

Artificial Intelligence in Newsroom: Adoption, Practices, and Perceptions among Media Professionals

Vimalendra Dwivedi*

Dr. Arvind Kumar Singh**

Abstract

The rapid integration of artificial intelligence (AI) with newsrooms has begun to reshape journalistic practices, professional roles, and workflows. This study examines the extent of AI adoption, patterns of use, and perceptions among media professionals working in Indian news organisations. Using a quantitative survey method, primary data were collected from 57 journalists through a structured questionnaire. Descriptive statistical analysis was employed to understand trends in AI usage, attitudes, challenges, and opportunities.

The findings indicate that AI tools are increasingly used for routine newsroom tasks such as idea generation, automated writing, fact-checking, and editing, with a majority of respondents reporting daily or weekly use. Journalists largely acknowledge the efficiency gains associated with AI, particularly in terms of speed and productivity. However, perceptions regarding accuracy and reliability remain cautious, with many respondents emphasising the need for human verification. Ethical concerns especially misinformation, bias, transparency, and accountability emerge as significant barriers to deeper integration. Concerns related to job security and skills displacement are present but not uniform across the sample.

The study reveals that AI adoption in Indian newsrooms is pragmatic, bounded and shaped by professional values and institutional constraints. The findings underline the importance of

* Research Scholar ** Assistant Professor, DMCJ Babasaheb Bhimrao Ambedkar University, Lucknow.

structured training, clear editorial guidelines, and a balanced human AI relationship to ensure responsible and sustainable use of AI in journalism.

Introduction

India's journalism landscape originated in the colonial era with the Bengal Gazette, the nation's first printed newspaper launched in 1780 by James Augustus Hicky. Print media expanded in the 19th century, contributing to social reforms and the independence movement. Radio debuted in 1927 through the Indian Broadcasting Company (later All India Radio), and television emerged in the 1950s via Doordarshan. The digital revolution accelerated in the 1990s following internet liberalization, giving rise to digital newsrooms. Hybrid operations that produce multimedia content, such as videos and podcasts, for online ecosystems, apps, and social media channels using data-driven distribution tools (Priyadarshini, 2025).

Evolving to surround systems that mimic human cognition through machine learning and natural language processing for text generation, automating routine tasks while posing concerns over bias (Choudhary, 2024).

Journalism has been an essential element of modern society for centuries, providing news, public discourse, and entertainment. In India, with a population of over 1.2 billion, the growth of digital media has further expanded the role of journalism. More than 560 million internet users are projected to connect to online news platforms by 2024 (IAMAI, 2024, <https://www.iamai.in>). This growth underscores the need for innovative tools to meet growing demands while maintaining ethical standards.

The transition from traditional journalism to digital journalism in India gained momentum in the late 1990s. This change was driven by internet access and the proliferation of smartphones. Digital newsrooms, defined as online-centric operations that create multimedia content for platforms like websites and social media, have redefined news distribution (Priyadarshini, 2025).

AI refers to systems that are designed to perform tasks requiring human cognitive abilities such as learning, reasoning, problem-solving,

and language processing (Rekdal & Sawtell-Rixon, 2024). In journalism AI enhances workflow efficiency through automation and data analysis. Globally, tools like the Associated Press's Wordsmith generate reports for sports and finance. AI-powered analysis draws insights from large datasets, boosting investigative journalism (Graff, 2016; Diakopoulos, 2019). In India, AI is being rapidly adopted for tasks such as content personalization and translation, reflecting a global trend toward augmented newsrooms (Choudhary, 2024).

The integration of AI into Indian digital newsrooms marks a transformative phase. Media professionals, including journalists and editors, view AI as a helpful tool to increase efficiency and audience reach (Bhatt and Butt, 2025). Journalism remains challenged by ethical concerns, skills gaps, and uneven acceptance across urban and rural areas. These challenges require a deeper understanding of AI's impact (Roy and Sengupta, 2024).

