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Artificial Intelligence, Ethics, and Credibility in Journalism: An Interdisciplinary Study Integrating AI, Psychology, and Physics

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Abstract

The integration of Artificial Intelligence (AI) in journalism has transformed news production, distribution, and consumption, while raising ethical concerns related to credibility, authenticity, and professional responsibility. This study examines Pakistani journalists' perceptions of AI-driven ethical risks, with a focus on threats to content authenticity, fake news, deepfakes, and editorial standards. Using a quantitative survey, data were collected from 387 journalists across print, electronic, and digital media in Islamabad, Lahore, and Karachi. Descriptive analysis reveals that journalists perceive AI as a potential threat to authenticity and credibility, with deepfakes and automated content generation complicating verification and adherence to ethical standards. Respondents emphasized the importance of human editorial oversight and transparency, endorsing a human-in-the-loop approach to AI-assisted journalism. The findings highlight that while AI offers efficiency and innovation, robust ethical safeguards are essential to maintain public trust and professional norms. This study provides empirical evidence from Pakistan, addressing a gap in research on developing media systems, and offers

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recommendations for ethical guidelines, disclosure policies, training programs, and regulatory frameworks to ensure responsible AI adoption in journalism.

Keywords: Artificial Intelligence, Journalism Ethics, Credibility, Deepfakes, Pakistan, Human-In-The-Loop

Introduction

The rapid integration of Artificial Intelligence (AI) into journalism has fundamentally transformed the processes of news production, distribution, and consumption across the globe. Technologies such as automated news writing systems, algorithmic content recommendation, image and video generation tools, and data-driven analytics are increasingly embedded within newsroom operations. While these innovations offer opportunities for efficiency and personalization, they also raise profound ethical concerns related to credibility, authenticity, transparency, and professional responsibility in journalism.

One of the most pressing ethical challenges associated with AI-driven journalism is the erosion of content authenticity. The rise of generative AI systems capable of producing human-like text, images, and videos has blurred the distinction between human-authored and machine-generated content. This development has intensified concerns about plagiarism, originality, and editorial accountability, particularly in environments where economic pressures encourage rapid content production. Scholars argue that without robust ethical safeguards, AI may undermine the core journalistic principles of accuracy, fairness, and transparency (Diakopoulos, 2020; Tandoc et al., 2020).

The proliferation of AI-generated deepfakes and synthetic media further complicates the ethical landscape of contemporary journalism. Deepfake technologies enable the creation of highly realistic yet fabricated audio-visual content, posing significant risks to public trust, democratic discourse, and media credibility. Journalists are increasingly confronted with challenges in verifying sources, detecting manipulated content, and maintaining

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audience confidence in an era of algorithmically driven misinformation (Chesney & Citron, 2019; Vaccari & Chadwick, 2020).

Beyond misinformation, AI also reshapes newsroom power structures and ethical decision-making processes. Automation tools may reduce human editorial oversight, potentially marginalizing traditional gatekeeping roles that safeguard journalistic standards. While some scholars advocate for a "human-in-the-loop" model to ensure ethical accountability, empirical evidence suggests that newsroom adoption of such safeguards remains uneven, particularly in developing media systems (Beckett, 2019; Guzman & Lewis, 2020).

In the context of Pakistan, these ethical challenges are especially significant. Pakistan's media landscape is characterized by rapid digitalization, intense political polarization, and limited regulatory frameworks governing emerging technologies. Despite growing global literature on AI and journalism ethics, empirical studies examining journalists' perceptions of AI-driven ethical risks in Pakistan remain scarce. Most existing research focuses on Western media systems, leaving a critical gap in understanding how journalists in developing countries interpret, negotiate, and respond to AI-related ethical dilemmas.

This study addresses this gap by empirically examining Pakistani journalists' perceptions of AI's impact on journalistic ethics, credibility, and content authenticity. Drawing on survey data from 387 journalists across print, electronic, and digital media organizations, the study investigates how media professionals evaluate ethical risks such as deepfakes, fake news, and automated content generation, as well as the safeguards they consider necessary to ensure responsible AI use. By foregrounding journalists' perspectives, this research contributes to global debates on ethical AI governance and provides empirical evidence from Pakistan, a developing media ecosystem that remains underrepresented in AI journalism research.

