The Journal of *News Science*

Vol. 14, No. 2, Ser.54, Summer 2025, P. 77-82
Journal homepage: https://www.mjourcom.ir/
DOI : http//doi.org/10.22034/lrsi.2024.475497.1232

Open Access

ORIGINAL ARTICLE

The Impact of Artificial Intelligence Systems in Automated News Content Production on the Quality and Professional Standards of Journalism: A Qualitative Meta-Analysis

Hassan Masoudi

1. PhD in Culture and Communication, Faculty of Communication and Media, Islamic Azad University Central Tehran Branch, Tehran, Iran. Email: hadimasoudi1366@gmail.com

Received: August 27, 2024 Accepted: March 29, 2025

EXTENDED ABSTRACT

Introduction:

This study aims to examine the impact of artificial intelligence (AI) systems on the quality and professional standards of journalism within the domain of automated news content production. The rapid advancement of AI technologies has precipitated significant transformations in the media landscape. As AI systems become increasingly capable of autonomously generating news content, it is imperative to analyze how this technological shift affects the core principles and practices of journalism.

Method:

This research employs a qualitative meta-analysis to synthesize and analyze findings from existing studies on this topic. A total of 27 scientific articles, published between 2019 and 2024, were selected through purposive sampling from reputable academic databases. Selection criteria included relevance to the research questions, methodological rigor, and publication in peer-reviewed journals. This timeframe ensures the analysis captures recent developments in this rapidly evolving field.

The meta-analysis involved the following steps:

1. A systematic literature search using keywords related to AI in journalism, automated content production, and journalistic quality.
2. Screening of articles based on inclusion criteria and relevance to the research objectives.
3. In-depth reading and coding of selected articles to identify key themes, findings, and methodological approaches.
4. Synthesis of findings across studies to identify patterns, contradictions, and gaps in the current literature regarding AI's impact on journalism.
5. Critical analysis of the synthesized findings in relation to established theories in journalism and media studies.

Results:

The meta-analysis yielded several key findings concerning the impact of AI on journalistic quality and professional standards:

1. Speed and Volume of News Production: A consistent finding is that AI systems substantially increase the speed and volume of news production. AI-powered tools can generate articles, particularly from structured data (e.g., financial reports, sports results), far more rapidly than human journalists. This enables news organizations to cover a wider range of topics and provide more frequent updates on developing stories.
2. Accuracy and Objectivity: Several studies indicated that AI-generated content is often perceived by readers as more objective and less biased than human-written articles, especially in domains like financial and sports reporting. The algorithmic nature of AI can reduce subjective biases in story selection and framing. However, researchers caution that this perceived objectivity may not equate to actual impartiality, as AI systems can inadvertently perpetuate biases embedded in their training data.
3. Challenges in Creativity and Analytical Thinking: While AI excels at processing and presenting factual information, multiple studies highlighted its limitations in tasks requiring creativity and analytical thinking. AI-generated content often lacks the depth of analysis, nuanced contextual understanding, and ability to draw unexpected connections that characterize high-quality human journalism. This is particularly evident in investigative reporting, feature writing, and opinion pieces.
4. Language and Style: Findings on the linguistic quality of AI-generated content are mixed. Some studies reported that AI can produce grammatically correct and coherent articles for straightforward news reports. However, other research noted that AI-generated text often lacks stylistic flair, narrative engagement, and tonal appropriateness. Capturing nuanced

language, cultural references, and emotional resonance remains a significant challenge for AI systems.

5. Ethical Considerations and Professional Standards: A prominent concern across studies involves the ethical implications of AI in journalism. Frequently discussed issues include transparency (disclosing AI-generated content), accountability (for errors or bias), and the potential for mass-producing misleading information. Some researchers argue that AI integration necessitates a re-evaluation of traditional journalistic ethics and the development of new professional standards for the AI era.
6. Changing Role of Journalists: The integration of AI into newsrooms is transforming the role of human journalists. Studies indicate a shift from routine reporting tasks toward more complex activities such as in-depth analysis, investigative work, and oversight of AI systems. This transition requires journalists to develop new skills, including data literacy, an understanding of AI systems, and the ability to collaborate effectively with technology.
7. Reader Perceptions and Trust: Research on audience reception of AI-generated news shows varied results. Some studies found readers could not consistently distinguish between AI-generated and human-written articles, while others reported audience skepticism toward AI-produced content. The impact on reader trust appears dependent on factors such as transparency about AI use, the perceived quality of the content, and the reputation of the news organization.
8. Economic Implications: Several studies discussed the economic drivers and consequences of AI adoption in newsrooms. While AI can reduce production costs and increase content output, concerns were raised about its impact on journalism employment and the potential concentration of media power within technology-proficient organizations.

Conclusions:

The meta-analysis reveals that integrating AI systems into news production presents both significant opportunities and serious challenges for journalism. AI enhances the efficiency and scale of news production, potentially broadening coverage and reducing certain human biases. Conversely, it raises concerns about the depth of reporting, creativity in storytelling, and adherence to the ethical standards that have traditionally defined quality journalism.

The concept of "exo-journalism," which emerged in several studies, proposes a hybrid model that synergizes AI capabilities with human expertise. This approach suggests leveraging AI for tasks such as data processing, initial drafting, and fact-checking, while reserving higher-order functions like analysis, contextualization, and ethical decision-making for human journalists. Such a model could harness the strengths of both AI and human intelligence to produce journalism that meets high professional standards.

The findings emphasize the need for a thoughtful and strategic approach to AI integration in journalism. Key recommendations include:

1. Developing clear ethical guidelines and frameworks for AI use in news production.
2. Investing in training programs to equip journalists with the skills needed to work effectively alongside AI systems.
3. Implementing robust oversight mechanisms to ensure AI-generated content meets journalistic standards.
4. Prioritizing transparency with audiences regarding the use of AI in content creation.

5. Conducting further research on the long-term impacts of AI on journalism quality, media diversity, and public trust in news.

In conclusion, while AI offers transformative potential for journalism, preserving the profession's core values - accuracy, accountability, and public service - remains paramount. The future of quality journalism likely lies in finding an optimal balance between technological innovation and the irreplaceable human elements of curiosity, empathy, and critical thinking. As AI continues to evolve, ongoing research and dialogue among journalists, technologists, ethicists, and the public will be crucial for shaping its responsible and effective integration into the journalistic process.

Data Availability Statement
Data available on request from the authors.
Acknowledgements
The authors would like to thank anonymous reviewers.
Ethical considerations
Not applicable.
Funding
Not applicable.
Conflict of interest
The authors declare no conflict of interest.

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Cite this article: Masoudi, H, (2025). The Impact of Artificial Intelligence Systems in Automated News Content Production on the Quality and Professional Standards of Journalism: A Qualitative Meta-Analysis. *News Science*, 14 (2), 77-82. DOI: http//doi.org/10.22034/lrsi.2024.475497.1232

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