Literature review

Carlson (2015) argues that automated journalism, which calls "robotic reporting," redefines labor dynamics in newsrooms and transforms journalists from content creators to curators. Artificial intelligence challenges traditional notions of creative forms in journalism. Algorithms generate summaries of events such as sports or finance reports.

Broussard et al. (2019) emphasize the dual role of AI in journalism. They highlight risks such as bias amplification in algorithmic output, as well as its potential for ethical enrichment.

According to **Bode and Vraga (2018)**, algorithms and automation further impact the news ecosystem. They argue that these technologies select and recommend content. Often prioritizing engagement over diversity, public perceptions of news credibility change. This selection can polarize discourse, increasing the risk of misinformation with limited human oversight.

Thurman et al. (2019) build on this by examining computational influences in news production, noting how automation enhances workflow efficiency and demands new skills for journalists to operate within complex systems.

Diakopoulos (2019) elaborates on these insights in his book, describing how algorithms "rewrite" the media by incorporating predictive analytics into reporting. They caution against over-reliance on this, which can affect editorial judgment.

Kumari et al. (2024) present an overview of recent developments, highlighting the adoption of AI through content personalization and analytics tools, driven by India's digital boom, with over 560 million internet users by 2024 (IAMAI, 2024).

Mahajan (2025) examines the AI-driven media landscape. The study highlights transformative adoption in journalism through productive tools that accelerate production speed. Mahajan links ethical violations to the impact on journalistic integrity in India's polarized media.

Kumari and Dayal (2025) focus on urban centers like Delhi and Noida, where surveys show moderate use of AI for media production tasks among journalists. This study highlights the shift from experimental to operational use. These studies portray AI as opportunistic rather than systematic, often limited to efficiency focused applications.

Bhatt and Butt (2025) highlight a divide. Young journalists in the study perceive AI as "a support, not a threat," like a "smart assistant." Senior journalists, on the other hand, fear job losses and a loss of decision-making ability.

Priyadarshini (2025) discusses changing perceptions in changing newsrooms, positioning AI as a disruptive factor that empowers ethical storytelling across cultural contexts.

Research gap

The integration of AI with newsroom operations is increasing, yet empirical research on its implications for journalists remains limited. Existing studies largely focus on technological adoption and organizational efficiency, offering insufficient attention to journalists' experiences and perceptions. Within the Indian media context, systematic evidence on how journalists use AI tools, the extent of adoption, and the perceived impact on professional practice are remain limited. This study examines patterns of AI usage among

Indian journalists and analyses their perceptions of AI's influence on professional practices.

Research objective

1. To examine the extent of AI adoption among Indian journalist
2. To analyse Indian journalists' perceptions and attitudes towards AI
3. To identify the key challenges and opportunities of using AI in digital newsroom

Research questions

1. To what extent have Indian digital newsrooms adopted AI technologies?
2. How do digital journalists perceive the impact of AI on journalistic quality, and professional roles?
3. What challenges and opportunities do media professionals encounter in using AI?

Significance of study

This research is important for two main reasons:

First, it adds to our understanding of how AI is changing journalism. Specially in India with its unique cultural and media landscape.

Second, it's findings can guide news organizations and educators in using AI responsibly.

Research methodology

The study will adopt a cross-sectional research design with self-completion quantitative survey research method to collect primary data from media professionals working in Indian digital news organizations. The focus will be on understanding the extent of AI adoption, perceptions, and the associated challenges and opportunities.

Research design

Cross-sectional design has been used. The data will be collected at a single point in time through a structured online questionnaire which was distributed to digital journalists across various news organizations.

Sample design

This study employs snowball sampling, a non-probability technique. The process begins with identifying five initial participants who are digital media journalists. Each participant is requested to refer two to three peers from their professional network who also work in digital newsrooms.

