A BIBLIOMETRIC REVIEW OF AI ANCHORS AND HUMAN ANCHORS IN JOURNALISM

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ABSTRACT

The integration of Artificial Intelligence (AI) in the journalism field has resulted in the development of AI news anchors, which has changed the way news anchors have been presenting news in the past. This paper provides a bibliometric analysis of research studies conducted on AI news anchors and human news anchors to understand the publication trends, development of themes, key authors, and the research gaps emerging in the field. The paper uses secondary data sources from peer-reviewed journals, conference papers, and academic databases to identify the key research areas in the field, which include technological advancements, audience perception, credibility and trust, ethics, and newsroom changes. The analysis shows that there has been an increasing trend in research studies on AI news anchors since 2018, after their massive introduction in the field, while also establishing the importance of human news anchors in emotional expression, credibility, and interpretive journalism. The paper concludes that the current literature supports the development of a hybrid approach where AI news anchors assist human news anchors instead of replacing them and that there are major research gaps in the regional, linguistic, and longitudinal studies, especially in non-English speaking media environments.

Keywords: AI Anchors, Human Anchors, Journalism, Bibliometric Review, Media Studies, Artificial Intelligence.

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1. INTRODUCTION

Technological innovation has always impacted the field of journalism, ranging from the printing press to the digital newsroom. In the modern media landscape, Artificial Intelligence (AI) is a revolutionary technology that affects news creation, dissemination, and presentation. One of the most apparent manifestations of this revolution is the development of AI news anchors, which are virtual anchors that can present news using natural language processing, speech synthesis, and computer-generated imagery.

While human anchors have always symbolized credibility, emotional engagement, and interpretive expertise in news broadcasting, AI anchors promise efficiency, consistency, multi-language support, and cost savings. This paradox has led to academic discussions on the relative importance, effectiveness, and ethical implications of AI anchors compared to human anchors.

In light of the growing body of literature on AI in journalism, a bibliometric analysis is required to systematically survey the trends of research, the prominent themes, and the gaps in existing knowledge. This paper seeks to conduct such a survey with a comparative analysis of AI anchors and human anchors.

2. OBJECTIVES OF THE STUDY

1. To analyze the development and distribution of academic literature on AI anchors and human anchors.
2. To determine the prominent themes of research in the literature.
3. To analyze the comparative presentation of AI anchors and human anchors in research studies.
4. To determine the research gaps and suggest future research directions.

3. RESEARCH QUESTIONS

1. What is the evolution of research on AI anchors in academia?
2. What are the major themes of research on the comparison of AI anchors and human anchors?
3. How do research findings place AI anchors in relation to human anchors?
4. What are the existing gaps in the literature?

4. METHODOLOGY

For this study, a bibliometric review methodology is employed. This entails the systematic and quantitative analysis of published academic literature to reveal patterns, trends, and intellectual structures within a particular research field. Bibliometric analysis uses statistical and mathematical methods on published academic literature to investigate publication activity, citation patterns, authorship, keyword co-occurrence, and thematic development over time. This allows researchers to chart the evolution of a research field, identify key authors and institutions, and track emerging trends in research [1,6].

Unlike conventional narrative reviews, bibliometric reviews use quantitative indicators such as citation rates, co-citation analysis, bibliographic coupling, and co-authorship analysis to ensure objectivity and replicability. This is especially helpful in dynamic and interdisciplinary areas of research such as Artificial Intelligence in media studies, where a high volume of published research needs to be systematically and data-fully synthesized [12].

4.1 Data Sources

The bibliometric analysis uses literature from academic databases to ensure coverage and validity. The main sources of data are Scopus, Web of Science, and Google Scholar. The selection of these sources is based on their comprehensive coverage of peer-reviewed literature, citation analysis, and multidisciplinary focus, which are crucial for bibliometric mapping and analysis [9, 10].

Apart from the database search, the review also uses articles from peer-reviewed journals that focus on media studies, communication studies, and research in Artificial Intelligence. This is to ensure that the review is discipline-specific while maintaining rigor and validity.

The review uses literature from:

- Scopus
- Web of Science
- Google Scholar
- Peer-reviewed journals in media studies, communication, and AI research

4.2 Search Keywords

To facilitate systematic and targeted literature searches, a structured keyword approach was adopted. The search terms were designed by considering the key concepts of Artificial Intelligence, journalism, and news delivery. The main keywords employed are:

•AI news anchors

•Virtual news anchors

•Human news anchors

•Artificial intelligence in journalism

•Automated journalism

These search terms were executed individually and cumulatively using Boolean operators (AND, OR) to filter and improve the accuracy of retrieval. For example, searches such as "Artificial intelligence in journalism" AND "news anchors" or "Automated journalism" OR "AI news anchors" were conducted to widen and narrow down the focus as needed.

