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## **Publication Trends in Artificial Intelligence and Journalism**

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**Abstract:** This study examines the publication trends, dominant research topics, and regional disparities in academic knowledge production on artificial intelligence (AI) in journalism. Using a scientometric approach, we analyze 269 Scopus-indexed articles published between 2017 and 2024. Methods include bibliometric analysis, topic modeling with CiteSpace, and co-authorship network analysis with VOSviewer. The findings reveal a sharp increase in AI-journalism research, with the majority of publications concentrated in North America and Western Europe. Thematic analysis identifies five key research clusters, including algorithmic governance, data-driven journalism, and AI-assisted newsroom decision-making. Despite the growing volume of publications, citation rates per article have declined, suggesting saturation in the field. The study highlights the structural imbalance in knowledge production, with minimal representation from Global South scholars. Future research should focus on interdisciplinary collaborations, the ethical implications of AI-driven journalism, and strategies for increasing academic inclusiveness in non-Western contexts.

**Keywords:** Artificial Intelligence, journalism, algorithmic journalism, scientometrics, publication trends

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*Tendances en matière de publication dans le domaine de l'intelligence artificielle et du journalisme*

**Résumé :** Cette étude analyse les tendances de publication, les thématiques dominantes et les disparités régionales dans la production académique sur l'intelligence artificielle (IA) en journalisme. En utilisant une approche scientométrique, nous avons examiné 269 articles indexés dans Scopus entre 2017 et 2024. Nos méthodes incluent l'analyse bibliométrique, la modélisation thématique avec CiteSpace et l'analyse des réseaux de co-auteurs avec VOSviewer. Les résultats révèlent une forte augmentation des recherches sur l'IA et le journalisme, avec une concentration marquée des publications en Amérique du Nord et en Europe occidentale. L'analyse thématique identifie cinq clusters majeurs, incluant la gouvernance algorithmique, le journalisme basé sur les données et la prise de décision automatisée en salle de rédaction. Malgré l'augmentation des publications, le taux de citation par article diminue, indiquant une saturation du domaine. La recherche future devrait explorer les collaborations interdisciplinaires, les implications éthiques et des stratégies favorisant l'inclusivité académique dans les contextes non-occidentaux.

**Mots-clés :** intelligence artificielle, journalisme, journalisme algorithmique, scientométrie, tendances de publication

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### **Introduction**

Cools and Diakopoulos (2023) claim that artificial intelligence (AI) has created “utopian and dystopian” portrayals of professions future. We have to agree with this statement. The body of literature on how AI will affect certain sectors, jobs, or the way people “used to” do duties and tasks is growing rapidly and even though research is still developing on the impact of AI, we can confidently assert that the automatization and the rapid development in the field of robotics (especially industrial robotics) is and will be replacing, but more importantly, reform how labor is conducted at an unprecedented rate (Huo et al., 2024; Shen & Zhang, 2024). A key question in studying the above problems concerns how this new technology will amend the practices of traditionally human-based, creative professions, such as journalism.

The aforementioned question is anything but a novel polemic. Almost a decade ago, Montal and Reich (2016) outlined the key issues with the then-called automated or robot-journalism (also see Clerwall, 2014) with particular attention to a significant question, authorship, while Coddington (2014) expressed concerns over the transparency of the use of automatization in journalistic tasks. In regard to algorithmic journalism, in the early 2010s, AI's role in news production, content and data analysis, as well as media distribution especially on social media platforms has evolved from its experimental stage to an instrumental tool and component of contemporary journalism. In its early implementation, AI was mainly used for data-

driven storytelling and the automatization of “repetitive”, mostly administrative tasks (Van Dalen, 2012; Dierickx & Lindén, 2024). As technology evolved, more and more dilemmas emerged. For example, a well-known instance of what journalism *might* become later has first arrived with *StatSheet*, a sports-related website which operated with human oversight, however, the content generated and disseminated on it was run entirely by an algorithm-based software (Cohen, 2015), and later on other platforms also implemented algorithms and auto-journalism tools to publish news faster and with more reach. Major media organizations have rapidly started to deploy AI-driven tools and more sophisticated forms of automated journalism have been widely adopted to produce summaries and more comprehensive analyses on a wide range of topics from sports and entertainment to finances and politics (Sirén-Heikel et al., 2019; Lindén, 2017). The driving force of this shift was the unarguable efficiency of news dissemination – the Associated Press, for example, has used AI to generate corporate earnings reports, significantly increasing the number of stories it can produce (Túñez-López et al., 2021). As for data journalism, the use of AI, especially in more recent times, is nothing short of revolutionary and disruptive – new forms of data collection and analyses powered by AI allowed journalists to uncover hidden patterns, detect misinformation, and provide richer investigative reports, as well as extract insights, and visualize complex information in more accessible and inclusive ways (Túñez-López et al., 2021; Ali & Hassoun, 2019).