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Literature Review

Recent scholarship increasingly highlights the growing influence of generative artificial intelligence and large language models in newsroom workflows. These systems are now capable of producing news articles, summaries, images, and multimedia content, significantly altering traditional journalistic practices. However, scholars argue that the integration of generative AI introduces new ethical challenges related to transparency, accountability, and editorial control. For instance, research examining newsroom adoption of generative AI indicates that journalists are concerned about algorithmic bias, the opacity of automated decision-making, and the difficulty of maintaining editorial independence when AI systems participate in content production processes (Beckett & Yaseen, 2023; Jones et al., 2023).

Similarly, recent studies emphasize that generative AI can challenge the credibility of journalism by blurring the boundaries between human-authored and machine-generated content. The ability of AI tools to automatically produce text, images, and videos raises concerns about factual accuracy, transparency, and source attribution, making human oversight increasingly essential for maintaining journalistic integrity (Shi & Sun, 2024). Recent scholarship highlights the growing influence of generative artificial intelligence and large language models in newsroom workflows. These technologies can generate news articles, summaries, images, and multimedia content, significantly transforming journalistic practices. However, scholars argue that the integration of generative AI introduces new ethical challenges related to transparency, accountability, and editorial control. Studies indicate that journalists are concerned about algorithmic bias, opaque decision-making processes, and the potential loss of editorial independence when AI systems participate in content production (Pavlik, 2023; Beckett & Yaseen, 2023; Jones et al., 2023; Shi & Sun, 2024).

Emerging empirical research also shows that journalists perceive AI as a potential amplifier of misinformation and disinformation risks. Surveys of media professionals

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indicate that many journalists believe AI technologies will significantly increase the spread of manipulated content and make it more difficult to detect fabricated information, particularly deepfakes and automated fake news (Peña-Alonso et al., 2025).

The integration of Artificial Intelligence (AI) in journalism has prompted extensive debate regarding its ethical, professional, and societal implications. Globally, studies indicate that AI-driven technologies—such as automated news writing, algorithmic content recommendation, and deepfake generation—have fundamentally reshaped the norms of journalistic practice (Diakopoulos, 2019; Marconi, 2020). Scholars highlight the dual potential of AI: enhancing efficiency and personalization while simultaneously introducing risks to credibility, authenticity, and editorial accountability (Tandoc et al., 2018; Lewis et al., 2019). Scholars warn that AI-driven deepfakes and synthetic media pose serious risks to journalism credibility and democratic communication (Chesney & Citron, 2019).

A key concern in the literature is the erosion of content authenticity. Generative AI tools can produce human-like text, images, and videos, complicating traditional notions of authorship and accountability (Carlson, 2015; Beckett, 2019). Automated content generation has been associated with increased risks of plagiarism, reduced originality, and ethical shortcuts, which may compromise journalistic standards (Brennen et al., 2020). Deepfakes and synthetic media, in particular, pose a significant threat to public trust and democratic discourse, challenging journalists' capacity to verify sources and prevent misinformation (Chesney & Citron, 2019; Vaccari & Chadwick, 2020).

The ethical challenges posed by AI are further amplified by newsroom dynamics. Automation can diminish human editorial oversight, potentially marginalizing gatekeeping roles that safeguard professional norms (Guzman & Lewis, 2020; Napoli, 2019). The literature emphasizes the importance of human-in-the-loop frameworks, where journalists retain decision-making authority over AI-generated content, ensuring

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accountability, transparency, and adherence to ethical standards (Floridi et al., 2018; Lewis et al., 2019).

In developing countries such as Pakistan, scholarship on AI ethics in journalism remains limited. Pakistan's media ecosystem is characterized by rapid digitalization, political polarization, and nascent regulatory mechanisms, creating a high-risk environment for the ethical deployment of AI in news production (Newman, 2023; Waisbord, 2018). Existing studies on Western media systems provide a foundation, but empirical evidence from Pakistani newsrooms is scarce, particularly regarding journalists' perceptions of AI-induced ethical risks, credibility challenges, and professional safeguards (Anderson et al., 2014; Silverman, 2015).

