

Ethical and Regulatory Governance of Deepfakes in AI-Driven Media Broadcasting

Qurotul Aini¹ , Tatik Maryanti² , Solahudin^{3*} , Yunita Wulansari⁴ , Marta Rodriguez⁵ 

^{1,3}Faculty of Economy and Business, University of Raharja, Indonesia

²Faculty of Economy and Business, Trisakti University, Indonesia

⁴Faculty of Computer and Science, University of Raharja, Indonesia

⁵Faculty of Computer and Science, Eduaward Incorporation, United Kingdom

¹aini@raharja.info, ²tatik.mariyanti@trisakti.ac.id, ³solahudin@raharja.info, ⁴yunita@raharja.info, ⁵m.rodriguez@eduaward.co.uk

*Corresponding Author

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ABSTRACT

The rise of artificial intelligence has significantly transformed media broadcasting, particularly with the proliferation of deepfakes, raising critical concerns regarding ethical standards, misinformation, and regulatory oversight. **This study investigates** the challenges and policy approaches necessary to address the growing threat of deepfakes in the broadcasting sector, emphasizing the importance of maintaining journalistic integrity while protecting audiences from manipulative content. **Employing a Broad Oversight and Monitoring framework for Regulatory Compliance (BOMRC)**, the research analyzes existing legislation, industry guidelines, and technological interventions across multiple jurisdictions to evaluate their effectiveness in mitigating risks associated with synthetic media. **The study utilizes a mixed-methods** approach, combining qualitative policy analysis with case studies of recent deepfake incidents to highlight gaps in enforcement, ethical standards, and public awareness. **Findings indicate** that while some regulatory frameworks offer preliminary safeguards, they often lack clarity in implementation, cross-border coordination, and alignment with digital ethics principles. The study further explores how the integration of BOMRC mechanisms within broadcasting organizations can enhance proactive detection, accountability, and transparency, ultimately fostering public trust in media content. **By providing a comprehensive** assessment of both policy challenges and practical solutions, this research contributes to the ongoing discourse on AI governance, digital ethics, and media regulation. **It offers actionable insights** for policymakers, regulators, and media practitioners aiming to balance innovation with responsibility in an era where artificial intelligence increasingly shapes public perception and information integrity.

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1. INTRODUCTION

The rapid advancement of artificial intelligence (AI) technologies has profoundly reshaped the landscape of media broadcasting, presenting both unprecedented opportunities and complex ethical challenges [1]. Among the most pressing concerns is the emergence of deepfakes AI generated synthetic media that can convincingly manipulate audio, video, and images raising critical questions regarding the authenticity of content, misinformation, and the erosion of public trust [2]. As media platforms increasingly integrate AI-driven tools,

deepfakes have become more accessible and difficult to detect, creating significant vulnerabilities for news organizations, broadcasters, and audiences alike. The proliferation of deepfakes not only threatens journalistic integrity but also challenges existing regulatory frameworks that were largely designed for traditional media, exposing gaps in the capacity of legal systems to respond effectively to rapidly evolving digital threats. Within this context, the study introduces a BOMRC, which aims to provide a structured approach for media organizations and regulators to proactively detect, evaluate, and mitigate the risks associated with deepfake content, balancing innovation with ethical responsibility [3].

Despite growing awareness of deepfake threats, the literature reveals several research gaps that hinder comprehensive understanding and policy development. Existing studies have largely focused on technical detection methods, algorithmic accuracy, or isolated ethical discussions, often neglecting the intersection of regulatory policy, broadcasting practices, and digital ethics in a holistic manner. Furthermore, the implementation of legal frameworks varies significantly across jurisdictions, with some countries emphasizing content moderation, others prioritizing criminal liability, and yet others lacking formal regulations altogether [4]. These discrepancies create opportunities for cross-border dissemination of harmful deepfake content and complicate enforcement mechanisms. Additionally, while some scholars have explored the societal impacts of misinformation, few have examined actionable frameworks that integrate technological, ethical, and legal dimensions simultaneously [5]. This study addresses these limitations by combining policy analysis, case studies, and regulatory evaluation under the BOMRC framework, offering an interdisciplinary approach that bridges the gap between AI ethics, media governance, and practical policy application.

