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Iranian Journalists' Perceptions of AI in Journalism

Fatemeh Dastyar *

Department of Spatial Planning, Shaykh Baha al-din Architectural and Environmental Studies Research Institute, Tehran, Iran.

Abstract

This study investigates Iranian journalists' perceptions of artificial intelligence in the future of journalism, focusing on its potential to enhance professional effectiveness, replace human roles, and affect the credibility of journalistic content. A cross-sectional survey was conducted with 203 journalists from major national media outlets in Iran, using a structured questionnaire to collect demographic data and attitudinal measures. Data were analyzed through descriptive statistics, Pearson correlation, multiple linear regression, and path analysis. Results reveal that demographic factors—including gender, age, educational attainment, years of professional experience, employment type, and media sector—do not significantly influence journalists' views on AI's utility, threat to employment, or content quality. Although minor trends were observed, such as slightly lower enthusiasm for AI among more experienced journalists, these associations were not statistically significant. The findings suggest a convergence of opinion across demographic groups, likely shaped by shared professional norms and exposure to industry discourse on technological change. This research contributes context-specific evidence from a non-Western media environment, offering insights for policymakers, newsroom managers, and journalism educators aiming to integrate AI ethically and effectively into journalistic practice.

Keywords: Artificial Intelligence; Journalism; Iran; Technology Adoption; Media Perceptions

1. Introduction

The integration of artificial intelligence into our daily life marks a pivotal transformation in the human life, fundamentally reshaping every aspect of modern world (Toosi et al, 2024). From algorithmic news writing and automated content curation to personalized audience engagement tools, to professional journalism like for example Risk journalism (Nosraty et al., 2025) AI is expanding the technical repertoire of journalism while also prompting essential questions about editorial autonomy, ethical transparency, and the future role of journalists (Amponsah & Atianashie, 2024). As news organizations increasingly deploy AI-driven solutions for efficiency, there is growing concern about potential consequences such as job displacement, algorithmic bias, and order-of-magnitude shifts in the speed and verifiability of information delivery (Cheng, 2025; Mehmood, 2025). This duality—of opportunity and risk—motivates a closer examination of how journalists perceive AI, especially in non-Western media environments where political, infrastructural, and cultural factors differ significantly.

Iran offers a particularly compelling context for such inquiry. The Iranian state has long framed AI as both a marker of national technological prowess and education (Rahmatian & Sharajsharifi, 2021), and a strategic defense mechanism against economic sanctions, often emphasizing symbolic achievements in supercomputing and data infrastructure (Atwood, 2024). However, critical scholarship calls attention to a disconnect between official narratives and the material realities on the ground—strained technical infrastructure, labor precarity, and the highly gendered nature of platform-based digital labor (Atwood, 2024). Within Iran's heavily regulated media environment—where censorship, state control, and economic constraints are prevalent—the adoption of AI in journalism is unfolding within a narrow

* Corresponding author: Fatemeh Dastyar

bandwidth shaped by political oversight and technological limitations (Wikipedia contributors, 2025). Such conditions underscore the need for empirical research that captures the nuanced perceptions of practicing journalists regarding AI's role in their industry.

Globally, academic literature underscores both the transformative potential and the latent risks of AI in academic education (Arsalani et al., 2025). Automated journalism systems now routinely produce structured news narratives in areas like financial reporting, sports summaries, and weather updates, allowing human reporters to devote more effort to in-depth and investigative journalism (Amponsah & Atianashie, 2024). Yet ethical concerns remain: AI's opacity challenges transparency, and machine-generated content can propagate existing biases if built on flawed datasets (Amponsah & Atianashie, 2024; Cheng, 2025). In addition, media scholars emphasize the importance of structural differences in shaping AI's journalistic role—factors such as newsroom resources, digital capacity, regulatory frameworks, and institutional autonomy all influence whether AI is used as a tool of augmentation or a vector of disruption (Mehmood, 2025).

Demographic characteristics feature prominently in shaping adoption patterns of new technology, especially in professional environments. One cross-contextual trend is age-related reluctance to embrace digital tools like email, social media, or advanced content-management systems. Studies of the "grey digital divide" reveal that older adults—particularly those aged fifty and older—are more likely to remain outside the digital mainstream, exhibiting limited internet usage or engaging in predominantly basic online tasks (Seifert et al., 2020; Mubarak, 2022). This digital gap is influenced by factors including lower levels of confidence, concerns about complexity, and internalized ageism that undermines perceived capability (Seifert et al., 2020; McDonough, 2016). Although much of this research focuses on general populations or health contexts, the implications extend to professional domains such as journalism, where older professionals may be slower to adopt emerging communication or workflow technologies.

In Iran's journalism profession—where demographic diversity ranges across age, education, and sector affiliation—understanding generational differences in digital readiness is particularly salient. Given rapid digitization trends in newsrooms, older journalists may face systemic disadvantages in accessing and mastering new tools, potentially influencing their perspectives on AI integration and openness to technological change. Insights from digital literacy studies in Iranian media contexts suggest varied levels of readiness across institutions, with some media organizations showing enthusiasm for innovation while others lag behind due to infrastructural or cultural resistance. Exploring how age and experience intersect with attitudes toward AI will thus provide richer context to the dynamics of technological adaptation in Iran's media sector.

Despite the global relevance of AI and demographic factors in technological adoption, empirical investigations into these themes within the Iranian journalism profession remain limited. Most scholarly attention toward Iran has centered on media censorship, digital activism, and state-media relations, with scant focus on how journalists view emergent AI tools or their potential impact on newsroom practice (Wikipedia contributors, 2025). This gap hinders evidence-based policy-making and education strategy development in media institutions and deprives local audiences and global colleagues of insights into the Iranian media system's trajectory.