Data analysis and findings

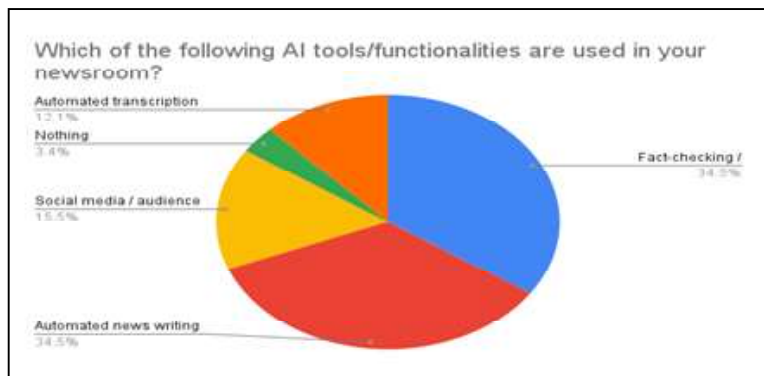
The analysis of data was collected from 57 digital journalists. Quantitative data is from structured survey responses which cover adoption frequency, tool usage, and Likert-scale perceptions are analysed to identify patterns and associations across demographic and professional variables.

Demographics

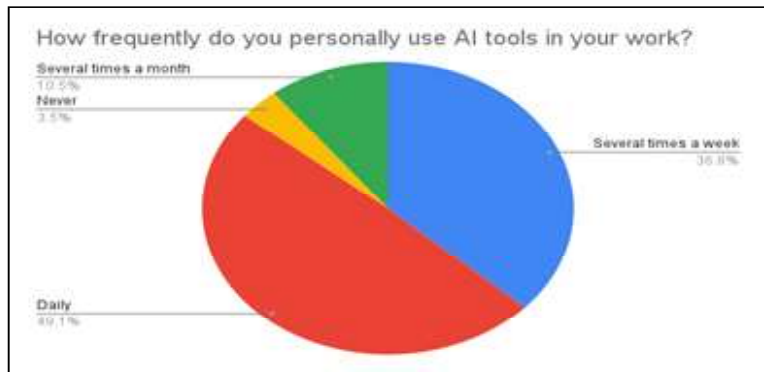
The demographic profile of respondents was collected from digital media professionals. With respect to age, the majority of respondents (73.7%) fall within the 24-34 age group, followed by 19.3% in the 18-25 category. In terms of gender, 78.9% of respondents are male, 19.3% are female, and 1.8% preferred not to disclose their gender. Regarding educational qualifications, a large number of respondents (86%) hold a Master's degree, while 10.5% hold a Bachelor's degree, and 3.5% have Ph.D. qualifications. Professional experience is evenly distributed across categories, with 35.1% of respondents reporting 1-3 years of experience and the same proportion (35.1%) reporting 4-7 years of experience. Journalists with less than one year of experience represent 12.3%, while those with more than seven years of experience represent 17.5% of the sample. In terms of current job roles, multimedia producers represent the largest group (33.3%), followed by editors (28.1%), reporters or correspondents (24.6%), and freelance journalists (14.0%). In terms of organizational affiliation, a majority of respondents (61.4%) work in national digital news organizations, while 14% are employed in regional or state-level news platforms. Additionally, 7% of respondents are associated with news agencies or wire services, and 17.5% work as freelance or independent journalists.

AI adoption and use in digital newsroom

In response to the question on AI tools used in the newsroom, fact-checking tools and automated news writing are each reported by 34.5% of respondents. This is followed by social media and audience analytics tools (15.5%) and automated transcription services (12.1%). A small proportion of respondents (3.4%) reported that no AI tools are currently used in their newsroom

