the Pakistani Copyright System to tackle challenges posed by Artificial Intelligence (AI) and identify their gaps. It will also look at a few other jurisdictions and their perspectives that may offer opportunities to improve Pakistan's Copyright System.

Limitations of the Study

This research will be framed by several circumstances. The Copyright Act in Pakistan is relatively new and so far, there has been no case law that has specifically dealt with copyright issues of AI, and therefore it impacts the level of local case law that will be covered in this study. Further, there has been little research in Pakistan on Copyright and AI, and therefore, a large part of this study will focus on international research.

AI is a fast-changing technology and several jurisdictions are increasingly adopting new legislation in response to AI. In light of that, there will be developing technologies and systems of law that will most likely remain outside the scope of this study. However, the most comprehensive analysis of the systems of law in Pakistan will be conducted and the most innovative and advanced system of law that can be imagined will also be proposed.

LITERATURE REVIEW

Article Review:

1. "An Evaluate the Legal Gaps Regarding AI and Copyright Infringement in Pakistan" by **Soomro** et al. argues that Pakistan's copyright laws are outdated and cannot sufficiently address AI-generated work and copyright infringements by AI. This paper proposes that leaving ownership, authorship, and liability policies vague will likely erode trust in AI developers, companies, and users. This study shows that the protection of Intellectual Property in Pakistan is in an alarming state and highlights the urgency for the legislature to enact pertinent technology protection laws. This study also does not include the International AI Copyright frameworks, the Courts' willingness to answer AI-related Judicial System challenges, and the self-regulation of private technology companies concerning their

control over AI.

2. “AI-Generated Content and Its Legal Status Under Copyright Law” by Yuchen Lu. The article explores the question of whether AI-created works are "original works," and asks what copyright law says about who should be the owner of an AI-generated work. It states that, in the vast majority of legal systems, copyright protection is still rooted in human creativity, which means that uncertainty prevails when works are autonomously created by AI systems. A study that will help to comprehend the basic conflict between copyright and AI technology. It does not deal directly with the developing countries however such as Pakistan and it does not consider implications of weak enforcement mechanisms and lack of judicial precedent of Pakistan's copyright regime.

3. “The Human Authorship Requirement in AI-Generated Works: A Comparative Analysis of Copyright Protection Frameworks” by Yiran Li. The present research work compares the various jurisdictions on the issue of the need for human authorship within the scope of copyright law, such as the United States, the European Union and selected Asian countries. It emphasises that in some systems non-human authors are excluded, in others the legal systems are undergoing changes to incorporate computer-generated works. The article is of great value for comparative legal knowledge. However it does not give any analysis of the legal systems of South Asian region, especially Pakistan, where there are various gaps and ambiguity in the law.

4. “Reforming Copyright Law for AI-Generated Content: Copyright Protection, Authorship and Ownership” by Yiheng Lu. The piece will be dedicated to the doctrinal issues arising from the output of AI and how to propose solutions for gaps in authorship and ownership within the framework of copyright law with a view to reform. It highlights the importance of the adoption of new legislation that explicitly addresses the rights and duties for AI-generated products. The study is robust in its theoretical proposals of reforms, but lacks jurisdiction specific analysis for Pakistan and does not explicitly take into account the problems of enforcement by institutions like cybercrime agencies in developing legal systems.

5. “Copyright Protection for AI-Generated Works: Exploring Originality and Ownership in a Digital Landscape” (Asian Journal of International Law). The article discusses the impact of AI on traditional notions of originality and human intellectual creativity in the context of copyright. It covers various jurisdictional strategies, such as those which grant protection to computer-generated works, and the potential conflict between innovation and protection. But the article is rather theoretical and does not highlight practical problems of enforcement or lack of provisions in

6. “Authorship and Ownership Issues Raised by AI-Generated Works: A Comparative Analysis” by Anthi Gaidartzi & Irimi Stamatoudi. This research explores international approaches to the question of authorship and AI-generated ownership and examines potential owners including the programmer, the user and the system developer. It highlights the lack of uniform international standards in determining ownership rights over AI-generated content. The study, however, does not delve into the legal framework of Pakistan and the function of local bodies to resolve conflicts related to the creation of AI-generated works.