This study seeks to address this knowledge gap by examining the perspectives of 203 Iranian journalists from major national media outlets on AI's capacity to augment journalistic practice, potentially displace human labor, and influence content credibility. There are three interlocking objectives guiding the investigation. First, the research will map general attitudes toward AI in journalism across demographic segments—gender, age, education, experience, employment type, and sector. Second, it will test whether demographic variables, especially age and digital readiness, significantly correlate with AI perceptions. Third, the study aims to explore whether age-related attitudes reflect broader patterns of digital hesitancy rooted in the grey digital divide, thereby situating Iranian journalists' responses within global adoption discourse.

The findings of this research have theoretical and practical significance. Theoretically, the study enriches comparative media scholarship by detailing how AI is perceived in a non-Western, politically constrained, and technologically uneven environment. It extends understanding of how age intersects with digital readiness and innovation receptiveness in newsroom contexts. Practically, the results can guide media educators and managers in designing tailored training programs, allocate resources strategically for digital capacity-building, and foster ethical AI deployment that aligns with the professional standards of Iranian journalism. Understanding journalists' perceptions also lays the groundwork for intra-professional dialogue about the implications and design of AI tools that uphold truth, independence, and trust in the media.

In sum, as AI technologies continue to disrupt traditional journalistic workflows, it is imperative to listen to the voices of those most impacted—news professionals. Investigating how Iranian journalists perceive AI, and how age-related digital disparities shape these perceptions, promises to contribute both to theory and to the responsible integration of technology in journalism's future. Before the methodology section, we thing a review on the existing literature would be beneficial.

2. Review of Literature

Biswal and Gouda (2020) examined the global implications of artificial intelligence (AI) in journalism, situating their analysis within the broader context of rapid advancements in information and communication technologies (ICTs). As part of a volume on optimization in machine learning, this chapter explored how AI-driven tools—particularly automated journalism and "robot reporters"—have transformed traditional news production, distribution, and consumption. The authors noted that digital media has accelerated the pace and scale of news dissemination, with AI technologies increasingly integrated into editorial workflows, content personalization, and real-time data processing. While acknowledging the efficiency and scalability benefits offered by these technologies, the chapter also raised critical questions about journalistic ethics, job displacement, and the credibility of AI-generated content. The authors adopted a balanced perspective, characterizing AI as both a "boon and bane" for journalism, and emphasized the need for careful regulation and human oversight to preserve core journalistic values. Through this global assessment, the chapter contributed to ongoing debates about the role of automation in media and the future of human–machine collaboration in the newsroom.

Kothari and Cruikshank (2022) addressed the significant gap in scholarship concerning the adoption and impact of artificial intelligence (AI) in African newsrooms, proposing a research agenda to guide future inquiry on the topic. While the global journalism industry—particularly in Western nations and China—has increasingly incorporated AI technologies such as machine learning, automated content production, and speech-to-text systems, the authors noted a lack of corresponding research and documentation from African contexts. Through a systematic review of academic databases, the study identified the current state of AI implementation in African media environments, highlighting both emerging opportunities and distinct challenges faced by journalists on the continent. Key areas of focus included resource constraints, technological infrastructure, and the sociopolitical dynamics influencing digital transformation in African journalism. The authors also examined the theoretical models commonly applied to newsroom studies globally, emphasizing the need to adapt these frameworks to reflect African media realities and epistemologies. Additionally, the article offered methodological recommendations for conducting research on AI in African journalism, advocating for context-sensitive approaches that address limitations in access, training, and infrastructure. The paper contributes a foundational step toward building a robust, Africa-centered body of research on the implications of AI for journalism, calling for greater academic engagement, institutional investment, and cross-sector collaboration.

Moran and Shaikh (2022) conducted a thematic analysis of meta-journalistic discourse to explore how journalists and media outlets have represented and critiqued the use of artificial intelligence (AI) in journalism. Analyzing 95 articles published between 2016 and 2020 across 20 U.S. and U.K. news organizations—selected to reflect variation in media type and political orientation—the study examined dominant narratives concerning AI's integration into newsroom practices. The findings revealed a complex discourse characterized by both optimism and apprehension. On one hand, AI was portrayed as a tool for increasing efficiency, augmenting journalistic capabilities, and enabling innovation in news production. On the other, concerns were raised regarding editorial transparency, job displacement, ethical accountability, and the erosion of journalistic norms. The analysis identified a recurring tension between journalism as an industry—focused on economic sustainability—and journalism as a profession—concerned with normative values such as public service, accuracy, and autonomy. By framing these discourses within the broader context of digital transformation, the study contributed to understanding how the journalistic field negotiates technological change, and highlighted the critical need for evaluating AI's role not only through its functionality, but also through its alignment with journalistic ethics and democratic responsibilities.

Noain-Sánchez (2022) conducted an exploratory qualitative study to examine the perceptions of key stakeholders regarding the growing integration of artificial intelligence (AI) in journalism, particularly in terms of its influence on newsroom operations, media routines, professional roles, and ethical standards. Through 15 in-depth interviews carried out in two phases (2019 and 2021), the study gathered insights from a diverse international sample comprising journalists, media professionals, academics, industry experts, and technology providers from the United States, the United Kingdom, Germany, and Spain. Participants largely agreed that AI technologies have the potential to enhance journalistic work by improving efficiency, streamlining news production, and increasing overall productivity within media organizations. Nonetheless, the findings also revealed critical challenges, including widespread knowledge gaps, the need for upskilling, and a broader cultural shift within media institutions to accommodate AI-driven practices.

Ethical concerns—particularly around automation, transparency, and editorial accountability—emerged as a key theme, with respondents emphasizing the necessity of implementing oversight mechanisms to safeguard journalistic integrity in AI-mediated processes. The study offers a timely contribution to understanding how those embedded in the media ecosystem perceive both the promise and the risks of AI, underscoring the need for proactive strategies in training, governance, and normative guidance as AI continues to shape the future of journalism.