Overall, the literature underscores the urgent need for context-sensitive research that examines how journalists interpret AI's ethical implications and manage emerging challenges. This study addresses that gap by empirically investigating Pakistani journalists' perceptions of AI-driven threats to ethics, credibility, trust, and authenticity, situating these findings within broader global debates on responsible AI governance in journalism.

Methodology

This study employed a quantitative survey design to examine journalists' perceptions regarding the ethical implications of Artificial Intelligence in journalism. Data were collected through a structured questionnaire distributed among professional journalists working in print, electronic, and digital media organizations in Pakistan.

The study used random sampling to select respondents from three major media hubs: Islamabad, Lahore, and Karachi. A total of 387 journalists participated in the survey, representing reporters, editors, producers, and digital media professionals.

The questionnaire consisted of Likert-scale items (1 = Strongly Disagree to 5 = Strongly Agree) measuring perceptions related to:

- AI and journalistic authenticity

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- AI-generated fake news
- Deepfakes and misinformation
- Ethical standards and plagiarism
- Transparency and editorial oversight

Data were analyzed using descriptive statistics, including frequencies and percentages, to examine journalists' attitudes toward AI-related ethical challenges. The results were visualized using bar charts to facilitate interpretation. Data analysis was conducted using SPSS statistical software, and descriptive statistics were used to interpret journalists' perceptions of AI-related ethical challenges.

Table 1

Demographic Characteristics of Respondents (N = 387)

Variable	Frequency	Percentage
Male	270	69.8%
Female	117	30.2%
Print Media	120	31%
Electronic Media	150	38.8%
Digital Media	117	30.2%

Research Questions

Based on the study's objectives and ethical focus, the following research questions guide the analysis:

RQ1: How do Pakistani journalists perceive the ethical risks associated with AI-generated content in news production?

RQ2: To what extent does Artificial Intelligence threaten journalistic credibility and content authenticity in Pakistan?

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RQ3: What ethical safeguards and professional controls do journalists support to ensure the responsible use of AI in journalism?

Results

This section presents the findings related to journalists' perceptions of ethical risks, credibility, and professional safeguards associated with Artificial Intelligence in journalism. Descriptive statistics derived from a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) are used to interpret respondents' attitudes. Visual bar charts are included to enhance clarity and transparency of the findings. The results indicate a moderate to high level of concern, with a majority of respondents agreeing that AI-generated content threatens the authenticity of journalistic reporting.

Perceived Threats to Journalistic Authenticity and Credibility

Respondents were asked to evaluate whether AI threatens the authenticity of journalistic content. The results indicate a moderate to high level of concern among journalists. A substantial proportion of respondents agreed that AI-generated content can undermine authenticity, while fewer respondents expressed strong disagreement.

Figure 1 illustrates journalists' perceptions regarding AI's threat to content authenticity.

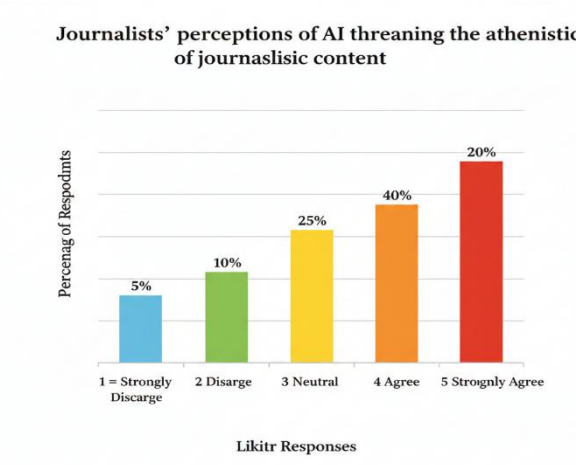

Figure 1. Journalists' perceptions of AI threaning the authenisity of journalisic content

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Figure 1. Journalists' perceptions of AI threatening the authenticity of journalistic content

The distribution suggests that although AI is increasingly adopted in newsrooms, journalists remain cautious about its implications for editorial credibility and original reporting. This finding reflects broader concerns about algorithmic authorship and accountability in news production.

AI-Generated Deepfakes and Fake News

Concerns related to misinformation were further explored through questions on deepfakes and fake news. The majority of respondents acknowledged that AI-generated deepfakes pose a serious challenge to journalism. Similarly, many journalists agreed that AI technologies make the generation and dissemination of fake news easier.

