

The Role of Artificial Intelligence in News Organizations in Iran: Capacities, Challenges, and Development Strategies

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Extended Abstract

Purpose

The main goal of this research is to identify the role of artificial intelligence and its tools in news organizations. This research seeks to identify the capacities, opportunities, challenges, and threats of artificial intelligence for news organizations. It also aims to provide a strategy for developing the correct and appropriate use of artificial intelligence in news organizations and media.

Design/methodology/approach

This study's approach is exploratory and qualitative, and its method is thematic analysis. Data were collected through semi-structured interviews with 16 experts and senior professionals in the field of artificial intelligence and media. The selection criteria for elites included having at least five years of teaching experience in the field of artificial intelligence and media, and the selection criterion for professional experts was having at least five years of practical experience in this field. The collected data were analyzed using King's three-stage coding (1998), and purposive sampling continued until theoretical saturation.

Findings

Research findings indicate that leveraging artificial intelligence technologies such as big data analytics, machine learning systems, and automated content algorithms has fundamentally redefined the traditional processes of news and information production, processing, and distribution. The integration of these technologies into editorial systems enables the automated and scheduled production and delivery of messages to target audiences, thereby significantly increasing the speed, accuracy, and efficiency of content dissemination. Alongside this technological transformation, the concept of AI-enabled audience analysis in media has taken a prominent place. Analyzing users' behavioral data and examining patterns of information consumption have enabled a deeper cognitive understanding of audiences' needs, interests, and preferences. This understanding has provided a basis for designing personalized media experiences and has meaningfully increased audience engagement, satisfaction, and loyalty. In another dimension, the use

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of AI-based verification algorithms is recognized as one of the most significant achievements of this transformation. Media outlets have been able to identify fake news and prevent the spread of misinformation by analyzing language patterns, examining news sources, and assessing the accuracy of information. Artificial intelligence, by automatically filtering low-quality data, reconstructing lost information, and optimizing content structure for SEO and publication timing, has enhanced coherence and effectiveness in content production and distribution. In the section on challenges, the findings of the research indicate that this technological transformation is accompanied by a set of complex ethical, professional, and content-related challenges. Participants believed that although the use of automated algorithms in the content production and distribution process has led to increased speed, reduced costs, and optimized performance, it has, in some cases, undermined human authenticity and the independence of editorial teams. Another challenge in the realm of content personalization is highlighted. The findings indicate that the excessive focus of algorithms on users' previous interests and the analysis of repetitive behaviors leads to the formation of information silos, or echo chambers; spaces where audiences are only exposed to content that aligns with their pre-existing beliefs. In terms of content management, media outlets face issues such as incorrect filtering, algorithmic censorship, and uniformity in content production styles. On the other hand, the findings reveal significant concerns regarding ethics and data governance. The lack of transparency in algorithm design, violations of user privacy, and the evasion of accountability by intelligent systems are among the major threats to public trust in media. The findings of the research indicate that the ethical, managerial, and social challenges associated with artificial intelligence not only do not hinder the transformation of media but can also be viewed as warnings for smart regulation and responsible use of technology. Interviewees believed that sustainable media development in the age of artificial intelligence is only possible if principles such as informational justice, algorithmic transparency, technological accountability, and the enhancement of users' media literacy are upheld. At the structural level, the findings indicate that AI plays a central role in reimagining distribution, analysis, and content management processes. The implementation of data-driven recommendation systems, user behavior analysis, and the design of intelligent user interfaces has led to increased interactivity, audience loyalty, and the effectiveness of media communication. From the participants' perspective, the integration of intelligent platforms into editorial structures and the use of scheduled content management software have improved productivity and coordination, resulting in organizational cohesion in the news production and distribution process. In the human dimension, the findings highlight the increasing importance of empowering media personnel in the face of emerging technologies. Participants believed that the effective use of intelligent systems requires journalists and editors to possess data-driven skills and technological literacy. Training in areas such as consumption data analysis, advertising targeting, content performance evaluation, and interpreting algorithmic outputs is considered a prerequisite for technological productivity. In the governance and ethical dimension, the sustainable use of AI in media necessitates the existence of smart, transparent, and ethics-based regulatory frameworks. Participants emphasized the need to pay attention to principles such as the protection of personal data, algorithmic transparency, human accountability, and public oversight. They believe that developing laws appropriate to the cultural and social context of Iran, creating automated fact-checking systems to combat fake news, and en-

hancing digital trust culture are among the most important prerequisites for legitimizing intelligent technologies within the country's media system.

Research limitations

One of the limitations of the research is the novelty of the topic. This resulted in a scarcity of scientific resources and prior research, as well as a limited number of individuals familiar with the subject available for interviews during the data collection phase. The weakness in the use of this technology by news organizations and media outlets in Iran suggests that it is important to develop a framework for governance and regulation of artificial intelligence in the media. This includes creating specialized AI units within news organizations, training and empowering human resources, employing transparent and explainable algorithms, establishing monitoring systems for content produced by AI, integrating local data with advanced technologies, and implementing user experience personalization systems.

Social implications

This research helps news organizations understand how to utilize the capabilities of artificial intelligence to enhance their professional activities in the technological dimension. In the human dimension, it focuses on empowering managers and journalists in the news sector. In the governance aspect, it addresses the governance of artificial intelligence within news organizations and the regulation of this field. Additionally, it highlights the creation of infrastructures for the use of artificial intelligence in media.

Originality/value

This research is one of the first studies in Iran that addresses the role of artificial intelligence in enhancing news organizations in the country. This study aims to incorporate perspectives from Iranian thinkers, experts in the field of artificial intelligence, as well as journalists and media owners.

Keywords: Artificial Intelligence, News Algorithm, Data Journalism, News Organization, Media, Iran