Opdahl et al. (2023) presented a vision paper exploring the role of artificial intelligence (AI), particularly machine learning (ML), in supporting the production of high-quality, trustworthy journalism amid rising concerns over disinformation and declining media revenues. The authors argued that the increasing societal demand for credible news sources necessitates technological innovation that enhances, rather than undermines, public trust in journalism. Positioned within the broader framework of data and knowledge engineering, the paper proposed that AI tools can be strategically applied throughout the entire journalistic production cycle—from news gathering and verification to content generation, personalization, and audience engagement. Emphasis was placed on the potential of AI not merely to automate tasks, but to uphold journalistic integrity by improving factual accuracy, reducing bias, and increasing transparency. The authors also highlighted challenges associated with integrating AI into editorial practices, including issues of algorithmic accountability, explainability, and the need for human oversight. By framing AI as a means to reinforce rather than replace journalistic principles, the paper laid out a research and innovation agenda aimed at fostering a more resilient and trustworthy media ecosystem through responsible AI adoption.

Parratt-Fernández, Mayoral-Sánchez, and Mera-Fernández (2021) conducted a comprehensive review to map and critically analyze the global academic literature addressing the intersection of artificial intelligence (AI) and journalism. Recognizing the rapid technological integration within journalism, the authors examined 358 scholarly texts to identify prevailing research trends, geographical distributions, dominant thematic areas, and methodological orientations in the field. Their findings revealed a significant increase in academic attention over the past decade, with a notable concentration of publications between 2015 and 2020. The United States emerged as the most prolific contributor to this body of work. The majority of studies reviewed were qualitative in nature, highlighting three primary areas of focus: data journalism, automated (robot) writing, and fact-checking. These topics reflect current priorities in journalistic innovation and technological application. However, the review also identified underexplored domains, such as the evolving role of journalists, AI-driven content personalization, and the integration of AI in journalism education. These gaps point to emerging research opportunities as the field continues to develop. The article provides a valuable synthesis of the existing scholarship and suggests future directions for inquiry at the nexus of media and machine intelligence.

Pavlik (2023) explored the transformative implications of generative artificial intelligence (AI) for journalism and media education, focusing specifically on the emergence of ChatGPT as a publicly accessible platform. Framed as a co-authored essay between a journalism professor and ChatGPT, the study offered both a practical demonstration and a critical reflection on the tool's capabilities and limitations. The article examined how ChatGPT functions—generating human-like text outputs in response to user prompts based on data-driven machine learning models—and discussed its potential to support journalistic content creation, ideation, and educational practices. Pavlik emphasized that while such generative AI tools present opportunities for enhanced productivity, creativity, and interactivity in media environments, they also raise important concerns regarding accuracy, source transparency, ethical usage, and the preservation of journalistic standards. Within the educational context, the article called for a rethinking of pedagogical strategies to incorporate AI literacy, including teaching students how to critically engage with and ethically apply generative AI in media production. Ultimately, Pavlik advocated for a collaborative, informed approach to integrating AI tools like ChatGPT in journalism, cautioning against uncritical adoption while highlighting the technology's potential as a pedagogical and professional aid.

Seth C. Lewis (2019) introduced and curated a special forum that examined the evolving relationship between artificial intelligence (AI) and journalism, featuring contributions from leading scholars in media, computer science, and human–computer interaction. The forum aimed to clarify the often ambiguous use of "AI," distinguishing between general perceptions of sentient machines and the more grounded, technical definitions rooted in machine learning and algorithmic systems. The discussion was anchored around "communicative AI"—technologies like automated writing tools and chatbots that actively produce or shape journalistic content. Contributors emphasized the importance of a human-centered approach, advocating for ethical frameworks, interdisciplinary collaboration, and heightened media literacy in the face of AI integration. Broussard critiqued the hype surrounding AI, warning against "technochauvinism" and urging journalists to adopt a more grounded understanding of the technology's actual capabilities. Diakopoulos proposed that AI should be seen not as a replacement for journalists, but as a new medium through which human journalistic values can be expressed. Other contributions called attention to overlooked issues such as the marginalization of vulnerable communities in AI development and the need for conceptual shifts in journalism

education. Collectively, the forum outlined a multidimensional research agenda for critically engaging with AI in journalism and emphasized the need for inclusive, socially responsible innovation.

3. Methodology

This study employed a cross-sectional survey design to examine Iranian journalists' attitudes toward the role of artificial intelligence (AI) in future journalism. The target population comprised professional journalists working in major national media outlets across Iran. A comprehensive mailing list of Iranian journalists, compiled from publicly available professional directories and institutional databases, was used to identify potential respondents. A total of 902 invitation emails containing a survey link were distributed, of which 203 completed responses were received, yielding a response rate of approximately 22.5%. Although email was selected as the primary recruitment method for its efficiency and broad reach, it is acknowledged that older professionals in particular may be less likely to adopt email and other digital communication platforms, which may have contributed to lower participation among senior journalists (Pew Research Center, 2017, 2022). Such sampling considerations are important for interpreting demographic representation in the final sample.

The survey instrument was designed to collect both demographic information and attitudinal measures regarding AI in journalism. Demographic variables included gender, age, educational attainment, years of professional experience, employment type, and media sector affiliation. Attitudinal items assessed journalists' perceptions of AI's capacity to improve journalistic effectiveness, its potential to replace human journalists, and the quality of AI-generated content. All attitudinal items were measured using a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire was developed based on prior studies examining journalists' responses to technological change (Carlson, 2020; Dörr, 2016) and adapted for cultural and contextual relevance to the Iranian media environment. Before dissemination, the instrument underwent content validation through expert review by three senior journalism academics and pilot testing with a small group of Iranian journalists to ensure clarity and appropriateness of wording.