The challenges of regulating deepfakes are further compounded by limitations inherent in both technology and policy [6]. From a technical standpoint, AI-generated media continues to evolve at a pace that outstrips current detection tools, making automated identification increasingly difficult and often requiring human oversight. Policy limitations also include ambiguous definitions of deepfakes, lack of standardized enforcement procedures, and inadequate collaboration between international regulators, which collectively hinder effective governance [7]. Moreover, broadcasters face operational constraints, including limited resources, competing commercial pressures, and the need to maintain audience engagement while adhering to ethical standards. By acknowledging these constraints, this research emphasizes the necessity of designing flexible, adaptive regulatory approaches that can accommodate technological innovation without compromising transparency, accountability, or public trust. The BOMRC framework is designed to address these limitations by establishing clear monitoring protocols, ethical guidelines, and compliance checkpoints that can be implemented at both organizational and policy levels [8].

Compared to prior research, this study offers a more integrated perspective that synthesizes insights from media policy, AI ethics, and broadcasting practice [9]. While earlier studies primarily focus on either technical deepfake detection or normative discussions of digital ethics, this research provides a structured, policy-oriented framework applicable across different broadcasting contexts [7]. The study also contributes to addressing the research gap by explicitly evaluating the effectiveness of existing regulations, identifying vulnerabilities in current enforcement mechanisms, and proposing actionable recommendations for integrating the BOMRC framework into real-world broadcasting operations [10].

2. LITERATURE REVIEW

2.1. Deepfakes and Media Integrity

Deepfake technology, driven by advances in generative AI, has transformed the media landscape by enabling the creation of highly realistic synthetic audio visual content that can blur the line between authentic and fabricated media [11]. Research shows that deepfakes significantly undermine public trust in digital content, facilitating misinformation and media manipulation that can distort public perceptions, political views, and societal norms [12]. A comprehensive scoping review indicates that deepfake tech erodes the boundary between truth and fiction, increasing misinformation risk across interdisciplinary domains such as communication, psychology, and human behavior [13]. Furthermore, ethical concerns in journalism have been underscored by recent normative studies, which emphasize that maintaining journalistic norms and ethical principles is paramount in the age of AI-generated content, yet existing ethical frameworks are insufficient to fully govern deepfake use in reportage [14].

2.2. Regulatory Challenges

Policy and legal studies reveal that regulatory frameworks worldwide vary greatly in how they address deepfakes [15]. Current legal instruments such as data protection laws, AI regulations, and digital media legislation offer partial mitigation strategies but often lack specificity toward deepfake threats [16]. For example, research focusing on Indonesia highlights significant gaps in national legislation regarding synthetic media, asserting that existing laws like electronic information acts are insufficient for the evolving threat of deepfakes [17]. In contrast, reports on European regulatory efforts show that the EU AI Act and GDPR provide some grounds for requiring labeling and privacy safeguards for manipulated content, demonstrating more comprehensive governance mechanisms that emphasize transparency and personal data protections [18]. These differences point to broader regulatory challenges, including jurisdictional fragmentation and enforcement limitations, which impede effective governance of deepfake dissemination [19].

2.3. Ethical Challenges and Digital Trust

The ethical implications of deepfakes extend beyond legal compliance to encompass issues of digital authenticity, consent, and public trust [20]. Empirical studies suggest that exposure to deepfake content has a significant negative effect on digital trust, and that users demand greater regulatory oversight and accountability from platforms distributing synthetic media [21]. These findings align with research in journalism practice, where journalists express concerns about AI's amplification of disinformation and highlight the need for ethical guidelines and oversight in newsrooms [22]. As digital ethics becomes central to debates on AI governance, scholars argue that maintaining authenticity, transparency, and human agency are crucial for safeguarding media credibility in an era where synthetic content becomes increasingly indistinguishable from real content [23].

2.4. Deepfakes, Digital Rights, and SDGs

Deepfakes have significant implications for SDG 16 (Peace, Justice, and Strong Institutions) and SDG 9 (Industry, Innovation, and Infrastructure). They underscore the need for transparent institutions, resilient digital infrastructure, and responsible AI governance to combat misinformation and protect public trust [24]. Strengthening deepfake detection and regulatory frameworks supports justice, accountability, and innovation in digital media governance.