7. Mushtaq et al. argue that due to ambiguity in the law in Pakistan, copyright and antitrust laws do not provide adequate protection to creators of AI-generated works. They believe that the existing laws demotivate digital creators and investors, and create serious risks for them. However, a thorough examination of international intellectual property guidelines, technological enforcement mechanisms, public understanding of AI rights, and potential specialised mechanisms of control of AI in Pakistan is lacking in their work.

8. According to Idrees et al., the artificial Intelligence (AI) and Intellectual Property Laws of Pakistan are exposing serious gaps in Pakistan's ability to deal with AI, copyright, patents, and digital governance. They believe that Pakistan does not have the means to develop and implement AI policies for dealing with both emerging technologies and the ethical concerns associated with them. The study identifies an urgent requirement for up-to-date laws and policies that are harmonised with the changing global dynamics, especially with regard to new technologies. However, the authors don't really analyse the constraints to implementation such as coordination gaps, a lack of clear and effective AI judicial frameworks, and the experiences of other developing countries that face the same difficulties in governing AI issues.

9. "Copyright and Liability for AI-Generated Content in Pakistan" by Thakur and Shakeel. These authors state that Pakistan's legal system adds to the ambiguity of liability and accountability concerning AI-generated content. As such, authors cite that the confusion is evident in cases of copyright violation, misinformation, or digital harm. They claim that more legislative guidance is necessary to ascertain the accountability of the developers, users, and the respective platforms of the AI. Moreover, the authors do not provide any explanation on topics like deepfake detection systems, the duties of social media companies, the victims' compensation systems, or the possible economic effects of allowing AI-generated content without restriction.

10. AI Copyright Infringement: Navigating the Legal Risks of AI-Generated Content" by authors of IPR Trends. The authors state that AI-generated content imposes serious legal threats related to copyright infringement, the unpermitted utilisation of copyrighted information, the uncertainty of licenses, and the disputes surrounding copyright ownership. Authors highlight that the existing legal systems seem to be increasingly incapable of dealing with the pace of advancements in AI technologies. Nevertheless, the authors do not seem to have addressed the challenges of both the absence of institutions and technology of developing countries such as Pakistan as well as inefficient legal systems and lack of judicial professions in matters dealing with AI.

11. "Deepfakes and Artificial Intelligence: A New Challenge for Pakistan" by Pakistan Today. The authors claim deepfake technology and AI-distributed misinformation are some of the growing threats to privacy, reputation, and the trust of the public toward the state in Pakistan. They also say Pakistan's legal system is sufficiently far behind to address the threat of synthetic media. This article demonstrates the importance of Artificial Intelligence laws and the strengthening of Cyber Governance. There is no detailed analysis on the need for reform in the legislature, technological barriers to deepfakes, law enforcement agencies, and international standards on the regulation of synthetic media.

12. "Deepfake Crimes and Legal Gaps in Pakistan: A Criminological Review of PECA" by the authors of Contemporary Journal. The authors claim the Prevention of Electronic Crimes Act 2016 is insufficient to deal with crimes arising from AI deepfakes and synthetic media. They argue the lack of Artificial Intelligence provisions greatly diminishes the ability of law enforcement agencies to prosecute perpetrators and safeguard victims. The authors, however, fail to address the importance of International Cooperation, Awareness Strategies, and Ethical AI approaches in conjunction with technological means for the detection of manipulated media.

13. The authors of QJSS wrote "Manipulated Realities: Deepfakes and Political Intolerance in Pakistan." In their work, they claim that deepfakes increase political polarisation, misinformation, and intolerance in Pakistan by distorting the truth and public understanding. They say that the lack of restrictions on AI-generated political content endangers the stability of democracy. However, the authors did not discuss the constitutional issues of freedom of expression, the development of cyber security in relation to the detection of synthetic media, the implementation of media literacy, and the influence of digital media on the regulation of political misinformation.