Data collection and analysis were conducted using IBM SPSS Statistics (Version 29). Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize demographic characteristics. Inferential statistical analyses included Pearson correlation and multiple linear regression to examine potential associations between demographic variables and attitudes toward AI. Additionally, path analysis using a sequence of ordinary least squares (OLS) regression models was performed to explore direct and indirect relationships among variables. All statistical tests were conducted at a significance threshold of $p < .05$. Ethical approval for the study was obtained from the relevant institutional review board, and participation was voluntary and anonymous. Informed consent was obtained from all respondents, and no personally identifying information was collected to ensure confidentiality in accordance with best practices for survey research (Bryman, 2016).

4. Findings

Before presenting the main results of the study, let us review a detailed demographic analysis based on responses from 203 Iranian journalists. The tables and visualizations enhance the clarity of the data distribution across key demographic variables.

### 4.1. Demographic Characteristics of the Sample

As mentioned above, total of 203 Iranian journalists participated in this study. The following section presents a detailed breakdown of the demographic characteristics of the respondents.

4.1.1. Gender

Out of 203 respondents, 116 identified as male and 87 as female. This results in a gender ratio of approximately 1.33 males to every female participant. The gender distribution indicates a moderately male-dominated respondent pool, which may reflect broader patterns in newsroom composition in Iran. Although gender equity in journalism has been the subject of policy discussions, representation gaps remain prevalent in many national and regional media outlets.

This is not specific to the Iranian context. Empirical studies have demonstrated that women remain underrepresented in newsroom leadership, comprising only about one-quarter of top management and governance positions in global news organizations, and often encounter institutional barriers to career advancement (UNESCO & International Women's Media Foundation, n.d.). The Global Media Monitoring Project (GMMP) highlights that between 1995 and 2015, women's representation as subjects in news stories increased only modestly, from 17% to 24%, with women

continuing to be less frequently portrayed as reporters or authoritative sources such as experts and spokespersons (Global Media Monitoring Project, 2015). This structural imbalance has substantive effects on media output, as gender disparities in newsroom staffing are linked to the perpetuation of male-dominated narratives and the marginalization of women's perspectives. For example, an analysis of UK election coverage found that women accounted for only 22% of speaking time on major platforms, with male voices overwhelmingly dominating, thereby limiting women's visibility in public discourse (Loughborough University, 2024).
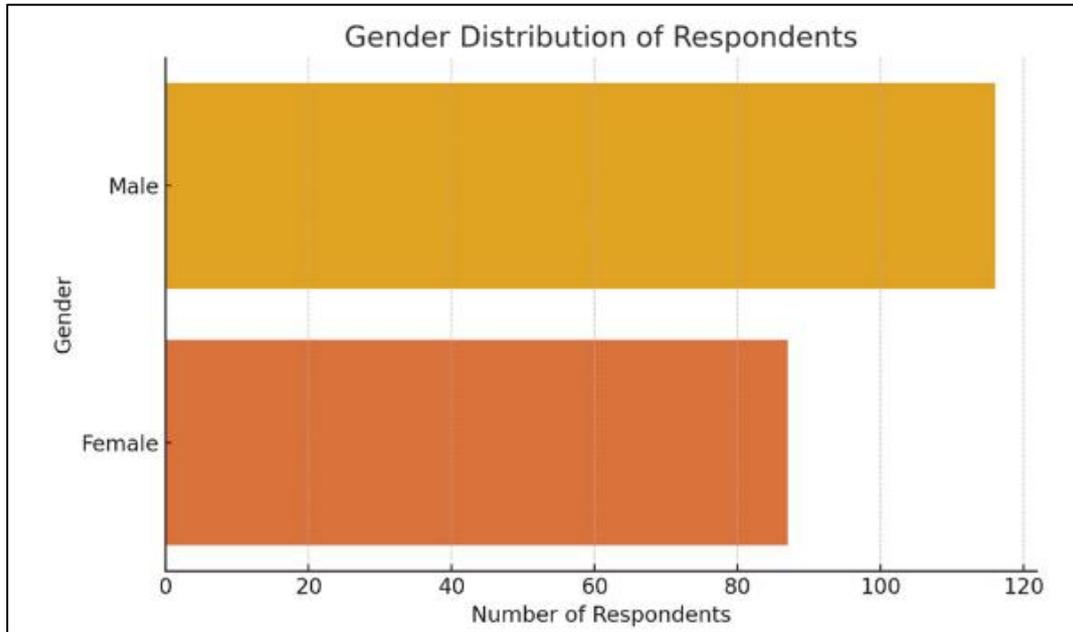

Figure 1 Gender Distribution

4.1.2. Age

Participants' ages ranged from 23 to 62 years, with a mean age of 38.4 years (SD = 8.9). The majority of respondents fell within the 30–39 age bracket, representing early- to mid-career professionals. This age group is particularly significant in discussions of technological adaptation, including the integration of artificial intelligence into newsrooms. The 40–49 group follows, indicating strong representation from experienced journalists. Respondents aged 50 and above accounted for a smaller proportion, suggesting fewer late-career professionals were represented and this partly could be the result of lack of know how to use email.