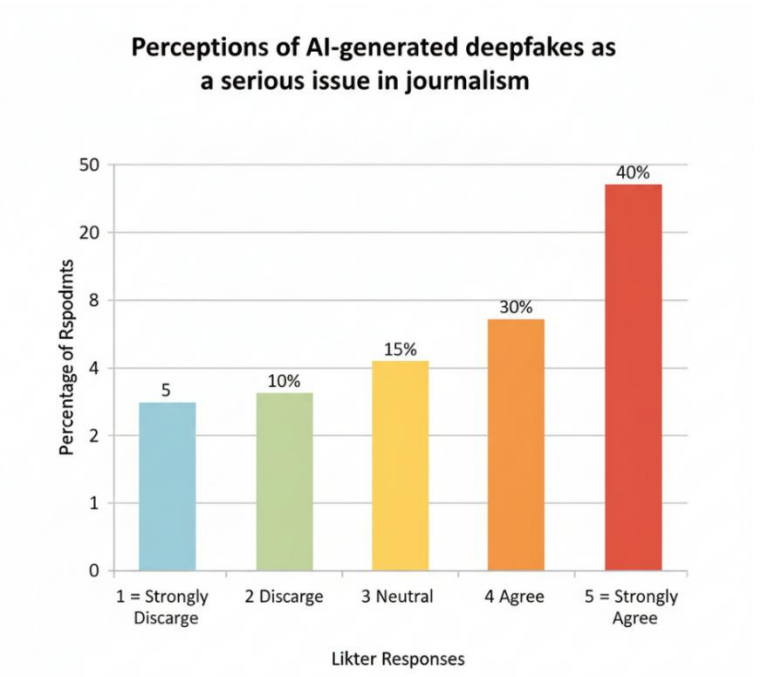

Figure 2. Perceptions of AI-generated deepfakes as a serious issue in journalism

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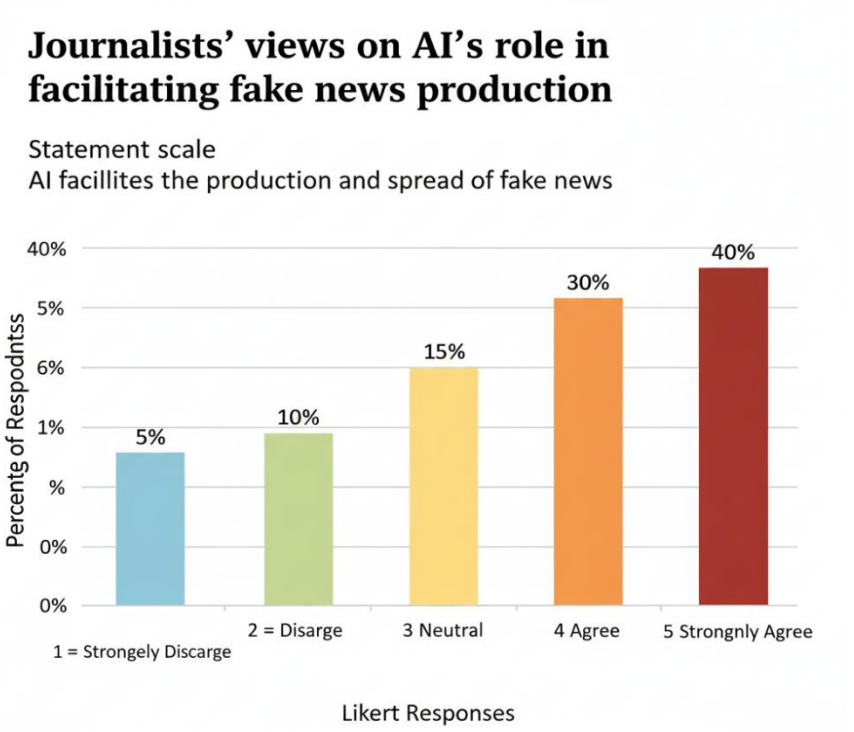

Figure 3. Journalists' views on AI's role in facilitating fake news production.

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These findings indicate widespread awareness among journalists of the risks posed by synthetic media. The results highlight the growing difficulty journalists face in verifying information and maintaining public trust in an increasingly automated information environment.