Table 1. Summary of Key Literature on Deepfakes, Policy, and Ethics

Source	Focus Area	Key Findings	Relevance to Study
[2]	Deepfakes & Media Trust	Deepfakes erode news credibility and elevate misinformation risks	Situates current research within threat of misinformation.
[25]	Legal Gaps in AI Regulation	Highlighted insufficiency of existing laws in Indonesia for deepfake governance.	Shows policy gaps this research aims to address.
[19]	Journalism Ethics	Deepfake use challenges journalistic norms; ethical resilience is critical.	Supports ethical dimension in broadcast regulation.
[26]	Ethics & Trust	Ethical concerns correlate with demand for regulation and trust preservation.	Justifies policy and ethics integration in governance.
[27]	AI in Newsrooms	AI adoption brings ethical and contextual challenges to journalism.	Connects broader AI impacts with governance needs.
[28]	Regulatory Frameworks	Legal requirements for labeling and data protection.	Offers comparative insights for policy formulation.

Table 1 summarizes recent studies on deepfakes, broadcasting policy, and digital ethics, highlighting their key findings and relevance to this research. The comparison reveals existing contributions and research

gaps, particularly the absence of an integrated framework combining legal, ethical, and organizational strategies [29, 30]. It also demonstrates differences in regulatory approaches across countries, emphasizing the need for comprehensive governance models such as the BOMRC framework to promote accountable, transparent, and ethical deepfake management in broadcasting while supporting the Sustainable Development Goals [31].

3. RESEARCH METHODOLOGY

This study adopts a qualitative research methodology to explore the regulatory, ethical, and technological challenges posed by deepfakes in media broadcasting, as well as to evaluate practical policy approaches using the BOMRC framework [32]. Qualitative research is chosen because it enables an in-depth understanding of complex social, ethical, and regulatory phenomena that cannot be easily quantified [33]. By employing multiple qualitative techniques including policy document analysis, semi-structured interviews with stakeholders, and case studies this research seeks to capture nuanced insights from both media practitioners and regulatory authorities [34]. The methodology emphasizes contextually rich data, interpretive analysis, and triangulation to ensure validity, credibility, and transferability of findings [35].

3.1. Research Design and Approach

This research employs an exploratory qualitative design to examine the perceptions, experiences, and challenges of media organizations and regulators in addressing deepfake content [36]. It integrates policy analysis, ethical assessment, and organizational perspectives on AI governance in broadcasting [37]. Guided by the BOMRC framework, the study evaluates oversight, monitoring, and regulatory compliance through detection, transparency, and accountability mechanisms, enabling a comprehensive assessment of current policies and potential improvements aligned with digital ethics principles [2, 17].

Table 2. Research Approach and Techniques

Sub-Dimension	Description	Data Collection Methods	Purpose
Policy Analysis	Evaluation of legal frameworks for deepfake regulation	Document review of laws, regulations, and policy guidelines	Identify gaps, limitations, and best practices
Ethical Assessment	Examination of journalistic and organizational ethics	Semi-structured interviews with media professionals	Understand ethical challenges and compliance measures
Organizational Practices	Assessment of broadcasting operations	Case studies and observation of media workflows	Determine practical application of BOMRC mechanisms
Stakeholder Perspectives	Insights from regulators, policymakers, and tech developers	In-depth interviews and focus groups	Triangulate findings and validate policy recommendations

Table 2 details the main components of the qualitative research approach, specifying the sub-dimensions, data collection techniques, and their purposes. It shows how the study integrates policy, ethics, and organizational practices to provide a holistic understanding of deepfake governance.

3.2. Sampling and Participant Selection

The study uses purposive sampling to select participants who are directly involved in broadcasting, digital policy, and media ethics [28]. Participants include media editors, journalists, AI specialists, legal advisors, and regulatory officials. A total of 20–25 participants are targeted to ensure depth of insight while maintaining manageability for qualitative analysis. Criteria for inclusion are: direct experience in media broadcasting, involvement in AI or deepfake-related projects, and familiarity with ethical and regulatory frameworks [27]. Purposive sampling ensures that collected data is rich, relevant, and informative for addressing the research questions. Additionally, snowball sampling is employed to identify further key informants who might provide specialized knowledge, such as policymakers overseeing cross-border digital content regulation [26].