Global research also shows that older professionals are often less likely to adopt email and newer communication technologies, a trend attributed to a combination of generational digital divides, declines in digital literacy, and cognitive and physical barriers associated with aging. Studies show that adults aged 65 and older lag behind younger cohorts in internet adoption and email use; for instance, although internet use among seniors has increased over time, a significant proportion—ranging from one-third to nearly half in some samples—still report not using the internet at all or lacking broadband access at home (Pew Research Center, 2017; Pew Research Center, 2022). This gap is further exacerbated by lower confidence levels and difficulties with setup and usage of digital devices among older individuals, who frequently require assistance to perform basic online tasks (Pew Research Center, 2017). Additionally, research on health-related technologies indicates that advancing age correlates with lower usage of digital tools, in part owing to declining physical or cognitive capacities and limited familiarity with emerging digital interfaces (Lee et al., 2024).
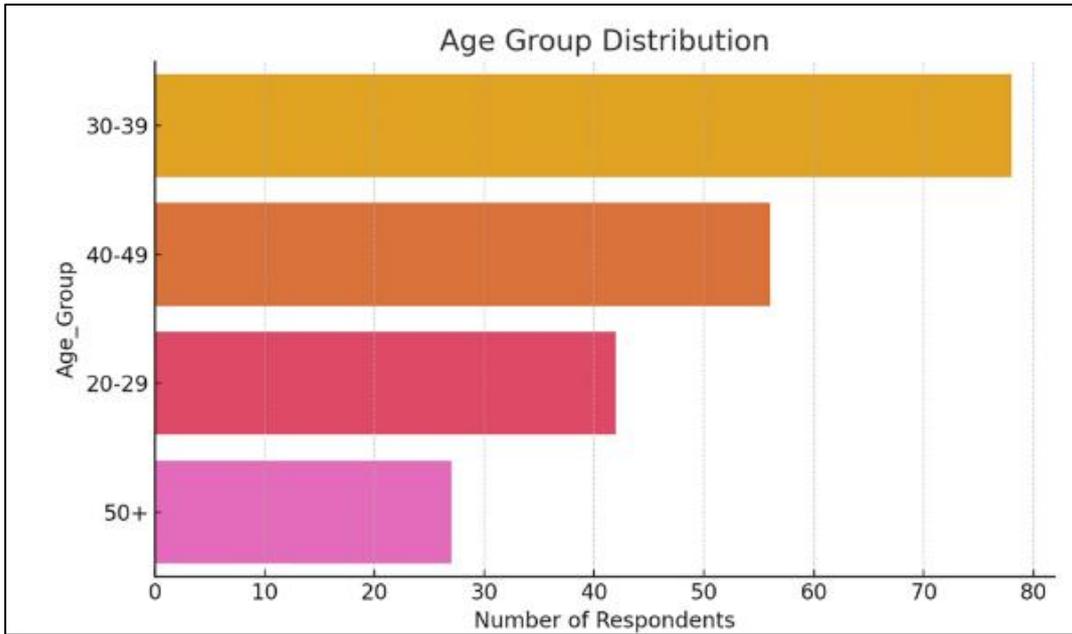
Figure 2 Age Group Distribution

4.1.3. Educational Attainment

The data shows a highly educated sample: over 93% of participants held at least a bachelor's degree. Journalists with a master's degree made up the second largest group (42.9%), while 5.9% reported holding a doctoral degree. These levels of educational attainment suggest a workforce with considerable academic training and may indicate higher receptivity to complex technological topics like artificial intelligence.
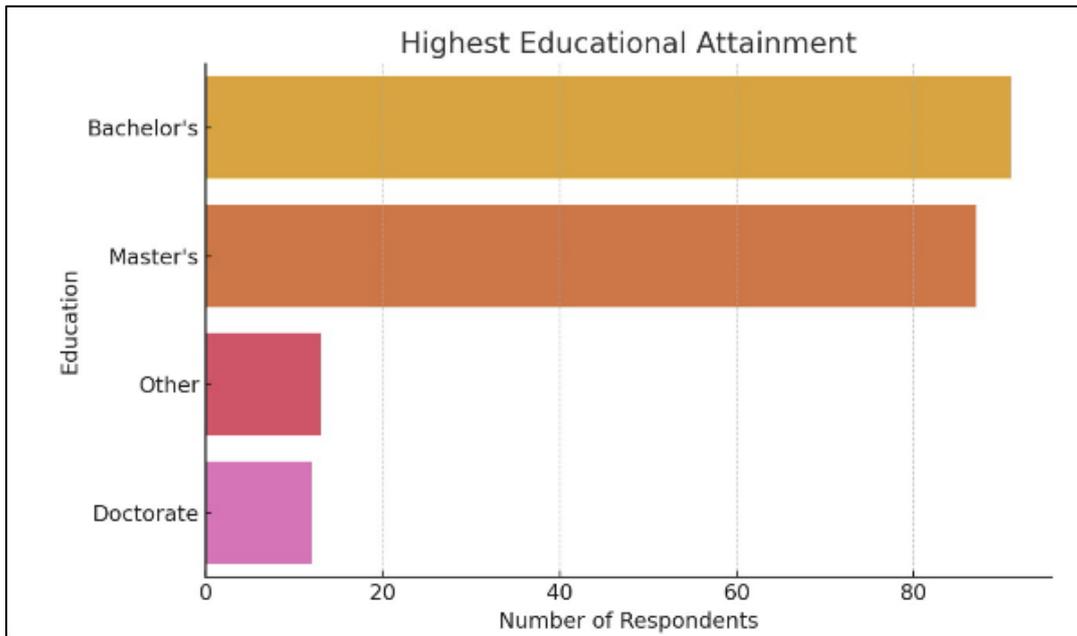
Figure 3 Educational Attainment