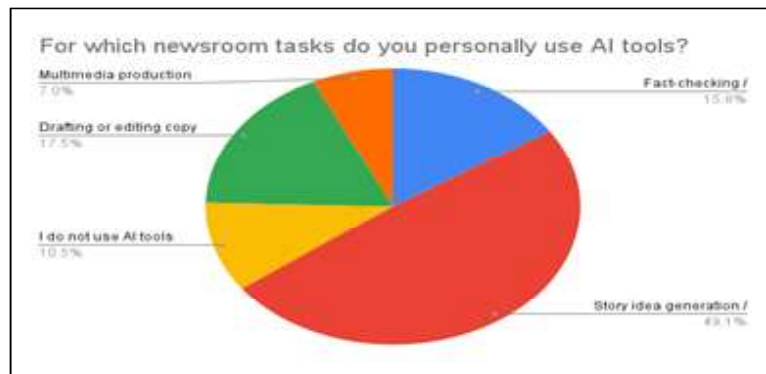


As for the frequency of use of AI, nearly half of the respondents (49.1%) reported using AI tools on a daily basis, while 36.8% use them several times a week. Less frequent use is reported by 10.5% of respondents who use AI several times a month, whereas 3.5% indicated that they never use AI tools.



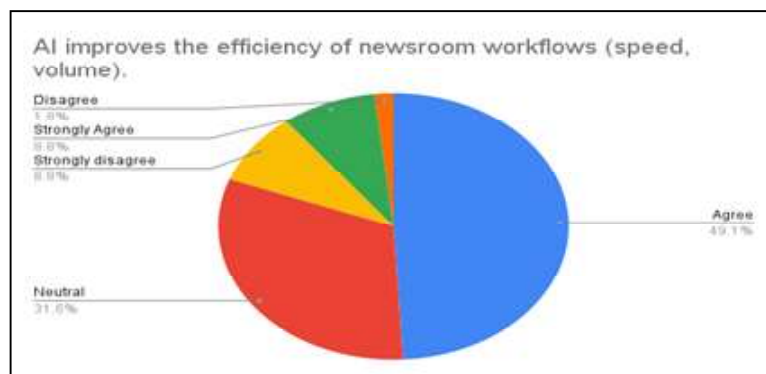
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In response to specific newsroom tasks, idea generation is the most common use (49.1%), followed by drafting or editing news copy (17.5%) and fact-checking (15.8%). A smaller share of respondents (7%) reported using AI for multimedia production, while 10.5% indicated that they do not use AI for any newsroom tasks.

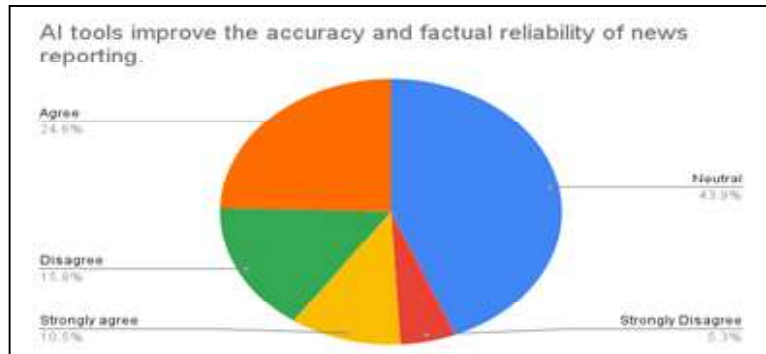


Perceptions and attitudes toward AI in digital newsroom

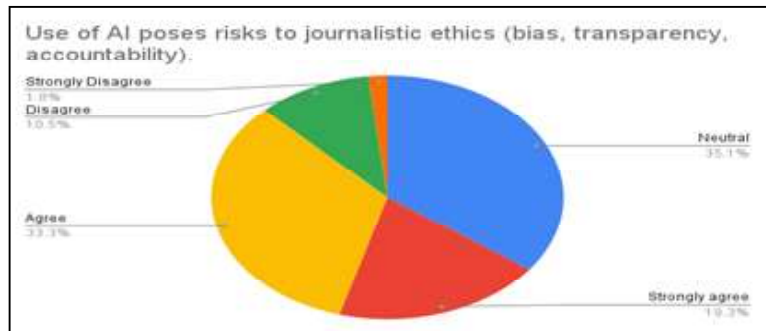
Responses indicate mixed perceptions and attitudes toward AI in digital newsroom. Regarding newsroom efficiency, 49.1% of respondents agreed and 8.8% strongly agreed that AI improves workflow speed and volume, while 31.6% remained neutral, 1.8% disagreed and 8.8% are strongly disagreed.