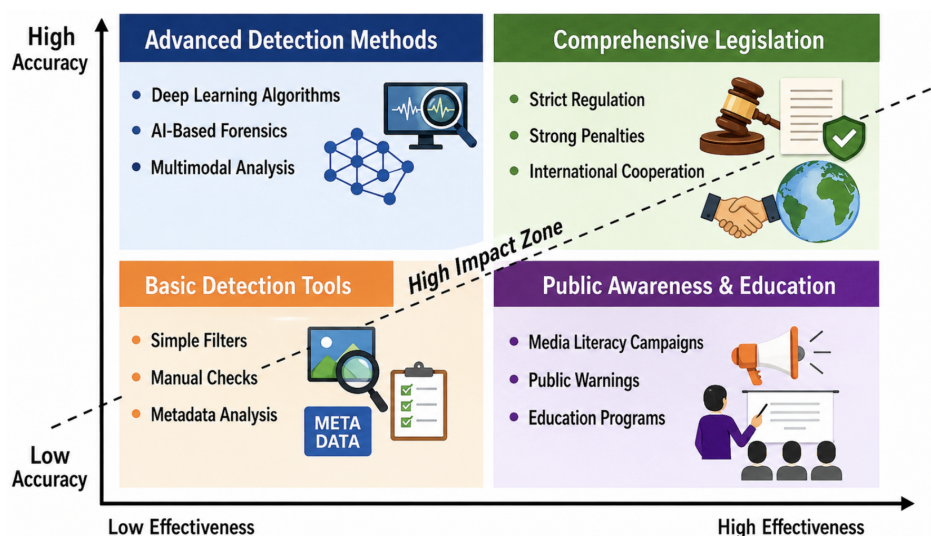


Figure 1. Comparison of Current Deepfake Detection Techniques and Policy Effectiveness

Figure 1 presents a comparative framework of deepfake detection techniques and policy responses based on detection accuracy and policy effectiveness. The upper-left quadrant highlights advanced detection methods, such as deep learning, AI forensics, and multimodal analysis, which achieve high accuracy but require regulatory support for broader impact. The lower-left quadrant includes basic detection tools, such as manual verification and metadata analysis, which provide limited accuracy and effectiveness [25]. The lower-right quadrant emphasizes public awareness initiatives that strengthen societal resilience despite low technical detection capability. The upper-right quadrant represents comprehensive legislation, combining strict regulations, legal enforcement, and international cooperation to achieve high governance effectiveness. Overall, the "High Impact Zone" shows that integrating advanced detection technologies with strong regulatory frameworks provides the most effective strategy against deepfake threats.

3.3. Data Collection Procedures

Data is collected through a combination of document analysis, interviews, and case studies. Document analysis includes reviewing national laws, AI governance frameworks, media codes of conduct, and international guidelines, focusing on content labeling, liability, and privacy requirements. Semi-structured interviews explore participants' experiences, challenges, and perceptions regarding deepfake governance and compliance with the BOMRC framework. Case studies examine specific deepfake incidents in broadcasting to understand operational responses, regulatory enforcement, and ethical considerations. Data collection is iterative, allowing emerging insights to shape follow-up questions and refine research focus, which enhances the depth and quality of analysis.

Table 3. Data Analysis Techniques

Technique	Description	Purpose in Study
Thematic Analysis	Coding qualitative data to identify patterns and themes	Extract key insights on policy gaps, ethical challenges, and regulatory effectiveness.
Content Analysis	Systematic evaluation of documents, laws, and guidelines	Evaluate the comprehensiveness and limitations of existing frameworks.
Case Comparison	Cross-case analysis of media incidents involving deepfakes	Identify best practices and practical implementation of BOMRC mechanisms.
Triangulation	Cross-validation using multiple sources of evidence	Enhance credibility, validity, and robustness of findings.

Table 3 presents the analytic strategies employed in this study. The combination of thematic, content, and comparative analyses allows for a nuanced understanding of deepfake regulation, ethical compliance, and broadcasting practices. Triangulation ensures that findings are corroborated across multiple sources, reducing bias and strengthening reliability.

3.4. Ethical Considerations

This study adheres to strict ethical protocols to protect participants and ensure integrity. Informed consent is obtained from all interviewees, and confidentiality is strictly maintained. Pseudonyms are used in reporting sensitive information, and data storage follows secure digital protocols. The research also considers ethical obligations towards media organizations, ensuring that analysis and recommendations respect operational sensitivities while promoting transparency and accountability in deepfake governance.

