Awareness and Usage of Artificial Intelligence and Robotic Journalism Among Television Journalists in India: A Study of Trends, Tools, and Practices

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Abstract:
Artificial Intelligence (AI) within journalism has dramatically changed news production, editing, and dissemination worldwide. With the emergence of automation and algorithmic content generation, AI has brought about new efficiencies and issues in the media environment. In India, TV remains among the most powerful media for mass communication. Hence, it is important to know how TV journalists view and work with AI technologies as part of their professional work. The present research paper examines the degree of awareness and the level of AI deployment among Indian television journalists, explicitly focusing on the use of Robotic Journalism in news production. Using a standardized questionnaire sent out to reporters in top national news networks, the research focuses on their awareness of AI principles, particular tools, and usage frequency within regular working patterns. The conclusions drawn in this research endeavour to gauge the readiness of Indian newsrooms to face AI-led transformation and determine the prevailing gaps in knowledge, skill, or infrastructure that can hinder the seamless adoption of AI technologies in the television news industry.

Keywords:
Artificial Intelligence, Robotic Journalism, Indian Television Journalism, AI Awareness, Newsroom Automation, Media Technology

1. Introduction

Amidst the fast-changing environment of digital media, Artificial Intelligence (AI) and Robotic Journalism have emerged as revolutionizing technologies that are redesigning the form and function of newsrooms globally. The technologies are not just reorganizing the form and process of news production and dissemination but are also impacting journalistic functions, ethical practices, and audience interaction (Diakopoulos, 2019). AI applications like automated news reporting, speech-to-text conversion, fact-checking, content recommendation systems, and even real-time video editing are gaining widespread acceptance in international media spheres (Latar, 2018; Dörr, 2016). Across the world, large-scale news networks like Reuters, The Washington Post, and Bloomberg have already adopted AI programs for regular reporting activities. For example, The Washington Post's "Heliograf" has written thousands of automated news stories to enable human journalists to concentrate on investigative and analytical reporting (Linden, 2021). This integration supports enhanced efficiency, scalability, and personalization in delivering news content, increasing reach and relevance for different audiences.

In the context of India, the media culture stands unique. With more than 197 million TV households as of 2022 (Broadcast Audience Research Council, 2023), television is one of the strongest and most reliable forms of mass communication. Even with the worldwide trend of digital consumption, traditional TV news still exercises strong media power to form public opinion in India. However, whereas the use of AI in print media and online journalism has picked up to some extent in India, its penetration into television reporting is uncharted and sporadic (Ghosh & Mishra, 2021). Several hindrances cause slow AI uptake by Indian television newsrooms, such as limited technical training, infrastructure limitations, editorial reservations, and lack of explicit policy guidelines (Chakravarty & Singh, 2022). In addition, the extent of awareness among working journalists—particularly those who work on the ground or in production teams—is unknown. Without the proper know-how on how these technologies work and how they could impact them, many media practitioners will underutilize or use AI tools inefficiently or even for unethical purposes, creating operational and ethical issues (Raj & Banerjee, 2023).

This study endeavour, thus, aims to investigate two important dimensions: the degree of familiarity and usage intensity of Artificial Intelligence and Robotic Journalism among Indian television journalists. It strives to examine how much television journalists are aware of these new technologies and how often these applications are deployed in their daily journalism routines. Understanding these dimensions is important to ascertain the readiness of the Indian media sector for AI-driven changes and to determine the training, infrastructure, and policy interventions needed to facilitate a responsible and effective transition.

2. Literature Review

Integrating Artificial Intelligence (AI) in journalistic practice has gained more scholarly interest over the past ten years. Early studies on integrating AI into newsrooms focused mainly on using algorithms in content generation and the subsequent implications for journalistic tasks and ethical issues. Dörr (2016) was among the earliest authors to employ the term Robotic Journalism to refer to the algorithmic mechanization of routine news coverage, especially in sports, finance, and weather news. This work provided a framework for understanding how AI technologies might increasingly replace or augment traditional news production workflows. Carlson (2015) examined the implications of algorithmic journalism on editorial authority, challenging human control, bias, and accountability in automated news production. His work emphasized that even though machines can produce news, they act based on human-established parameters, which may lack sensitivity or contextual sensitivity—a fact still pertinent in today's AI-facilitated newsrooms.