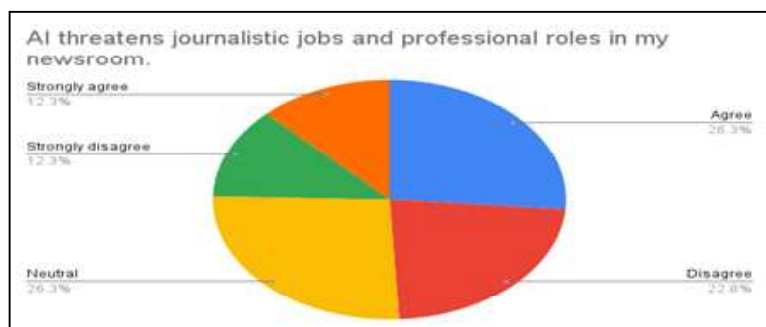
In terms of accuracy and factual reliability, 24.6% agreed and 10.5% strongly agreed, whereas 43.9% expressed a neutral view, 15.8% disagreed and 5.3% strongly disagreed.



Concerning ethical risks, 33.3% agreed and 19.3% strongly agreed that AI poses challenges related to bias, transparency, and accountability, while 35.1% remained neutral, 10.5% disagreed and 1.8% strongly disagreed.

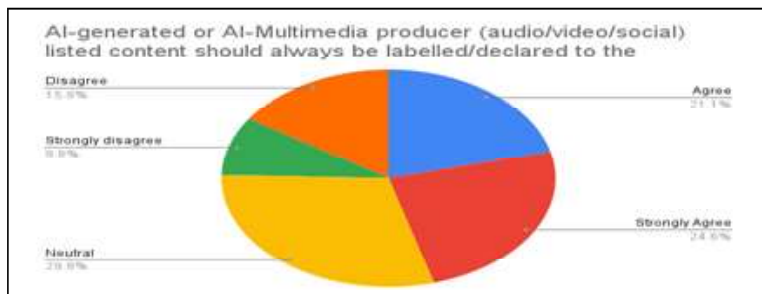


Perceptions of job threat were more evenly distributed 26.3% agreed and 12.3% strongly agreed that AI threatens professional roles, 26.3% were neutral, 22.8% disagreed and 12.3% strongly disagreed.

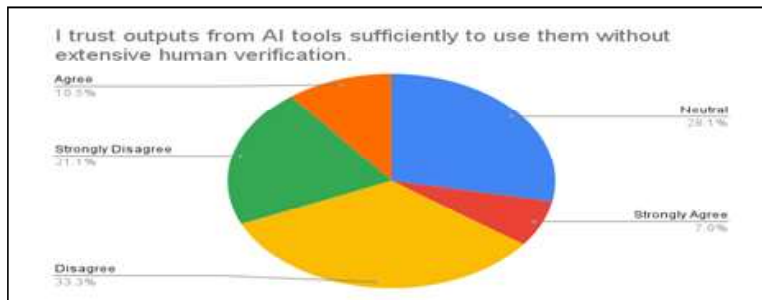


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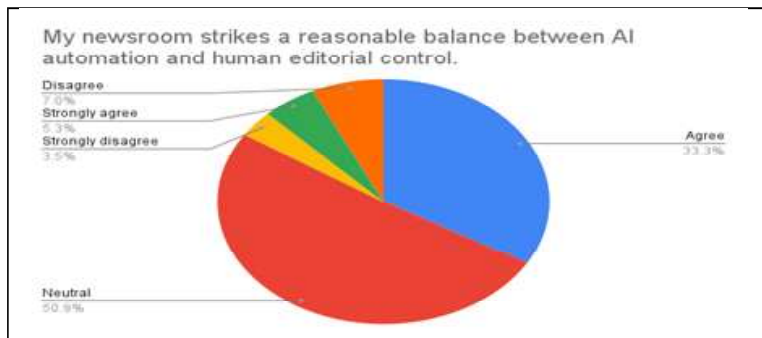
With respect to transparency, 21.1% agreed and 24.6% strongly agreed that AI-generated or AI-assisted content should be clearly labelled while 29.8% expressed neutrality, 15.8% disagreed and 8.8% strongly disagreed.