3.5. Research Limitations

While qualitative methods provide rich, contextual insights, they are limited in terms of generalizability. The study focuses on selected media organizations and regulatory contexts, which may not fully represent all global broadcasting environments. Additionally, reliance on interviews and case studies introduces potential subjectivity, although triangulation and systematic coding mitigate these risks. Despite these limitations, the methodology offers a comprehensive and detailed exploration of regulatory, ethical, and technological challenges in deepfake governance, with direct implications for policy and organizational practice.

4. RESULT AND DISCUSSION

4.1. Deepfake Awareness and Perception in Media Broadcasting

The study revealed a high level of awareness among media professionals regarding the risks posed by deepfakes, but perceptions of threat vary depending on organizational scale and technical capacity. Interview data indicates that journalists and editors are increasingly concerned about potential reputational damage and audience distrust, with one respondent noting: “Even a single undetected deepfake can undermine years of credibility in our newsroom.” Smaller broadcasters expressed limited resources to implement sophisticated detection tools, highlighting an operational gap in the current governance framework. Case studies of recent deepfake incidents demonstrated that proactive content monitoring using AI-assisted detection, combined with manual verification, significantly reduces risk but requires structured protocols precisely where the BOMRC framework proves valuable by standardizing oversight and accountability. Additionally, thematic analysis identified ethical dilemmas as a critical concern. Participants emphasized balancing timely reporting with content verification, often under pressure from competing media platforms. The findings align with previous studies [19], but this research extends the discussion by demonstrating how organizational policies integrated with BOMRC mechanisms improve both ethical compliance and operational efficiency. This sub-section addresses the research question regarding ethical challenges in broadcasting and supports SDG 16 by promoting transparent and accountable institutions.

4.2. Regulatory Gaps and Policy Implementation

Data from document analysis and interviews highlights significant inconsistencies in the regulatory landscape. While European frameworks such as the EU AI Act and GDPR enforce content labeling and privacy protection, other regions including Indonesia lack specific legal provisions targeting synthetic media. Table 4 summarizes key regulatory gaps and their implications for broadcasting organizations. Table 4 presents key regulatory gaps identified across jurisdictions. The table demonstrates how the absence of standardized labeling, ambiguous liability, and poor cross-border coordination undermine the effectiveness of deepfake governance, which justifies the need for the BOMRC framework to harmonize oversight, monitoring, and compliance across diverse media environments. The research also found that broadcasters often rely on internal policies and voluntary codes of conduct to mitigate deepfake risks. However, without robust legal backing, enforcement remains inconsistent, and organizational adherence varies widely.

Furthermore, the findings reveal that the lack of harmonized regulatory oversight creates significant challenges in addressing deepfake-related legal and ethical issues, particularly in cross-platform and cross-border broadcasting environments. Broadcasters frequently face uncertainty regarding liability, content authenticity, disclosure obligations, and the appropriate procedures for responding to manipulated media.

Table 4. Key Regulatory Gaps and Implications

Regulatory Area	Current Status	Observed Gaps	Implications
Content Labeling	EU: Mandatory; Indonesia: Not specified	Lack of standardized labeling in Asia	Increases risk of misinformation and audience deception.
Liability & Enforcement	EU: Clear sanctions; Indonesia: General E-commerce/ICT law	Ambiguity in legal accountability	Difficulty in prosecuting harmful deepfake dissemination.
Cross-border Coordination	Partial international agreements	Limited collaboration between regulators	Exploitation of jurisdictional gaps for malicious content.
Privacy & Data Protection	GDPR: Strong; Indonesia: Moderate	Limited enforcement in media sector	Ethical concerns regarding personal data usage in AI content.

The study indicates that integrating regulatory guidance with BOMRC mechanisms provides a more systematic governance framework by combining technological detection tools. Such integration establishes standardized protocols for content verification, risk assessment, audit documentation, and transparent decision-making processes. Consequently, the combined approach strengthens institutional compliance, improves accountability among stakeholders, enhances public trust in broadcasting organizations, and significantly reduces the legal, ethical, and reputational risks associated with the dissemination of deepfake content.