Diakopoulos (2019) provided a critical examination of the use of algorithms in journalism, including uses of data mining, content curation, and personalization. He noted that despite the rapidly changing consciousness of artificial intelligence (AI) in most of the world's newsrooms, the level of its adoption is contingent on organizational infrastructure, editorial openness, and training initiatives. His study highlighted that while some journalists embraced AI tools, others were wary, regarding them as potential adversaries of editorial autonomy and employment security. In the Indian context, academic interest has primarily been focused on using AI in print and online journalism, thus creating a serious lacuna in academic scholarship on television journalism. Ghosh (2020) and Sharma and Kumar (2021) referred to the entry of AI in Indian newsrooms, highlighting its uses in automatic voiceovers, visual narrative building, and viewer analysis. Their studies were,

however, primarily focused on online media and digital startups, and television—a pervasive source of news in India—was thus significantly under-studied.

According to Pal and Banerjee's (2021) exploration of AI in Indian journalism, while technologies such as transcription software, language translators, and facial recognition are being introduced in Indian newsrooms, their real use is tempered by institutional reluctance, the absence of meaningful policy support, and little to no training given to journalists. Given this divide between access and genuine use, there are concerns and questions about whether India is ready to embrace AI in journalism at scale, especially in areas of legacy media like television. Recent studies have begun to examine the collaboration or fusion model between humans and AI in journalism. For instance, in a discussion about AI, Marconi and Siegman (2020) theorized a situation where AI could enhance human journalists and develop better data-driven reporting while also allowing journalists to concentrate on investigative and creative journalism. However, the potential for this type of collaboration to emerge remains largely dormant in Indian television media because of technological illiteracy, editorial resistance, and infrastructural limitations (Chakravarty & Singh, 2022).

Although AI journalism has developed worldwide, little empirical research has focused on television journalists in India. This study intends to address that gap by studying Indian television journalists' awareness, attitudes and engagement with AI tools in news production. We can only understand the current state of AI development in this important journalism area and leverage it to inform future training, infrastructure, and ethics.

3. Research Objectives
1. To assess the level of awareness among Indian television journalists regarding Artificial Intelligence and its applications in news production.
2. To examine the extent and frequency of AI tool usage in journalistic practices among TV journalists in India.

4. Methodology
This research utilizes a quantitative method by employing a structured questionnaire to measure the knowledge and usage of Artificial Intelligence (AI) among television journalists in India. The questionnaire was designed to systematically document measurable data about the journalists' awareness of AI concepts, their experience with robotic journalism, and the extent to which and types of AI tools are used in the news production process. The structured questionnaire was accessed by journalists in prominent Indian television news channels. Participants included in the study were reporters, editors, producers, and all technical staff making the news and their dissemination in the digital space from one news channel to another. Therefore, a range of people were included from all divisions of television journalism. The responses were collected online to achieve maximum geographical access amongst participants and complete ease of participation. The data were exploited through the online platform scheme to use descriptive statistical processes to identify trends and patterns in the adoption of AI across some areas of newsgathering operations at various levels in the newsroom.

4.1 Sample Size and Demographics

A total of 384 responses were collected through purposive sampling, focusing on journalists involved in news production, anchoring, editing, and reporting. The demographic profile includes age, gender, years of experience, and role in the newsroom.