Trust in AI outputs without extensive human verification were relatively low, with 21.1% strongly disagreed and 33.3% disagreed, 28.1% were neutral, while 10.5% agreed and 21.1% strongly agreed.

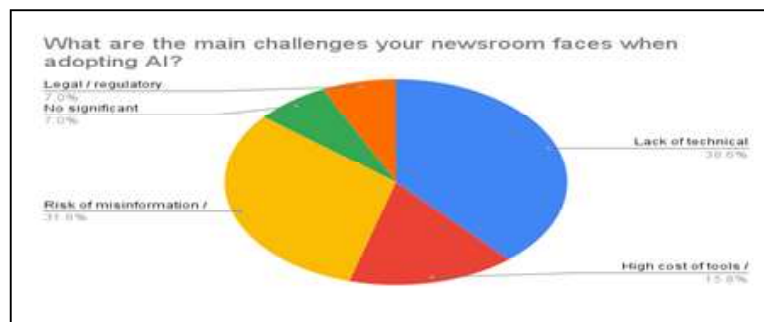


Regarding the balance between AI automation and human editorial control, 33.3% agreed and 5.3% strongly agreed, 50.9% remained neutral, 7% disagreed and 3.5% strongly disagreed.

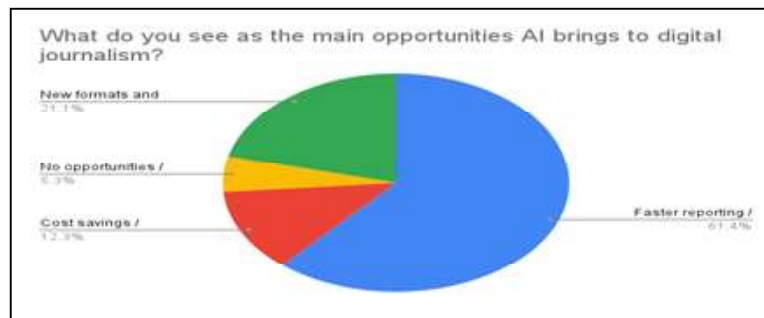


Challenges, opportunities, and training related to AI use

The most frequently reported challenge is lack of technical expertise or training (38.6%), followed by risks related to misinformation (31.6%). High costs of AI tools and infrastructure were reported by 15.8% of respondents and 7% pointed to legal or regulatory concerns. An additional 7% indicated that they face no significant challenges in adopting AI.



In terms of opportunities, majority of respondents (61.4%) identified faster reporting and workflow efficiency which was followed by new formats and storytelling possibilities (21.1%) and cost savings (12.3%), while 5.3% expressed a sceptical view and indicated no clear opportunities.

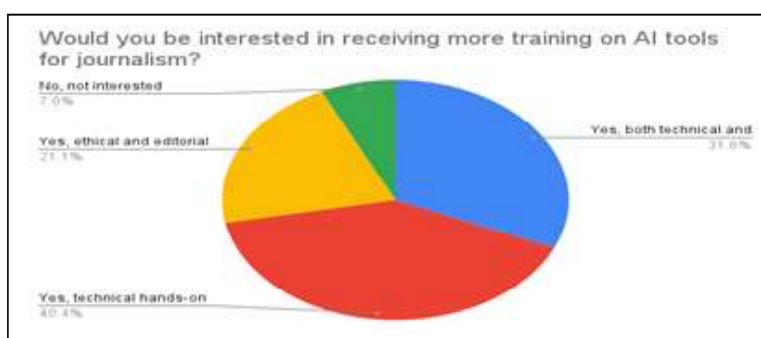


With regard to organisational support, 36.8% of respondents had attended formal training sessions or workshops, 21.1% indicated the availability of written guidelines or policies 15.8% reported relying on informal methods during the job learning, and 26.3% stated that no training or guidance had been provided by their organisation.