14. "Deepfakes: Regulatory Challenges for the Synthetic Society," by Vaccari and Chadwick, focuses on the threats of governance and how deepfakes build mistrust in digital content, undermine the political process, and create a matrix of legal challenges. They call for regulation that seeks to protect society, while safeguarding the rights to freedom of expression and creativity. However, the authors did not consider the threats of synthetic media in developing countries like Pakistan, such as poor governance systems and lack the the necessary technology.

15. "Deepfakes and the Crisis of Knowing" by UNESCO. This report argues that deepfakes not only diminish the quality of information and the trust of people in communication, but also undermine the tenets of democracy worldwide. UNESCO advocates for principles of ethical governance of AI and proposes more elaborate regulatory frameworks for synthetic media. However, there is no analysis in the report of the challenges in Pakistan's legal domain, including the lack of implementation and the institutional constraints in the effective regulation of deepfake technology

16. "WIPO Conversation on AI & Intellectual Property Policy" by the World Intellectual Property Organisation. It holds that artificial intelligence is changing the face of Intellectual Property (IP) systems globally, bringing issues of copyright, the ownership of AI training data, and the creativity of AI. This report argues for flexible legal frameworks and the promotion of global collaboration on the governance of AI. Nevertheless, it does not deal with the issues of outdated copyright laws, weak institutional structures, and the nascent AI-related judicial capacities of Pakistan.

17. "WIPO Conversation 12: Synthetic Media Challenges for Policymakers" by the World Intellectual Property Organization. It argues that the advent of synthetic media technologies offers a creativity continuum while imposing serious challenges to the governance of intellectual property. The report argues that legislation should be able to provide the ability to adapt to the challenges of innovation and the possible negative effects of such legislation. Yet, in the case of Pakistan, the report does not consider the absence of legislation on AI, the absence of deepfake legislation, and the lack of institutional capacity and expertise in the governance of media.

18. As per their document titled `UNESCO Open Consultation and Policy Brief on AI Governance`, UNESCO places a strong emphasis on the cascading nature of ethical AI governance. For UNESCO, transparency and accountability in AI governance should serve the purpose of safeguarding human right protections. The document calls on nations to develop inclusive and responsible AI governance regulatory frameworks. However, the document is silent on the practical challenges involved in developing such governance frameworks, particularly in the context of Pakistan's weak technological infrastructure, slow pacing of legislative processes, and poorly institutionalised policy frameworks and coordination mechanisms.

19. As per their document titled `UNESCO Policy Dialogue on AI Governance Report`, UNESCO cites the need for all national governments to formulate distinctive policies relating to the governance of AI, which are based on safeguarding and protecting human rights, in order to regulate the provision of synthetic media and to mitigate the harm to society. The document emphasises, and is sectoral, in nature, to developing a framework for international collaboration on resolving issues of AI. However, the document does not consider issues like Pakistan's rapidly evolving digital community, and the high degree of vulnerability and limitation in AI and synthetic media when operating at the level of governance.

20. As per their document titled `UNESCO Report: The Next Frontier IP in the Era of Generative AI`, UNESCO argues the legal frameworks in many countries are lagging behind due to the evolving nature of AI. The document argues for the need to modernize existing legal frameworks to cover AI. However, it does not consider how developing countries such as Pakistan can realistically implement such

reforms even with their limited technological knowledge and institutional deficiencies.

21. “OECD Report on Intellectual Property Issues in AI Trained on Scraped Data” by Organisation for Economic Co-operation and Development. AI systems trained on scraped data hold significant legal concerns based on consent, licensing, and fair use of copyrighted materials. The report supports legal frameworks that find equilibrium between the protection of rights and the advancement of creativity. It also fails to address the underdeveloped systems of copyright, poor digital traces in the system, and Pakistan’s lack of capacities to monitor and control AI-driven copyright violations.