4.2 Questionnaire Design

The survey consisted of several closed questions designed to gather specific and measurable information about the awareness and use of Artificial Intelligence (AI) in television journalism. The central concepts investigated in the survey included the respondents' understanding of AI and Robotic Journalism, Respondents' knowledge of the applications of AI in the production of news, and the experience of journalists using AI-based tools. The survey also sought to learn how commonly journalists use AI in their daily work routines and what tools journalists use (e.g. transcription software, content generation tools, automated editing tools). The survey questions were constructed to be analysed objectively and to gain an understanding of general trends and patterns in the use of AI technologies in Indian television newsrooms.

5. Findings and Discussion
5.1 Awareness of AI and Robotic Journalism

Do you know the term Artificial Intelligence (AI) and Robotic Journalism?
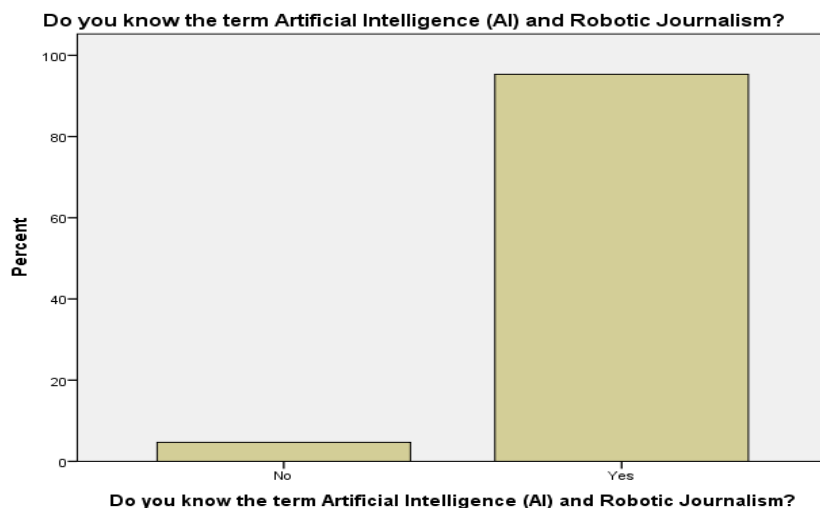
Figure 5.1 Frequency-Per cent Bar Chart: Awareness of AI and Robotic Journalism

Figure 5.1 outlines how many respondents knew about Artificial Intelligence (AI) and Robotic Journalism. The data indicates that almost 95 per cent of the television journalists polled recognized the terms, meaning that most journalists are at least conceptually aware of the technological developments affecting the future of journalism. Conversely, a small minority - roughly 5 per cent - acknowledged having no awareness of these concepts, implying a small knowledge gap persists among some of the media workforce. Given the level of awareness, it is reassuring to see a generally proactive willingness to engage with new digital innovations among Indian television journalists, particularly as those innovations increasingly impact a journalist's daily tasks. Considering the use of AI in news production for automated content, real-time transcription, and personalized storytelling and delivery means it is no longer advisable for journalists to ignore or

remain oblivious to AI. The realization that journalists can adopt AI contributions is encouraging. It represents an important first step toward successfully adopting AI as an efficient new method of producing content. It suggests that the industry can adapt to these technological transformational changes.

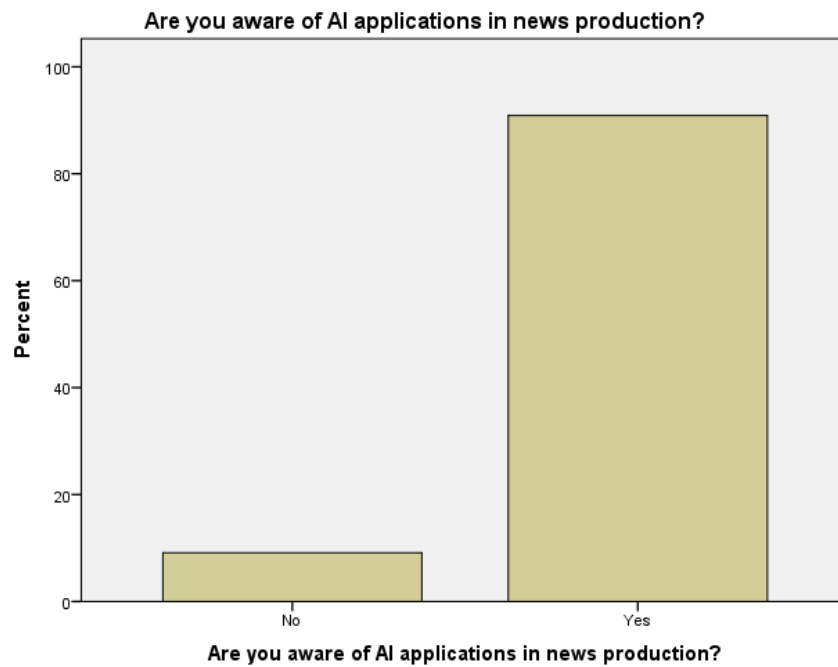## 5.2 Knowledge of AI Applications in News Production