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When asked about future training needs, 40.4% expressed interest in technical hands in training, 31.6% preferred training that combines both technical and ethical aspects and 21.1% ethical and editorial guidelines training. 7% indicated that they were not interested in receiving further AI-related training.



Qualitative analysis of open-ended responses

The open-ended responses were analysed using thematic coding to identify recurring patterns related to perceived benefits and concerns of AI use in journalism. Relative prominence of themes are frequently reported, without implying statistical generalisation.

Perceived benefits of AI use

The most frequently occurring theme is time efficiency and speed. Journalists repeatedly noted that AI helps in faster news gathering, writing, editing, and handling breaking news situations. Tasks such as transcription, summarisation, headline writing, and formatting were commonly mentioned as areas where AI reduces workload and saves time.

The second major theme relates to support for content quality and productivity. Respondents highlighted improvements in grammar, clarity, copy-editing, and overall output quality. AI was also described as useful for idea generation, story structures, multimedia production and audience engagement.

Several responses also pointed to AI's role in translation and vernacular journalism, enabling wider reach and accessibility.

Perceived concerns about AI use

The most dominant concerns expressed are misinformation and factual inaccuracy. Journalists frequently mentioned incorrect facts, bias, and outdated information, stressing the need for continuous human verification.

Another major concern relates to ethical risks and accountability. Issues such as deep fakes, lack of transparency and copyright violations were repeatedly highlighted. Respondents emphasised ethical use and disclosure as critical safeguards.

Concerns about job security and professional identity appeared in the responses. Journalists expressed fear of job displacement, especially for copy editors and creative roles, along with concerns about declining creativity and over-dependence on automated tools.

Conclusion

This study explored the adoption, use, and perceptions of artificial intelligence in digital newsrooms based on survey data from media professionals. The demographic profile indicates that respondents are largely young, well-educated journalists working mainly in national-level digital news organisations. The findings show that AI tools are now regularly used in newsroom practices, particularly for idea generation, automated writing, fact-checking, and editing. AI is mainly applied to support speed and efficiency. Journalists generally acknowledge the efficiency benefits of AI but remain cautious about its reliability and accuracy.

Concerns related to misinformation, ethical responsibility, transparency, and job security are clearly observed. Most respondents highlighted the need for human verification and editorial oversight. Challenges such as limited technical training and the risk of deepfakes continue to limit wider adoption of AI in newsrooms.

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Journalists recognise opportunities related to faster reporting, improved productivity, and new storytelling formats.

The study suggests that AI adoption in digital newsrooms is pragmatic and carefully bounded. Journalists appear open to innovation while strongly upholding professional values. The future role of AI in journalism will depend on structured training, ethical guidelines, and a balanced approach that places human judgment at the centre of newsroom practice.

Limitations and suggestions

This study has certain limitations. The research is based on a quantitative survey of 57 respondents drawn from digital newsrooms using snowball sampling. As a non-probability method, this limits the generalisability of the results to the wider population. This study relies on self-reported perceptions, which may be influenced by personal experiences, organisational culture, or social desirability bias. The analysis of this study focuses primarily on descriptive statistics, which captures patterns and trends but does not establish causal relationships between AI adoption and journalistic outcomes.

Future research can address these limitations. Studies with larger and more diverse samples, covering multiple regions and types of media organisations, would strengthen representativeness. Longitudinal studies could offer deeper insight into how journalists' attitudes and newsroom practices change over time as AI adoptions increases. Comparative studies between national and regional newsrooms, as well as between human led and AI-assisted news production, would further enrich understanding in this area.

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