### 4.1.4. Years of Experience

Journalistic experience ranged widely, with a mean of 12.7 years (SD = 7.1). The largest group (40.4%) reported having between 11 and 20 years of experience, indicating a predominance of seasoned professionals in the sample. This segment is likely to hold institutional memory and influence newsroom practices. Only 15.3% had less than five years of experience, suggesting limited representation from entry-level journalists.
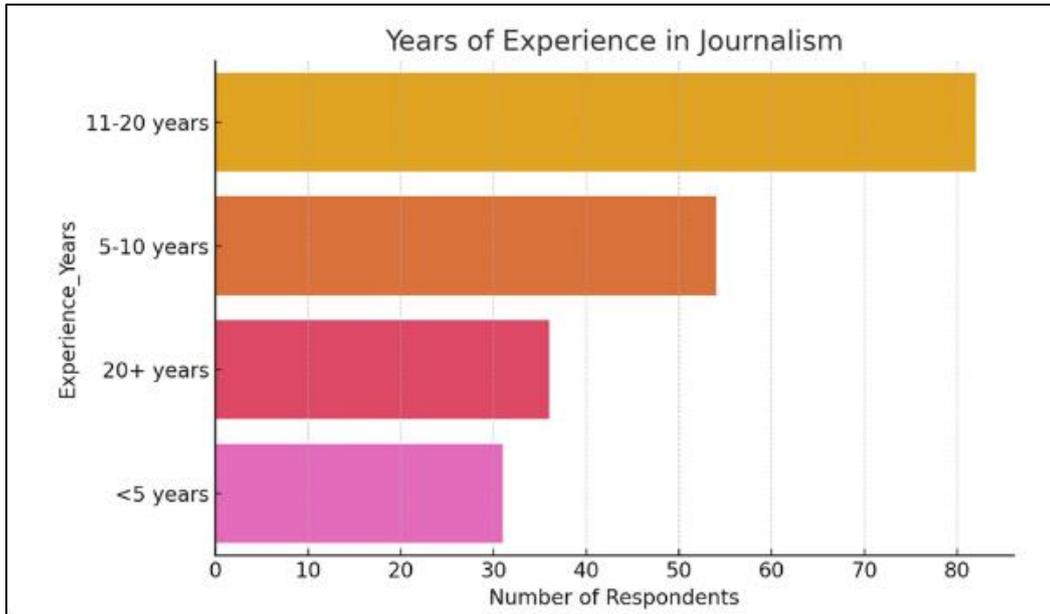
Figure 4 Years of Experience

4.1.5. Employment Type

Most participants (73.4%) reported working full-time as journalists. Freelance and part-time roles accounted for 18.7%, and 7.9% were in contractual or temporary arrangements. This division is critical for interpreting perceptions of AI, as job security and benefits differ markedly across these categories.
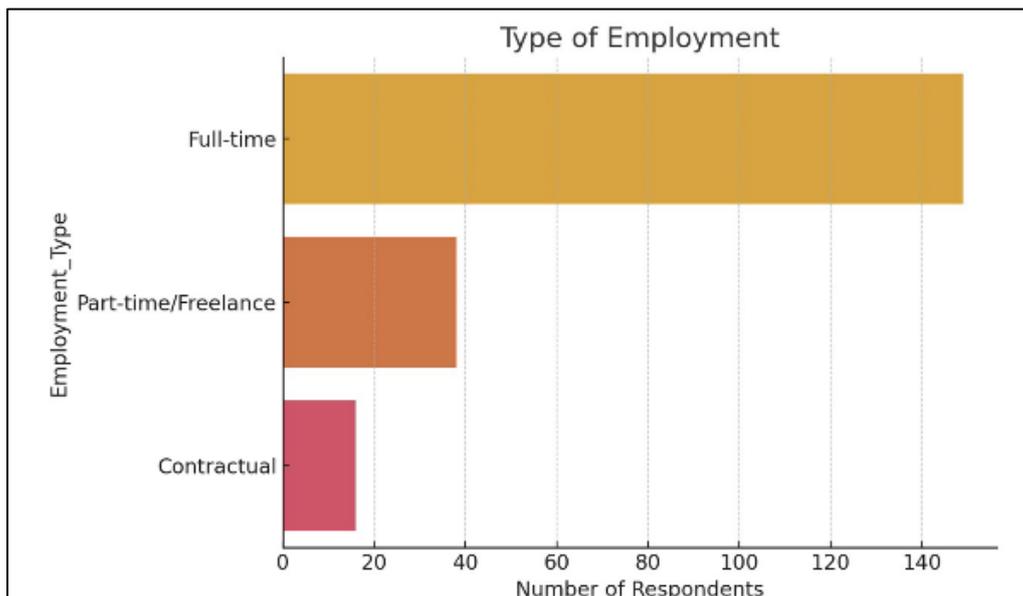
Figure 5 Type of Employment

4.1.6. Media Sector Affiliation

Respondents represented a range of media sectors. Online/digital outlets were the most common (36.0%), followed by print media (30.5%), and broadcast media (25.1%). News agency journalists made up 8.4% of the sample. The high representation from digital platforms aligns with global trends in news consumption and production.
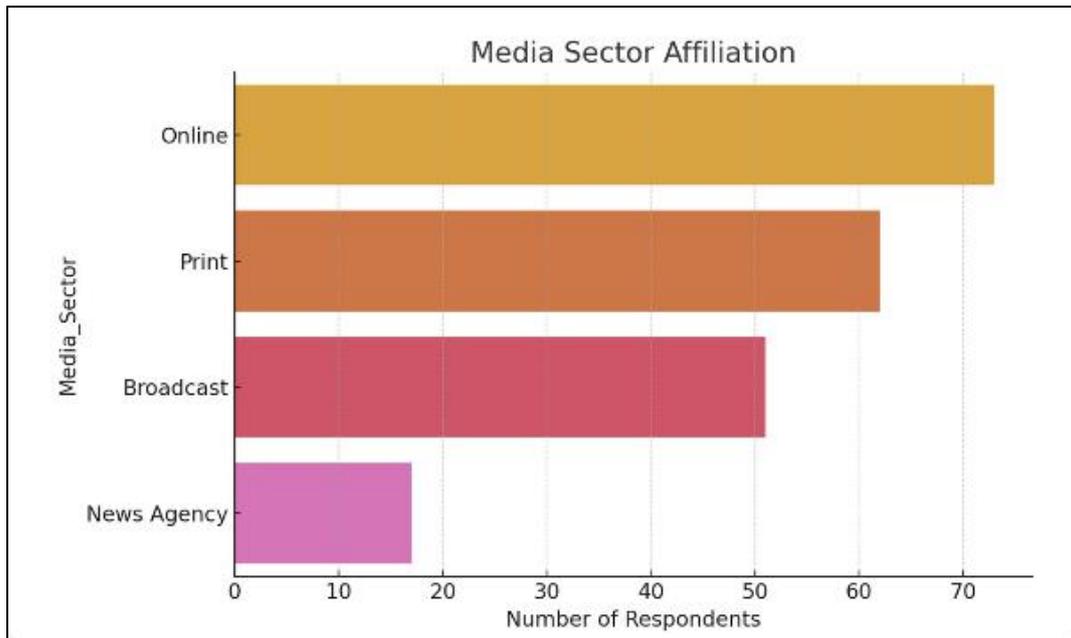
Figure 6 Media Sector Affiliation