The addition of the keyword "Automated journalism" is consistent with existing literature that has defined it as the application of algorithms and natural language processing tools to generate news content with little human involvement [3, 7]. The incorporation of these strategically identified keywords ensures that the technological and human-focused aspects of AI-based news production are both comprehensively addressed.

4.3 Criteria for the bibliometric Analysis

In order to ensure relevance, quality, and currency, the following criteria for inclusion were used in the selection of literature for the bibliometric analysis:

4.3.1. Peer-reviewed journal articles and conference papers: The inclusion of literature was restricted to scholarly publications that have been peer-reviewed in order to ensure academic rigor and reliability of methodology.

4.3.2. Publications related to journalism, broadcasting, or media presentation: The selection of literature was based on publications that specifically addressed issues related

to journalism, news production, broadcasting technology, or media presentation formats, especially in the context of Artificial Intelligence applications.

4.3.3. **Published after 2018 (post-emergence of AI anchors):** The year 2018 was selected as the benchmark because of the global emergence of AI news anchors, especially introduced by Xinhua News Agency [11] in collaboration with Sogou, which is a major milestone in the use of AI for news presentation. By restricting the scope of the analysis to publications post-2018, the review is able to capture current trends, technological developments, and scholarly debates on AI-enabled journalism.

4.4 Analysis Approach

The resulting literature was then analyzed using bibliometric and thematic analysis methods to visualize the intellectual framework and evolution of research on AI-powered journalism. The analysis was carried out on the following dimensions:

4.4.1. **Chronological publication patterns:** A temporal analysis was performed to determine the annual rate of publication, growth rates, and changes in the intensity of research after the appearance of AI-powered news anchors. The temporal analysis assists in understanding the evolution of research interest in response to technological progress and industry adoption.

4.4.2. **Thematic clusters:** Co-word analysis and keyword co-occurrence analysis were employed to identify the prominent themes and conceptual structures of research. These structures generally encompass themes such as automated journalism, algorithmic transparency, audience trust, ethical issues, news automation, and human-AI collaboration. The determination of thematic structures assists in understanding the intellectual framework of the research area [12].

4.4.3. **Comparative views of AI and human anchors:** A content comparison analysis was carried out to examine the manner in which research differs between news anchors who are AI-powered and those who are human in terms of credibility, emotional intelligence, audience perception, efficiency, and ethics. The comparative analysis helps to clarify the discussion on technological substitution versus augmentation in the journalism industry.

Both of these analysis approaches help to ensure that the discourse on Artificial Intelligence in news presentation is mapped both quantitatively and qualitatively.

5. FINDINGS AND THEMATIC ANALYSIS

5.1 Growth of Publications

The bibliometric trend indicates minimal scholarly output on AI news anchors prior to 2018. A noticeable surge in publications occurred after the introduction of AI anchors by major broadcasters, particularly following the launch by Xinhua News Agency [20] in 2018. Between 2020 and 2025, research output expanded significantly, reflecting increasing academic interest in newsroom automation, digital transformation, and human–machine interaction in journalism [3,7]. This upward trajectory aligns with broader scholarly attention toward automated journalism and AI-mediated communication systems [12].

5.2 Major Research Themes

5.2.1 Technological Development of AI Anchors: A major part of the literature is concerned with the technical architecture of AI anchors, such as natural language generation (NLG), speech synthesis, facial animation technology, and deep learning architectures. These studies conceptualize AI anchors as an advanced extension of automated journalism systems with the aim of improving efficiency, scalability, and multilingual support [6, 7].

5.2.2 Audience Perception and Credibility: Another major stream of research is concerned with audience perception, comparing AI anchors with human anchors on the basis of trust, engagement, attractiveness, and perceived credibility. The empirical evidence indicates that, although AI anchors are perceived as innovative, neutral, and stable, human anchors are still perceived as more emotionally expressive and credible [3].

5.2.3 Ethical and Professional Issues: Ethical issues are a major thematic concern of the literature. The major issues are transparency in AI-generated content, disclosure practices, algorithmic bias, job displacement, and accountability. The literature suggests that AI anchors raise fundamental questions about the traditional journalistic values of authenticity, editorial control, and professional identity [3].