22. “ITU Report on Deepfakes and AI-Driven Multimedia Risks” by International Telecommunication Union. The emergence of deepfakes and AI-based multimedia content is a danger to cybersecurity, democracy, and public faith in digital information. The report suggests that addressing the dangers of current synthetic media will require more advanced detection methods and deeper international collaboration. It also fails to address the lack of AI governance frameworks, weak cybersecurity, and the incapacity of Pakistan to develop methods to combat deepfake-related crimes.

23. “UNICEF Recommendations on Criminalising Harmful AI Content” by UNICEF. There is a belief that in order to safeguard the vulnerable, exploitative, deceptive, and abusive AI content should be criminalised. The report emphasises the creation of stronger laws and the need for international collaboration to mitigate the consequences of AI. The report also fails to address Pakistan’s weak legislative and institutional frameworks to combat harmful AI and poor preparedness to implement effective AI control systems.

24. The authors of “The Impact of Artificial Intelligence (AI) on Privacy Rights: An Analytical Exploration” in SSRN Research Paper are of the opinion that privacy rights are at risk due to AI, and this is due to the modes of facial recognition, automated surveillance, and the collection of data at the level of mass. They argue that all countries should create laws to guard against the breaches of AI use. The authors focused heavily on developed nations, however, and did not address the socio-legal constraints pertaining to developing countries, like Pakistan, including low levels of data protection, poor cyber safety infrastructure, and a lack of awareness of the privacy risks of AI.

25. “Ethical Implications of AI in Data Collection: Balancing Innovation with Privacy” by the authors of the arXiv Paper. The authors argue that while AI-based data collection systems bring benefits in terms of innovation and speed, they bring ethical dilemmas regarding consent and privacy, as well as potential data and personal information abuse. They support a governance structure that strikes a balance between these dilemmas while allowing for the progress of technology and the protection of important rights. However, the authors of this paper did not particularly mention Pakistan’s shortcomings in regulation, the impediments to implementation in developing countries, or the gaps in legislation pertaining to AI with respect to data protection and privacy.

26. “AI-Driven Policing in Pakistan: Potential Pitfalls, and Privacy Concerns” by the authors of Pakistan Social Sciences Review. The authors argue that in Pakistan, AI-based surveillance and policing of a predictive nature raise serious legal, ethical and constitutional challenges regarding privacy, discrimination, and the misuse of power by the state. They contend that inadequate legal restraints increase the likelihood of such abuse, thereby eroding the trust of citizens in law enforcement. The study emphasizes the importance of regulatory oversight and accountability. Nevertheless, the authors did not sufficiently address the technical limitations of AI systems of policing, standards of judicial review, comparative governance frameworks, and the enduring societal consequences of algorithmic policing in Pakistan.

27. The authors of the arXiv Literature Review consider “Responsible AI Governance: A Systematic Literature Review.” The authors have argued that responsible AI governance should integrate fairness, accountability, transparency, and the protection of cybersecurity, as well as the development of adequate risk management strategies. Furthermore, the authors contend that comprehensive governance models are essential for ensuring that the regulation of AI technologies and their associated social harms is minimised. Since Pakistan, along with other developing countries, has weak regulatory frameworks, inadequate capacity for the governance of AI, fragmented policymaking, and a lack of AI-focused judicial and administrative capacity, most of the challenges concerning governance in Pakistan were ignored.

28. “Investing in Artificial Intelligence for Social Governance in Pakistan: An Inclusive and Ethical Policy Framework” by the authors of ACADEMIA International Journal. The authors indicate that Pakistan needs an ethical and policy-based AI governance framework that integrates accountability, fairness, and transparency along with the interests of AI. They assert that Pakistan’s AI regulations should be in line with the country’s culture, religion, and constitution, and should encourage responsible innovation. However, the authors neglected the challenges of real enforcement, the limitations of institutional resources, and the international comparative perspectives of ethical AI.