Impact of AI on Journalistic Standards and Ethics

Respondents were also asked whether AI-generated content affects journalistic standards and introduces ethical challenges such as plagiarism or loss of originality. The results show that a significant proportion of journalists perceive AI as having a tangible impact on professional norms.

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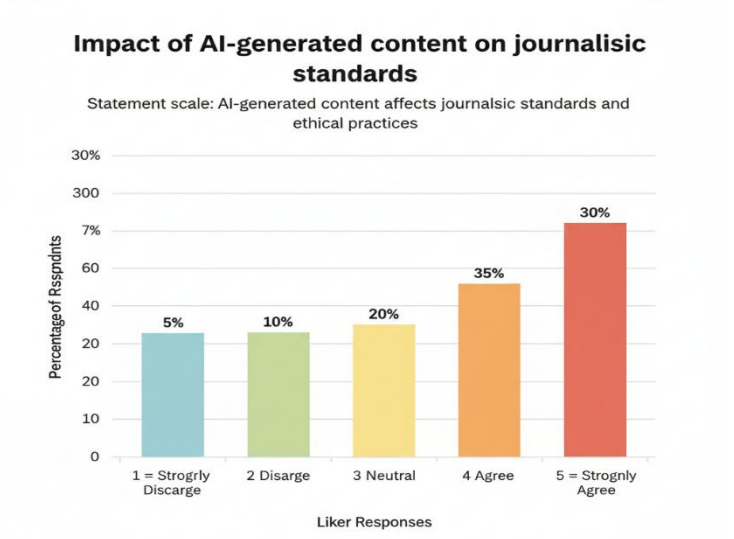

Figure 4. Impact of AI-generatedt on journalsic standards

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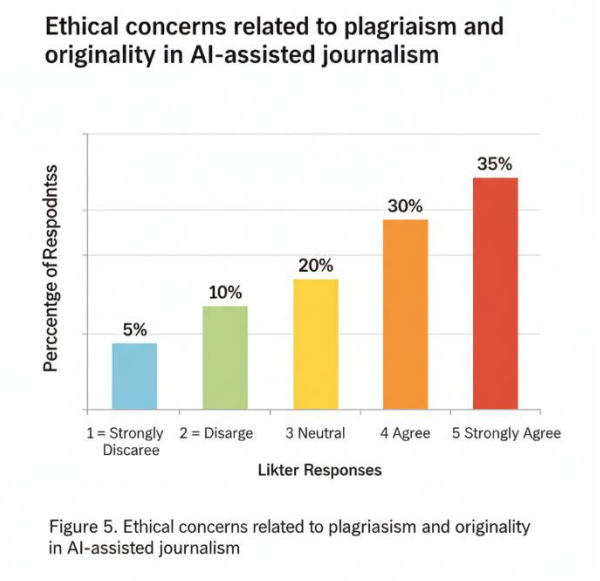

Figure 5. Ethical concerns related to plagriasism and originality in AI-assisted journalism

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The findings suggest that journalists are particularly concerned about maintaining ethical boundaries when AI tools are used for content creation. These concerns align with fears that automation may prioritize speed over accuracy and ethical rigor.

Disclosure, Editorial Control, and Ethical Safeguard

To assess journalists' support for ethical safeguards, respondents were asked about disclosure of AI-generated content and the necessity of human editorial oversight. A strong consensus emerged in favor of transparency and human control.

Most journalists agreed that AI-generated content should be clearly disclosed to audiences and that human editors should always review AI-assisted news stories before publication.