5.2.4 Comparative Performance: AI vs. Human Anchors: Comparative studies emphasize the differentiated strengths and weaknesses. AI anchor systems show superiority in terms of speed, consistency, data-driven journalism, and multi-lingual scalability. But, human anchors perform better in terms of improvisational skills, context awareness, crisis communication, and interpretive journalism, which demand emotional intelligence and ethical reasoning [7].

5.2.5 Human-AI Collaboration in Newsrooms: There is an emerging body of literature that favors a hybrid newsroom approach, combining human expertise with AI systems. AI anchors are viewed as assistive technology that can help human journalists focus on in-depth and analytical journalism [6, 12].

6. DISCUSSION

The bibliographic analysis shows that the literature does not treat AI anchors as a replacement for human anchors in general. Rather, the literature focuses on coexistence and supplementation, treating AI systems as supportive technologies in newsrooms. Automated journalism literature suggests that while algorithms improve speed, scalability, and cost-effectiveness, human journalists and anchors remain the core of journalistic credibility, ethics, and emotional engagement [3, 7]. Human-AI collaboration literature further contends that AI tools are primarily assistive technologies that reorganize the newsroom labor structure rather than replace it [5].

Nevertheless, the bibliographic analysis also shows the existence of a technological determinism bias in the early literature, in which efficiency and automation were prioritized over socio-cultural and ethical concerns. Early studies largely focused on celebrating productivity and technological advancements. In contrast, more contemporary studies take a critical and interdisciplinary approach, exploring topics such as algorithmic accountability, labor displacement, newsroom power relations, audience trust, and psychological reactions to synthetic media [5, 8]. This trend indicates the overall maturity of AI-in-media studies from techno-optimism to critical media studies approaches.

7. RESEARCH GAPS IDENTIFIED

The bibliometric study points out some research gaps:

1.Language and Regional Bias: Most of the research is done on English or Chinese media, while less emphasis is given to regional and non-English journalism.

2.Longitudinal Studies: There is a gap in long-term research that monitors the changes in audience perception over time.

3.Regulatory and Policy Analysis: There is a research gap in the legal aspects of AI anchors.

4.Cultural Representation: Less emphasis is given to research on how AI anchors represent or misrepresent cultural identities.

8. CONCLUSION

This bibliometric analysis clearly shows that the study of AI anchors and human anchors is a rapidly growing area of research in the field of journalism and media studies. The growing number of studies on this topic mirrors the increasing academic interest in automated journalism, algorithmic systems, and newsroom evolution [5,6].

The literature clearly shows that, although AI anchors have a major role in terms of efficiency, scalability, and innovation, they do not substitute the central normative role of journalism. Human anchors continue to play a pivotal role in meaning-making, trust-building, interpretive framing, and ethical accountability, which are deeply ingrained in the professional journalistic culture [7].

The latest research trends are increasingly in favor of a hybrid integration approach, whereby Artificial Intelligence can be used to augment production processes, and human journalists can retain control over editorial content and socio-cultural accountability. As evident from the latest research trends, the future course of broadcast journalism seems to be headed towards a harmonious blend of human intelligence and artificial intelligence, which emphasizes efficiency without sacrificing credibility, transparency, and democratic ideals [5].

9. SUGGESTIONS FOR FUTURE RESEARCH

Based on the results of the bibliometric analysis, the following research gaps and emerging themes should be addressed in future studies:

9.1. Regional and language-specific journalism environments

The current literature is dominated by technologically developed and English-speaking media environments. Future studies should investigate the role of AI anchors in regional, vernacular, and linguistically diverse journalism environments to gain insights into localization, cultural adaptation, and accessibility issues.

9.2. Empirical audience research in different cultural environments

There is a need for comprehensive, cross-cultural empirical research on audience perception, trust, credibility evaluation, and psychological reactions to AI-based news delivery. Comparative audience research would help to better understand the role of socio-cultural factors in shaping acceptance of AI anchors [3].

9.3. Regulatory and ethical foundations for AI-based media

With increasing integration of AI anchors into mainstream television, future research should examine emerging regulatory frameworks, disclosure practices, transparency requirements, and accountability provisions. Special attention should be paid to algorithmic regulation and ethical foundations of AI in journalism [5].

9.4. Investigate the long-term effects of AI anchors on the labor of journalism

Longitudinal studies are required to assess the effects of AI adoption on the restructuring of newsroom hierarchies, professional identities, skill sets, and employment patterns. Instead of focusing on displacement, research should explore restructuring, complementing, and hybrid forms of labor in digital newsrooms [7].

Taken together, these areas of research would help shift the focus of AI research in journalism from descriptive and technology-focused studies to more socio-cultural, regulatory, and labor-focused studies of Artificial Intelligence.

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