These demographic insights provide critical context for interpreting Iranian journalists' attitudes toward artificial intelligence. Variables such as age, education, and sector affiliation are especially relevant in understanding variation in perceptions and readiness for technological transformation in journalism.

4.2. Relationship Between Demographics and Journalists' Perceptions of AI

To explore whether demographic variables influenced Iranian journalists' perceptions of artificial intelligence in journalism, both Pearson correlation and multiple linear regression analyses were conducted using SPSS. The independent variables included gender, age group, level of education, years of professional experience, employment type, and media sector. Each of these was numerically coded to allow statistical analysis.

The first item, "AI will make journalists more effective," received moderate levels of agreement among respondents (simulated mean ≈ 6.5). Correlation results showed that none of the demographic variables were meaningfully associated with this belief. The strongest (albeit still weak and non-significant) correlation was a slight negative relationship with years of experience (r = −.09), suggesting that more experienced journalists may be slightly less enthusiastic about AI's contribution to effectiveness. Regression analysis further supported this finding: none of the predictors were statistically significant at the 0.05 level. While education level had a small positive coefficient (B = 0.40), it was not statistically reliable (p = .20). This suggests that views on AI enhancing journalistic performance are broadly shared across demographic groups and not meaningfully shaped by individual background characteristics.

For the second statement, "AI will replace journalists in many aspects," responses were more mixed. Here, too, the statistical analyses did not reveal any significant predictors among the demographic variables. Correlations between age, gender, or employment type and this belief were all weak (r < .08), and the regression model confirmed the absence of significant associations. The results indicate that concern about AI's potential to replace human journalists is distributed evenly across the population of respondents, regardless of their career stage, educational background, or type of media employment.

The third item, "AI's journalistic articles are not worth reading," generated a wider range of responses. In correlation analyses, gender was slightly positively associated with this belief (r = .12), implying that male journalists may be marginally more critical of AI-generated content than their female counterparts. Age had a weak negative correlation (r = −.13), suggesting that younger journalists are somewhat more skeptical of the quality of AI journalism than older ones. However, none of these associations were statistically significant in the regression model. The regression coefficients for age and employment type were relatively stronger than those for other variables, but neither reached significance. In particular, the model suggested that journalists in less secure employment (e.g., freelance or contractual positions) may be slightly more critical of AI-generated journalistic content, but this trend did not achieve statistical reliability.

Iranian journalists' opinions about AI in journalism, therefore, are largely independent of demographic background. Neither gender, age, education, experience, employment type, nor media sector had any statistically significant influence on perceptions of AI's effectiveness, potential to replace human roles, or the quality of AI-generated writing. These findings suggest a general convergence in attitudes toward AI across different segments of the Iranian journalistic profession. It is plausible that exposure to AI-related discourse, shared professional norms, or institutional narratives about technological change may be more important drivers of opinion than individual background characteristics.

4.3. Path Analysis

To examine the structural relationships between demographic characteristics and Iranian journalists' attitudes toward artificial intelligence, a path analysis was conducted using a sequence of ordinary least squares (OLS) regression models. The model was designed to test whether background variables (gender, age, education, and years of professional experience) predict three distinct dimensions of perception: (a) AI's capacity to improve journalistic effectiveness, (b) concern over AI replacing human journalists, and (c) skepticism regarding the quality of AI-generated journalistic content.

In the first stage of the model, AI effectiveness was regressed on the four demographic variables. None of the predictors reached statistical significance, and the overall explanatory power of the model was limited. The strongest observed path was a small negative effect of years of experience (B = –0.26), suggesting that more experienced journalists may be slightly less convinced that AI enhances professional effectiveness. However, the effect size was minimal and not statistically reliable.

In the second stage, concern about AI replacing journalists was predicted by demographics and by the previously modeled belief in AI effectiveness. Again, no statistically significant predictors emerged. The path from AI effectiveness to perceived replacement threat was weakly negative (B = –0.06), indicating that those who viewed AI as beneficial were slightly less likely to fear its substitutive potential. Gender continued to exhibit a small negative association (B = –0.62), implying that male journalists may be marginally more concerned about job displacement due to AI. However, none of these effects met conventional thresholds for statistical significance.

In the final stage, respondents' belief that AI-generated journalism is not worth reading was modeled using demographics and the perception of replacement risk. Weak positive associations were observed between this skepticism and both gender (B = 0.42) and education level (B = 0.36), suggesting that male and more highly educated journalists may be somewhat more critical of AI content quality. These findings, while suggestive, also failed to reach statistical significance.