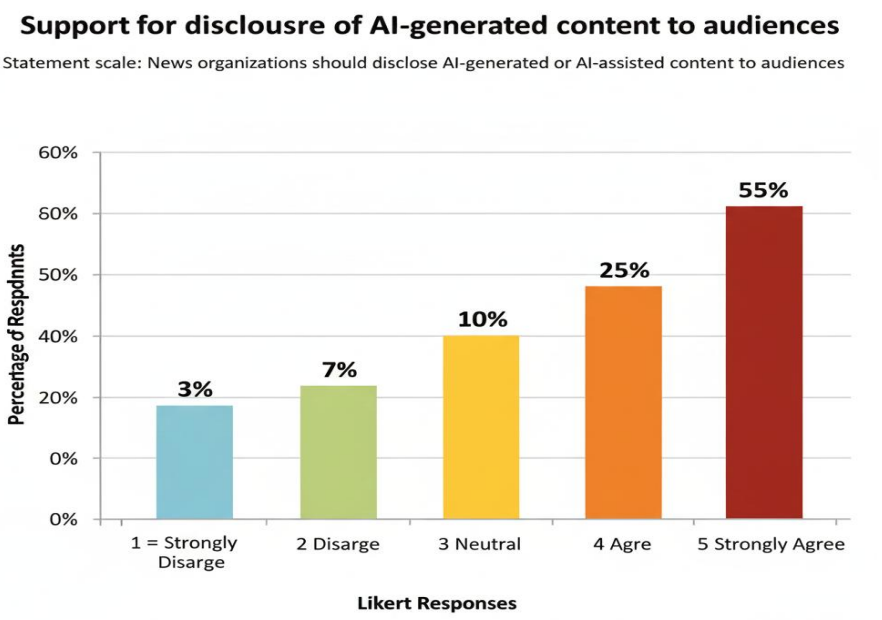

Figure 6. Support for disclousre of AI-generated content to audiences.

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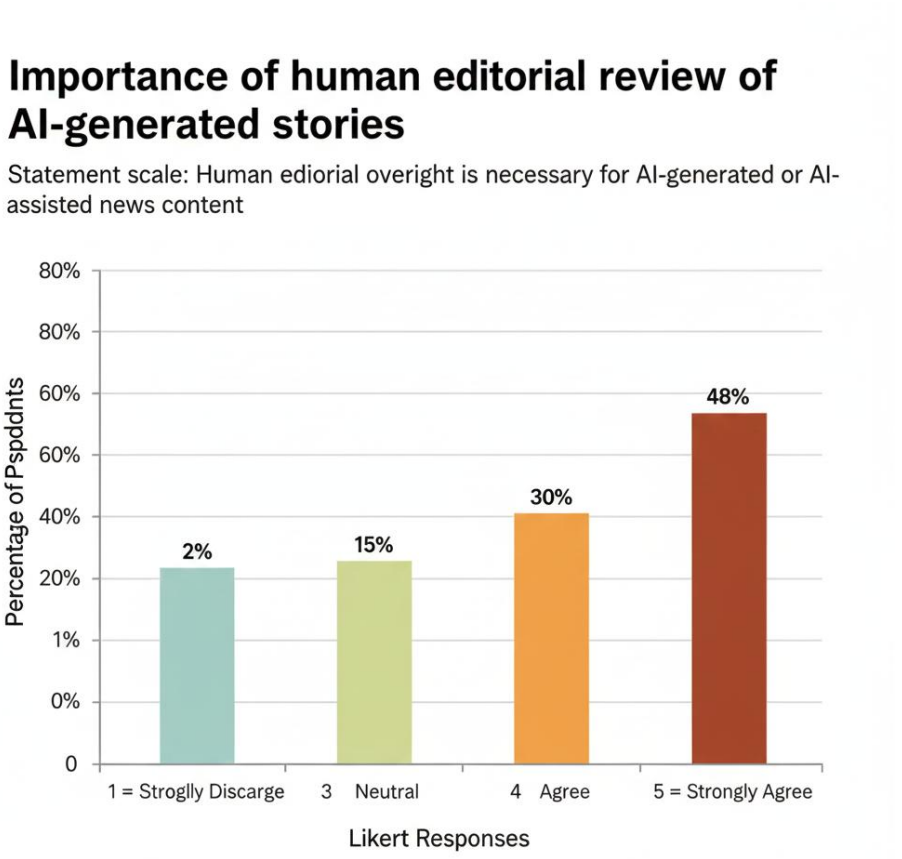

Figure 7. Importance of human editorial review of AI-generated stories.

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Figure 7. Importance of human editorial review of AI-generated stories

These results reinforce the importance of the human-in-the-loop approach, suggesting that journalists view AI as a supportive tool rather than an autonomous decision-maker in ethical journalism.