Figure 5.2 Frequency-Per cent Bar Chart: Awareness of AI applications in news production

Figure 5.2 highlights the level of awareness among respondents regarding the application of Artificial Intelligence (AI) in the process of news creation. The results indicate a high acceptance of AI—around 90% of television journalists acknowledge their awareness of AI being used in the news production cycle, including AI-generated content, news summaries, real-time transcription, video editing, and data analysis for investigative reporting. This high level of recognition shows that AI is no longer being thought of as some far-off, futuristic ideal but increasingly is a realistic, practical tool used in the increasingly common practice of taking advantage of AI in the journalistic process. The high level of recognition is likely attributable to the growing media attention to AI, the attempted use of AI technologies by multiple people in the industry, and exposure to automated systems in a newsroom space. In contrast, roughly 10% of respondents stated that they do not know how AI is used in news production. This indicates knowledge gaps around AI in news production, which may primarily arise from limited exposure due to a lack of training or involvement in the more traditional reporting aspects. Overall, however, the findings represent recognition from people working in the industry of how intelligent technologies are transforming traditional practices of news work, pointing to a transition in the ways Indian television newsrooms are operating in the future.
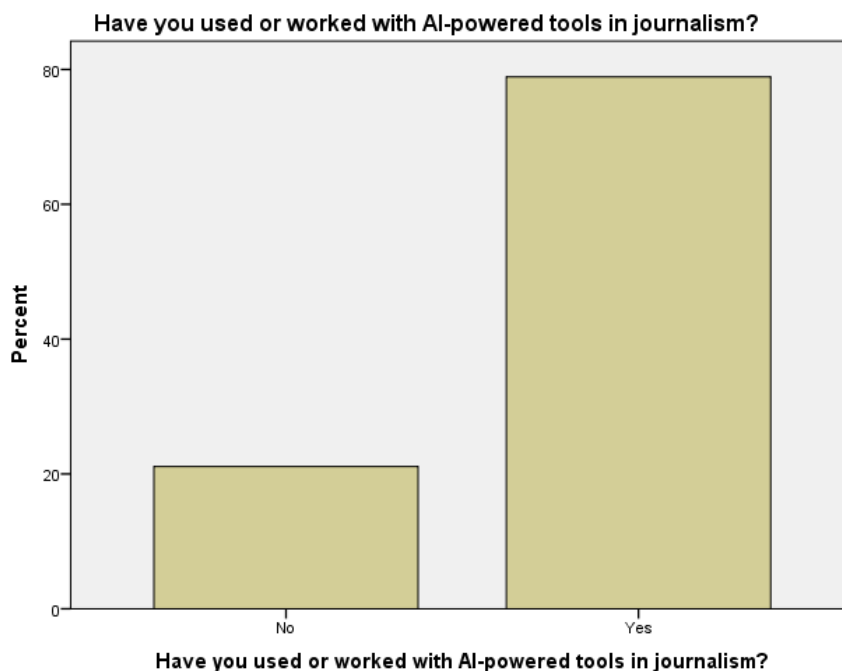
5.3 Usage of AI Tools