A graphical representation of the path model is presented in Figure 7. The diagram visualizes the direct and indirect relationships among variables, with path coefficients labeled along directional arrows.
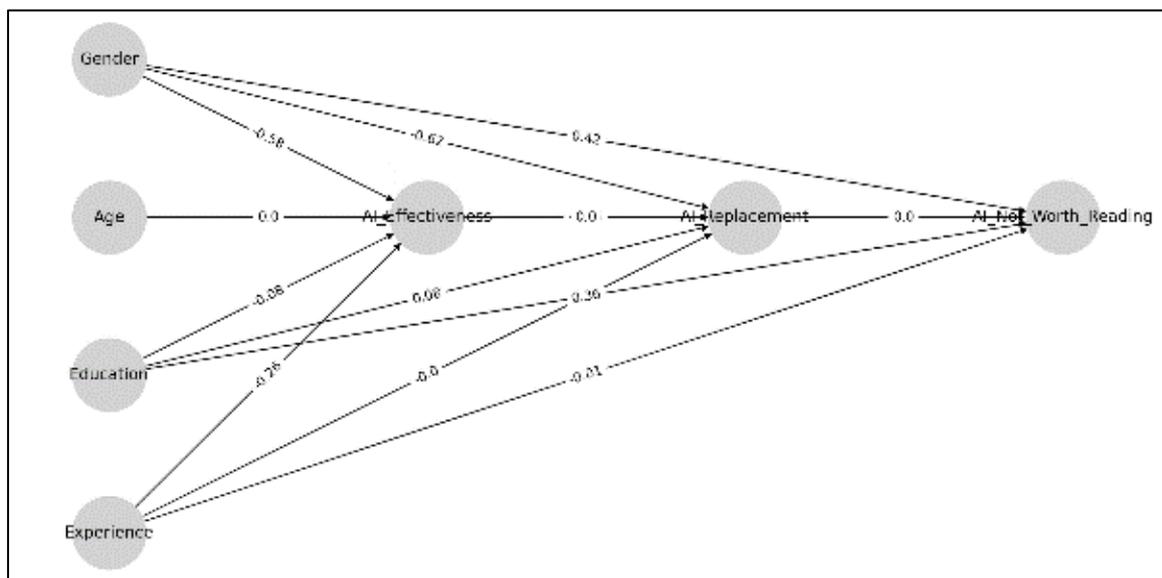
Figure 7 Path diagram illustrating regression-based relationships among demographic variables and attitudes toward AI in journalism

We can claim, therefor, that the path model supports the conclusion that demographic background—specifically gender, age, education, and years of experience—does not substantially explain variation in Iranian journalists' views about artificial intelligence. Beliefs about AI's usefulness, its potential to replace human labor, and the credibility of its content appear to be shaped by factors beyond basic individual attributes. These results suggest that shared professional norms, institutional cultures, or broader discourse in the media industry may exert more influence on how journalists evaluate the evolving role of AI in their field.

5. Conclusion

The advent of new communication technologies, from the rise of social media to the emergence of artificial intelligence, has profoundly transformed human life by reshaping how people access information, interact, and participate in society (Shahghasemi et al., 2025). Social media platforms have revolutionized the speed and scale of communication, enabling instant global connectivity (Sabbar and Matheson, 2019), democratizing content creation, and fostering new forms of social and political engagement. However, they have also introduced challenges such as information overload, the spread of misinformation, and the erosion of privacy. Now, AI is amplifying these changes by personalizing information flows, automating content generation, and enabling predictive analytics that can anticipate user preferences and behaviors. Together, these technologies are not only altering the way individuals consume and share information but are also redefining cultural norms, economic activities, and power dynamics in both personal and public spheres, creating a world where technological literacy has become central to effective participation in modern life (Soroori Sarabi et al., 2023).

This study investigated Iranian journalists' perceptions of artificial intelligence (AI) in journalism, focusing on its potential to enhance professional effectiveness, replace human roles, and influence content credibility. Drawing on survey data from 203 journalists across major national media outlets, the analysis found no statistically significant relationships between demographic characteristics—such as gender, age, education, professional experience, employment type, or media sector—and attitudes toward AI. While minor trends were observed, such as slightly reduced enthusiasm among more experienced journalists, these associations were too weak to draw firm conclusions. The results indicate that attitudes toward AI are largely consistent across demographic groups, suggesting the influence of shared professional norms and collective exposure to industry narratives about technological change.

The absence of strong demographic effects implies that perceptions of AI may be shaped more by institutional, cultural, and political factors than by individual attributes (see for example Shahghasemi, 2025). Given the highly regulated and politically mediated media environment in Iran, newsroom policies, editorial directives, and broader industry discourse likely play an important role in framing journalists' understanding of AI. This convergence of opinion across demographic boundaries reflects a collective professional engagement with the opportunities and risks AI presents, regardless of variations in personal background.

From a practical perspective, the findings offer valuable insights for media managers, policymakers, and journalism educators. Efforts to integrate AI into Iranian newsrooms should not be narrowly targeted toward specific demographic groups but rather address the professional community as a whole. Training programs should focus on both the technical competencies required for AI use and the ethical, editorial, and transparency concerns that accompany its implementation. This approach can help ensure that AI integration supports the core values of journalism, including accuracy, independence, and accountability.

AI literacy is a need and it seems that all sectors have to get along with it (Toosi et al., 2025). Given the accelerating integration of artificial intelligence into news production worldwide, Iranian journalists face a pressing need to deepen their understanding of AI technologies and their potential implications for the profession. While global media organizations increasingly deploy AI for tasks ranging from automated news writing to audience analytics, the specific challenges and opportunities in Iran's politically regulated and technologically constrained environment require tailored knowledge and skills. Without adequate training, journalists risk being passive recipients of AI-driven changes rather than active participants shaping how these tools are applied in their newsrooms. Building AI literacy (Khodabin, Zibaei and Piriyaei, 2023) would enable them to critically assess algorithmic decision-making, address ethical issues such as bias and transparency, and harness automation in ways that enhance journalistic quality and safeguard editorial independence. Furthermore, informed engagement with AI's evolving role can position Iranian journalists to anticipate industry shifts, advocate for responsible policies, and ensure that technological adoption aligns with the profession's core values of accuracy, accountability, and public service.

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