AI and the Reshaping of Journalistic Ethics

Finally, respondents evaluated whether AI is reshaping journalistic ethics and professional responsibility. The majority acknowledged that AI is redefining ethical

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norms and newsroom responsibilities, indicating recognition of a structural transformation within the profession

Finally, respondents evaluated whether AI is reshaping journalistic ethics and professional responsibility. The majority acknowledged that AI is redefining ethical norms and newsroom responsibilities, indicating recognition of a structural transformation within the profession.

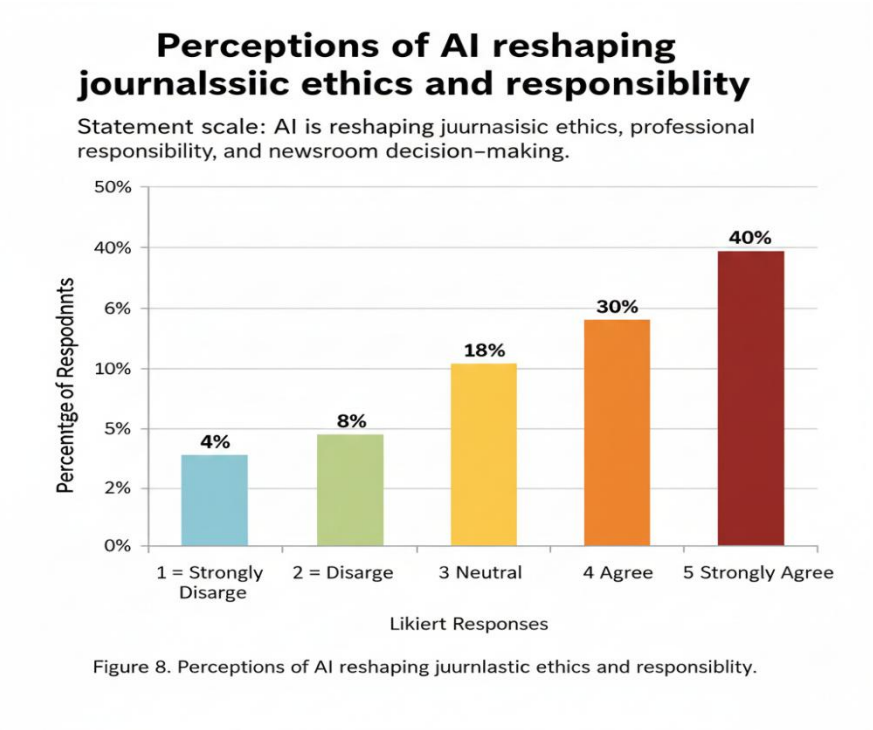

Figure 8. Perceptions of AI reshaping juurnlastic ethics and responsiblity.

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Figure 8. Perceptions of AI reshaping journalistic ethics and responsibility

This finding underscores the need for updated ethical frameworks and institutional guidelines that reflect the realities of AI-driven journalism.

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Discussion

The findings of this study provide important empirical insights into how Pakistani journalists perceive the ethical implications of Artificial Intelligence in contemporary newsrooms. Overall, the results reveal a cautious and ethically sensitive professional community that recognizes both the transformative potential and the risks associated with AI-driven journalism. These perceptions reflect broader global debates on the tension between technological innovation and the preservation of journalistic integrity.

One of the most prominent findings is journalists' concern that AI threatens the authenticity and credibility of journalistic content. This aligns with previous studies arguing that automated and generative systems blur traditional boundaries of authorship and accountability in news production (Diakopoulos, 2020; Tandoc et al., 2020). While AI tools can enhance speed and efficiency, respondents in this study appear wary of the extent to which machine-generated content may compromise originality, editorial judgment, and the normative role of journalists as truth-seekers. In the Pakistani context, where media credibility is already contested due to political polarization and information disorder, these concerns carry particular significance.

The strong agreement that AI-generated deepfakes and fake news pose serious challenges further reinforces the perception of AI as a double-edged technology. Similar to global findings (Chesney & Citron, 2019; Vaccari & Chadwick, 2020), Pakistani journalists recognize that synthetic media technologies can be weaponized to manipulate public opinion and undermine democratic processes. The results suggest that journalists are increasingly aware of the difficulty in distinguishing authentic content from AI-generated fabrications, highlighting the growing verification burden placed on news professionals.