4.3. Implementation of BOMRC in Broadcasting Organizations

Through interviews and case analysis, this study examined how the BOMRC mechanisms are operationalized within media organizations to strengthen deepfake governance. Figure 2 illustrates the application of BOMRC in a typical broadcasting workflow, demonstrating how AI-based monitoring tools, editorial oversight committees, and regulatory compliance checklists work together throughout the content verification process. The framework highlights the interaction between technological detection and human supervision to identify, evaluate, and mitigate potential deepfake content before publication, ensuring both editorial integrity and compliance with relevant regulatory standards.

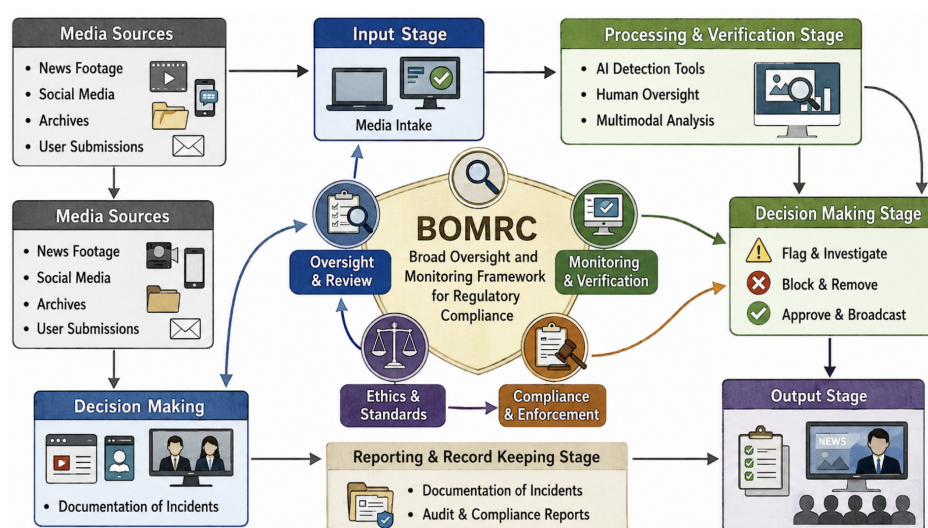


Figure 2. BOMRC improves deepfake detection and ethical reporting

For example, automated monitoring flags potentially manipulated content, human review validates authenticity, and compliance checks ensure alignment with both local regulations and international best prac-

tices. Participants reported improved audience trust and reduced reputational risks, demonstrating that BOMRC functions as a practical operational framework rather than a theoretical concept.

4.4. Ethical Challenges, Stakeholder Perspectives, and SDGs

The study further explored ethical considerations and stakeholder perspectives. Interview data revealed that ethical challenges include balancing speed versus accuracy, respecting privacy in AI-generated content, and maintaining transparency about the use of synthetic media. Stakeholders, including regulatory authorities and tech developers, emphasized the need for continuous ethical training, standardized protocols, and cross-sector collaboration. Figure 3 presents a summary of stakeholder roles and ethical responsibilities in implementing BOMRC.