Figure 5.3 Frequency-Per cent Bar Chart: Worked with AI-powered tools in journalism

Figure 5.3 provides some compelling evidence of how Indian Television journalists are engaged in AI technologies in their practice. The first noteworthy thing is that the overwhelming majority, nearly 80% of respondent journalists, have used or engaged with AI-enabled tools during journalistic practices, including automated transcription, content recommendation, fact-checking, voice-to-text, data visualization and video editing technology. The level of engagement among journalists reported reflects a notable trend of engaging AI technologies in newsrooms, suggesting that journalists are gaining an awareness of the value regarding efficiency and productivity that AI-based technology likely brings to their practice. The shift to engaging AI-based tools in journalism represents a change in how journalism is taken up as cultural production - not only in the speed of turn-around times in gathering, processing and disseminating news but also in terms of accuracy and strategies for providing personalized content. The tools also present an opportunity to ensure that different types of news fit together into a workflow that works within the resource limitations of journalists. At the same time, about 20% of respondents said they had no practical experience engaging with AI tools or applications; this group of respondents may be situated in a context where they are trained yet do not work in a technologically equipped environment, or they may not have engaged training for innovative technology in their daily practice yet. Overall, the findings show evidence of a strong movement toward AI-enabled journalism in India while highlighting a need for improved digitization and capacity building of news media to address inclusivity in technology advancement.
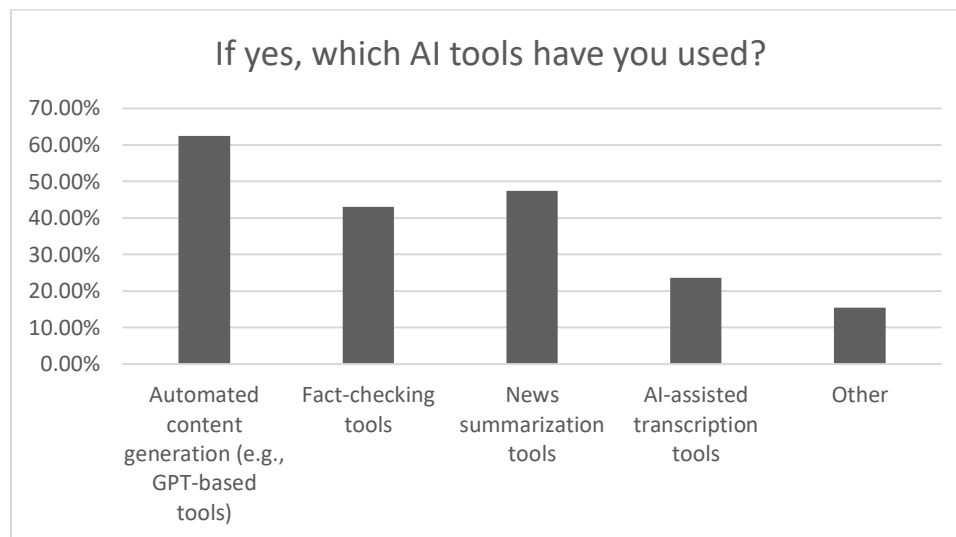
Figure 5.4 Frequency-Per cent Bar Chart: AI tools used by Journalists