29. "AI-Driven Policing in Pakistan: Potential Pitfalls and Privacy Concerns” by the authors of Pakistan Social Sciences Review. The authors believe Pakistan’s predictive policing and AI-based surveillance systems cause evidentiary and legal dilemmas due to the increased risks of algorithm-based bias, unreliable proof, and accountability gaps in the criminal justice system. They believe the legal systems should ensure the protection of rights and the legal framework by incorporating adequate safeguards. However, the authors were unable to address the issue of the legal framework related to AI-based policing, procedural safeguards according to international best practices, and AI evidence regulation standards, as well as the necessary judicial safeguards and the procedural reform of the judiciary.

30. “Deepfake Crimes and Legal Gaps in Pakistan: A Criminological Review of PECA.” Authors of the Contemporary Journal. The authors think that the Prevention of Electronic Crimes Act 2016 (PECA) is not enough to deal with the risks associated with AI-enabled deepfakes and the related synthetic media crimes within Pakistan. They think that the lack of provisions within AI makes it difficult to prosecute offenders who cover instances of identity theft, misinformation and of course, deepfake technology used to tarnish someone’s reputation. There are many other things that the authors have not discussed, such as the alternative different legal regimes in the world with respect to deepfake regulation, social media governance with respect to the policy of what content to keep and what to remove, technology assisted mechanisms for detection, the need to develop awareness among the general public, the impact of deepfakes on the electoral processes and the damage to Pakistan’s democracy as a whole.

31. Manipulated Realities: Deepfakes and Political Intolerance in Pakistan.The authors of the QJSS Journals believe that deepfake technology can heighten political polarization, Pakistan’s misinformation and intolerance by creating false perceptions and narratives. They state that the lack of efficient legal frameworks to deal with AI-driven political content endangers both democracy and social order. However, the authors have neglected the implications of the regulation of political speech in the constitution, the regulation of the use of synthetic media in the context of cybersecurity, the importance of public digital literacy, the cross-border digital disinformation continuum and the media organization’ role in combating the propaganda of deepfakes.

32. JLSDA's 'The Legal Implications of Deepfake Technology: Privacy, Defamation, and the Challenge of Regulating Synthetic Media'. The authors argue that deepfake technology raises significant

legal issues, particularly with regard to privacy, defamation, identity theft, and violations of intellectual property. They contend that the existing legal frameworks fail to sufficiently address the harms associated with synthetic media technology. Nonetheless, the authors have not sufficiently addressed the framework of AI ethics, the challenges and constraints of underdeveloped legal systems, synthetic media technology and culture, and the establishment of dedicated AI regulatory frameworks in low-capacity legal systems such as Pakistan.

33. ‘Deepfakes: Regulatory Challenges for the Synthetic Society’ by Vaccari and Chadwick. The authors contend that deepfakes pose serious challenges to governance as they are a clear threat to democratic discourse, make digital information unreliable, and complicate the regulatory framework. They argue that these challenges can only be addressed through the implementation of regulations that will achieve an appropriate balance between social order and the protection of the rights to freedom of expression and innovation in technology. However, the authors neglected to mention issues that developing countries like Pakistan with weak cyber governance systems might face such as limited access to technology needed to develop systems for deep fake detection, public unawareness and inadequate coordination of government agencies, as well as the absence of public policy with a focus on localization to provide legislation on synthetic media.

34. “Deepfakes and the Crisis of Knowing” by UNESCO. It is reported that deep Fakes and artificial media threaten the integrity of information, the trust of the public, and the communication of a democracy throughout the world. The organization is of the view that in order to counter the emerging negative effects of synthetic media technologies, governments are obliged to develop ethical frameworks of AI governance and reinforce regulatory mechanisms. However, the report does not analyze Pakistan's framework for domestic law, the public administration of developing countries, the weaknesses of AI governance, or the reforms for practical legislation that would enable the regulation of Deep Fake technology in the social and political context of Pakistan.

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