Ethical challenges related to plagiarism and originality also emerged as a critical theme in the findings. Respondents' concerns mirror international research emphasizing that AI-assisted writing tools may unintentionally encourage content homogenization and ethical shortcuts (Carlson, 2015; Beckett, 2019). These findings suggest that ethical risks are not

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limited to overt misinformation but also extend to subtle erosions of professional standards, such as reduced attribution, over-reliance on automated outputs, and diminished investigative depth.

Importantly, the study reveals strong support for ethical safeguards, particularly transparency and human editorial oversight. Journalists overwhelmingly endorsed the disclosure of AI-generated content and the necessity of human editors reviewing AI-assisted stories prior to publication. This supports the growing consensus around the "human-in-the-loop" model, which advocates for AI as an augmentative tool rather than an autonomous agent in journalism (Guzman & Lewis, 2020). Such preferences indicate that journalists value professional accountability and see ethical governance as essential for maintaining public trust.

Finally, the perception that AI is reshaping journalistic ethics and professional responsibility underscores the structural nature of technological change in media institutions. Rather than viewing AI as a neutral tool, journalists appear to recognize its normative implications for newsroom culture, ethical decision-making, and professional identity. This finding aligns with scholarship emphasizing that technological adoption in journalism is inseparable from ethical and institutional transformation (Napoli, 2019; Lewis et al., 2019).

Collectively, these findings suggest that Pakistani journalists are not resistant to AI innovation per se, but are deeply concerned about its ethical governance. The results highlight the urgent need for context-specific ethical frameworks, newsroom policies, and training programs that address emerging AI risks while preserving core journalistic values of accuracy, fairness, and transparency. In the absence of clear national-level regulations, journalists' perspectives offer a valuable foundation for developing responsible AI practices within Pakistan's media ecosystem.

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Conclusion and Recommendations

Conclusion

This study examined journalists' perceptions of the ethical implications of Artificial Intelligence in journalism, with a specific focus on credibility, authenticity, and professional responsibility within Pakistani newsrooms. Drawing on survey data from 387 journalists, the findings demonstrate that while AI technologies are increasingly present in journalistic practice, they are accompanied by significant ethical concerns that cannot be overlooked.

The results indicate that journalists perceive AI as a potential threat to content authenticity and journalistic credibility, particularly through the proliferation of AI-generated fake news and deepfakes. These technologies challenge traditional verification practices and intensify the risk of misinformation, thereby undermining public trust in media institutions. Ethical issues related to plagiarism, originality, and diminished editorial oversight further reinforce journalists' apprehension regarding unregulated AI use in news production.

At the same time, the study reveals a strong professional consensus in favor of ethical safeguards. Journalists overwhelmingly support transparency measures, including the disclosure of AI-generated content, and emphasize the necessity of human editorial control over automated systems. This reflects a broader endorsement of the human-in-the-loop approach, positioning AI as a supportive tool rather than a substitute for human judgment. Importantly, the findings suggest that journalists recognize AI as a transformative force reshaping ethical norms and professional responsibilities, rather than merely a technological upgrade.

By providing empirical evidence from Pakistan, this study contributes to the growing global literature on AI and journalism ethics and addresses a significant gap in research from developing media systems. The findings underscore the need for ethical governance frameworks that are sensitive to local institutional, cultural, and regulatory contexts.

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Recommendations

Based on the findings, the following recommendations are proposed:

1. Development of Ethical Guidelines: Media organizations should establish clear ethical guidelines for AI use, emphasizing accuracy, fairness, transparency, and accountability in AI-assisted journalism.
2. Mandatory Disclosure Policies: Newsrooms should adopt policies requiring the disclosure of AI-generated or AI-assisted content to audiences in order to maintain trust and credibility.
3. Human Editorial Oversight: AI-generated content should always be reviewed and approved by human editors prior to publication to ensure ethical and professional standards are upheld.
4. Training and Capacity Building: Journalism education institutions and media organizations should introduce structured training programs focused on AI literacy, ethical decision-making, and verification of AI-generated content.
5. Regulatory Frameworks: Policymakers and media regulators in Pakistan should develop national-level frameworks governing AI use in journalism, particularly in relation to misinformation, deepfakes, and data transparency.
6. Future Research: Further studies should employ qualitative methods or longitudinal designs to explore how AI-driven ethical challenges evolve over time and how audiences perceive AI-assisted journalism.

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