Figure 5.4 shows practical details on the types of Artificial Intelligence (AI) tools that television journalists in India are most likely to rely on, which shows how AI is taking form and has various applications in news production. The most frequently used tools are automated content generation tools such as GPT, which helped report through drafting news stories and headlines, used by almost 62% of respondents. Next, news summarization tools were reported, with nearly 48% of the use reported in condensing longer reports into quick formats. Fact-checking tools such as those used by about 44% of journalists are surfacing, too, with journalists looking at platforms designed to help verify information and overturn erroneous information. AI-assisted transcription tools accounted for a good number of respondents, with 25%, to expedite reporting and convert audio and video to text. Other AI tools are used less frequently, with about 15% of participants reporting their use, including for sentiment analysis, translation, or video editing. These various tools clearly show the growing role of AI in increasing the quality and speed of reporting and accuracy in current journalism practices.
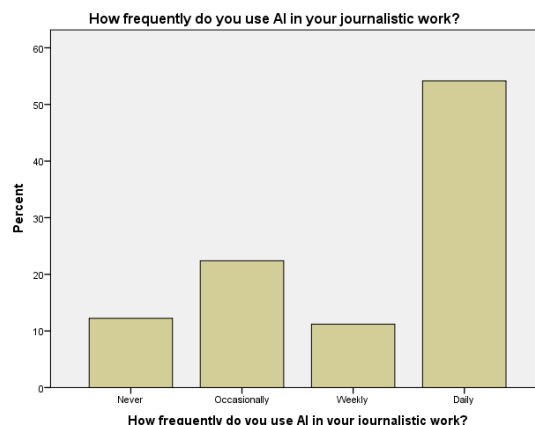
5.4 Frequency of Use

Figure 5.5 Frequency-Per cent Bar Chart: Use of AI in Journalistic work

Figure 5.5 provides a detailed overview of the frequency with which television journalists incorporate Artificial Intelligence (AI) tools into their daily professional routines. The data reveals that about 55% of respondents use AI technologies daily, meaning they nearly fully integrate AI technology, including content generation in AI assistants, fact-checking, transcription efforts, and data analysis into their daily journalism. This heavy use of AI suggests that it is becoming engrained in newsroom workflows, maximizing the opportunities for journalists to work efficiently and compete with other news organizations. As closely followed, about 23% of users said they use AI tools sometimes. While this indicates less use, it is still notable because it depends on many factors, including the work's nature and whether organizations support this type of technology. Weekly users represented around 11%, showing a manageable user group by committing few uses. Overall, three data points - 55, 23, and 11% - demonstrate that AI technologies are being used, although it should be noted that 12% of respondents said they never integrate AI into their journalistic work. There may be some training gaps and technological infrastructure gaps that decrease overall use, while some indicated a personal preference for their previous traditional styles. Overall, there is clear evidence of increased and consistent reliance upon AI technology across Indian journalism in television, where AI technology is assisting in individual productivity, enhancing editorial operations, and assisting in new and evolved content strategies.

6. Conclusion

Based on the findings of this research, it is clear that Artificial Intelligence (AI) and Robotic Journalism are now on the radar of Indian television journalists, with widespread recognition and adoption. Most respondents were familiar with AI's concepts and applications in news production, indicating that awareness and understanding of AI are well-established in the industry. Participants reported very high use of AI tools (around 80%) for technologies such as automated content generation, summarization of news items, and fact-checking and source-checking to enhance their work routines. In addition, many participants reported using AI daily, indicating how integrated AI is becoming into their daily journalistic work. Although some participants reported being unaware of or had limited experience with AI, the majority of Indian television journalists are open to the potential of AI in their work in journalism. Overall, this study shows that AI-inspired innovations are being adopted in Indian television newsrooms, the constraints of traditional news processes are being shattered, and journalistic practices are evolving with an important added value of increased efficiency, accuracy, productivity, and use of automation. The continuous evolution of workflows and journalistic practice relies on heightened skill and infrastructure development to apply and introduce AI ethically so that AI can act as a supportive tool and not be disruptive.

7. Recommendations

The results of this study show that Indian television news organizations must focus on holistic training programs that support journalists' understanding and effective use of AI tools so that they can benefit from them even if they have limited experience in their work. Concurrent with developing this training to facilitate the integration of AI into journalists' practices, upgrading the technological infrastructure of newsrooms is also necessary. Improved access to AI will help journalists integrate AI tools into their work processes and aid potential technological fragmentation of AI use beyond the workplace. These changes will help overcome knowledge gaps, which can ultimately support the widespread, efficient, and ethical use of AI in journalism.

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