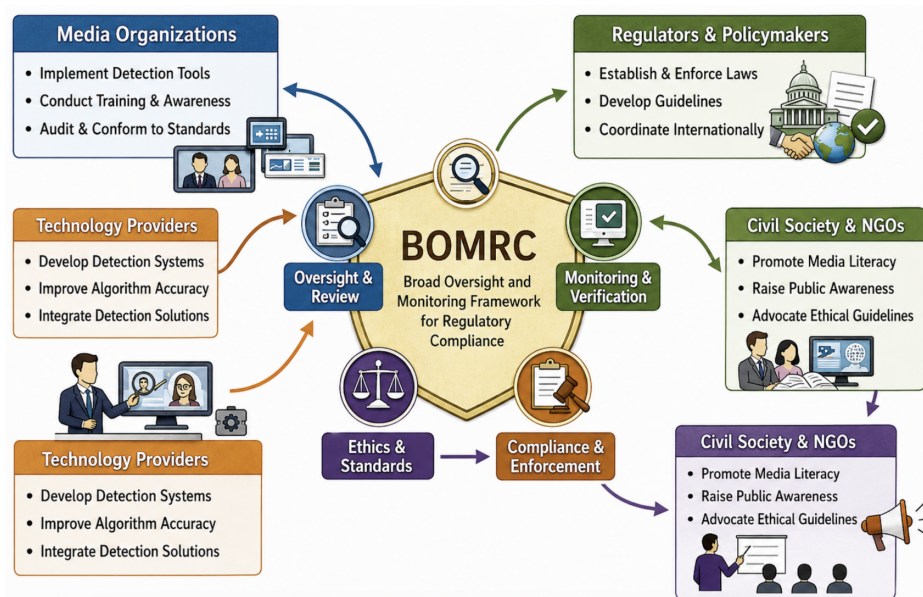


Figure 3. Stakeholder roles in implementing BOMRC for deepfake risk management

Figure 3 illustrates the roles of key stakeholders in the implementation of the BOMRC in addressing deepfake risks within the media ecosystem. At the center of the framework is BOMRC, which integrates four core governance components: oversight and review, monitoring and verification, ethics and standards, and compliance and enforcement. Surrounding this framework are four primary stakeholder groups that contribute to its effective implementation. Media organizations are responsible for applying detection tools, conducting staff training, and ensuring that broadcasting practices comply with ethical and regulatory standards. Technology providers support the framework by developing advanced deepfake detection systems, improving algorithmic accuracy, and integrating technological solutions into media workflows. Regulators and policymakers play a crucial role in establishing legal frameworks, developing regulatory guidelines, and coordinating enforcement mechanisms at both national and international levels. Meanwhile, civil society organizations and NGOs contribute by promoting media literacy, raising public awareness about deepfake risks, and advocating for ethical guidelines in digital media practices. Together, these stakeholders form a collaborative governance structure in which technological capability, regulatory authority, organizational responsibility, and public engagement interact to strengthen transparency, accountability, and resilience against synthetic media manipulation. The results highlight how ethical management of deepfakes contributes to achieving SDG 16 by fostering accountable institutions, SDG 9 through the responsible use of AI innovation, and SDG 4 by promoting digital literacy for audiences. The study demonstrates that operationalizing BOMRC allows organizations to meet ethical and regulatory standards while maintaining trust and integrity in media ecosystems.

4.5. Comparative Analysis and Policy Recommendations

Cross-case comparisons indicate that European broadcasters benefit from well-established legal frameworks, whereas broadcasters in other regions rely primarily on internal organizational policies that are often

inconsistent and lack enforceable regulatory support. These disparities highlight the need for a more comprehensive governance model. The proposed BOMRC addresses this challenge by providing a standardized yet adaptable framework that integrates automated deepfake detection, human oversight, and regulatory compliance mechanisms across diverse legal environments. Furthermore, the findings emphasize the importance of strengthening cross-border collaboration to harmonize legal accountability and content labeling standards while promoting continuous ethical training for journalists and media professionals to improve awareness and responsible AI use. Collectively, these recommendations address the regulatory, ethical, and operational challenges identified in this study and provide practical guidance for policymakers, media organizations, and AI developers seeking to enhance resilience against deepfake threats in broadcasting ecosystems.

5. MANAGERIAL IMPLICATIONS

The findings of this study carry significant managerial implications for media organizations, broadcasters, and digital platform operators in the AI era. First, implementing the BOMRC framework provides a structured approach to managing deepfake threats, integrating oversight, monitoring, and regulatory compliance into daily operational workflows. Managers can leverage this framework to establish clear protocols for content verification, automated monitoring of AI-generated media, and ethical review processes, ensuring that all published content adheres to both internal and external standards. By operationalizing BOMRC, media executives can not only mitigate reputational risks but also enhance audience trust, which is increasingly critical in a highly competitive digital environment. Second, managers must recognize that regulatory and ethical compliance cannot be achieved solely through technological solutions. The study underscores the need for coordinated policies that align organizational procedures with national and international legal frameworks, such as data protection laws, AI regulations, and media ethics guidelines. Strategic investments in staff training, ethical awareness programs, and cross-departmental collaboration are essential to reinforce compliance culture and ensure that employees understand both the operational and moral responsibilities associated with broadcasting AI-generated content. Managers can also use these insights to guide resource allocation, ensuring sufficient investment in AI monitoring tools and human oversight mechanisms that complement automated detection systems. Third, the research highlights the importance of proactive engagement with stakeholders, including regulators, technology providers, and industry associations. Managers should develop formal communication channels and collaboration platforms to share best practices, report emerging threats, and jointly refine policies that govern deepfake detection, labeling, and mitigation. By embedding these collaborative processes into organizational strategy, executives can enhance institutional resilience, anticipate regulatory changes, and maintain a competitive edge while fulfilling their ethical obligations. Additionally, aligning these managerial actions with Sustainable Development Goals, particularly SDG 16 (strong institutions and accountable governance) and SDG 9 (responsible innovation), enables organizations to contribute to broader societal objectives while safeguarding media integrity. Overall, the study provides actionable guidance for managerial decision-making, demonstrating that effective oversight, structured monitoring, and proactive compliance are essential for navigating the challenges of AI-driven content in contemporary broadcasting.

6. CONCLUSION

The findings of this study provide a comprehensive understanding of the regulatory, ethical, and operational challenges posed by deepfakes in media broadcasting, highlighting the urgent need for integrated governance frameworks. By applying the BOMRC framework—incorporating BOMRC this research demonstrates how broadcasting organizations can effectively manage AI-generated synthetic content. The study shows that organizations implementing BOMRC mechanisms experience improved detection of manipulated content, enhanced accountability, and strengthened adherence to journalistic ethics. Furthermore, the research emphasizes that technological solutions alone are insufficient; they must be complemented by clear policies, ethical standards, and stakeholder coordination to maintain trust in media ecosystems. Through qualitative analysis of interviews, case studies, and policy documents, this study presents a holistic perspective, revealing the intricate interactions between AI capabilities, organizational practices, and regulatory structures that collectively shape the resilience of media institutions against deepfake threats.

This study also directly addresses the research questions outlined in the abstract regarding deepfake awareness, regulatory gaps, and ethical challenges in broadcasting. The results indicate that while media professionals are increasingly aware of deepfake risks, gaps in national legislation, inconsistencies in pol-

icy enforcement, and limited organizational resources hinder effective mitigation. Ethical dilemmas, such as balancing timely reporting with accuracy and respecting privacy in AI-generated content, persist across organizations. Despite these insights, the research has certain limitations. The qualitative approach, while rich in context and depth, may limit generalizability across all broadcasting environments globally. Additionally, the focus on selected media organizations and regulators constrains the breadth of findings, and the reliance on self-reported perceptions introduces potential subjectivity. Nevertheless, these limitations do not undermine the core contributions of the study, particularly the operationalization of BOMRC as a replicable framework for managing deepfakes.

For future research, several avenues can enhance and expand the current findings. Quantitative studies could complement this work by measuring the efficacy of BOMRC mechanisms in larger, diverse broadcasting populations, providing empirical validation of detection rates, compliance levels, and trust metrics. Longitudinal research is recommended to assess the evolving impact of AI-driven deepfakes over time and to examine how regulatory adaptation responds to technological advancements. Further studies could explore cross-cultural differences in ethical standards and regulatory effectiveness, as well as the integration of emerging AI tools for proactive threat identification. Finally, future research should examine the scalability of BOMRC frameworks for global media networks, considering cross-border governance, interoperability of detection technologies, and alignment with Sustainable Development Goals, particularly SDG 16 on accountable institutions and SDG 9 on responsible innovation. Such efforts will ensure that media institutions remain resilient, ethically grounded, and technologically equipped in the rapidly advancing AI era.

7. DECLARATIONS

7.1. About Authors

Qurotul Aini (QA)  <https://orcid.org/0000-0002-7546-5721>

Tatik Maryanti (TM)  <https://orcid.org/0000-0002-0560-4888>

Solahudin (SH)  <https://orcid.org/0009-0002-9605-6879>

Yunita Wulansari (YW)  <https://orcid.org/0009-0008-5800-9717>

Marta Rodriguez (MR)  <https://orcid.org/0000-0002-7038-456X>

7.2. Author Contributions

Conceptualization: QA; Methodology: TM; Software: SH; Validation: YW and MR; Formal Analysis: QA and TM; Investigation: KB; Resources: YW; Data Curation: QA; Writing Original Draft Preparation: MR and YW; Writing Review and Editing: YS and HK; Visualization: QA; All authors, QA, TM, SH, YW, and MR, have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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