Nonetheless, the early research on AI and journalism has mostly come to the same conclusion: AI’s integration into journalism presents both opportunities and challenges which was a neutral and highly conservative (and optimistic) view on how new technologies can reshape the professional landscape of journalism. It is important to underline, however, that despite the growing body of research on AI in journalism, there remain stark regional disparities in academic contributions to this field. Scholarly output on AI’s impact on journalism – as in many other cases concerning social sciences and media studies (Lendvai, 2025; Demeter, 2020) – is overwhelmingly dominated by researchers from the Global North, particularly North America and Western Europe (Noain-Sánchez, 2022). This imbalance reflects broader patterns of knowledge production in media and communication studies, where scholars from high-income countries set the research agenda, often overlooking the unique challenges faced by journalists in the Global South (Demeter, 2017, 2018, 2020). As a result, discussions surrounding AI in journalism tend to prioritize issues relevant to Western media landscapes as seen from an earlier scientometric study by Xu and Lan (2020).

The present study, therefore, aims to address these gaps and give an updated perspective on Xu and Lan’s (2020) findings. To achieve these goals, this study investigates the following research questions:

- RQ1: What are the publication trends in academic research on AI applications within journalism?
- RQ2: Which topics dominate research on AI and journalism?

- RQ3: What regional disparities exist in AI research for journalism, particularly between the Global North and Global South?

It is hoped that via answering the above questions, we can contribute meaningfully to the vivid ongoing discussion on both knowledge production dilemmas and the assessment of AI and journalism.

## 1. Literature Review

As mentioned earlier, the studying of AI and journalism is a rather novel yet growing interdisciplinary field. Though scientometric endeavors and systematic reviews are rather scarce in literature, it has been noted in earlier papers that the rise of AI and journalism in science can be dated back to the mid-2010s (Calvo-Rubio & Ufarte-Ruiz, 2021) and that key topics include content creation, audience-related issues (such as engagement questions) and misinformation (Goyanes et al., 2025). Though literature is marginal, some reviews have also focused in earlier instances on specific issues, such as the transformation of digital newsroom due to the introduction of AI, as well as its narrative aspects and challenges (Sonni et al., 2024).

Following Goyanes et al.'s (2025) outline in the following section we briefly outline key perspectives on how AI and journalism is formulated and discussion through more significant themes. Firstly, focusing on AI's impact on journalistic practices, Sonni et al.'s (2024) systematic review has revealed that AI is widely adopted in both news writing and data analysis with the majority of news producing outlets/actors employing AI tools (for this also see Dodds et al., 2025; Dodds et al., 2025b). As Banafi (2024) notes, the use of AI in tasks mentioned above as well as data-related and technical processes (mining, transcription, verification, reporting) helps significantly journalists in accelerating routine tasks (Al-Muhaissen et al., 2024) and they also allow for better, more enhanced user engagement experiences as well as more capacities to work on more complex, creative, and even challenging sides of journalistic works (see Tejedor & Vila, 2021 and Fieiras-Ceide et al., 2022). Furthermore, as revealed by Al-Muhaissen et al.'s (2024) qualitative analysis, AI can also be used to ameliorate journalistic content quality (for this also see Palla & Kostarella, 2025). Palla and Kostarella (2025) also note in this context that AI tools can be of help in maintaining journalistic integrity as well without compromising quality news-making (see also Tejedor & Vila, 2021). Lastly, on a more practical but equally important and positive note, the use of AI in journalistic work can also have positive effects on cutting organizational costs (Aljalabneh et al., 2024).

Regarding downsides, literature generally tends to center the discussion around on three main themes. First, there are critical ethical concerns with regard to both what constitutes journalistic work as a "humanly" activity and the lack of details provided by AI-generated and -assisted content, as well as the lack of transparency and guidelines in AI use, issues concerning data privacy and the dilemma of accountability (Noain-Sánchez, 2022; Sonni et al., 2024; Calvo-Rubio & Ufarte-Ruiz, 2020;

Sanahuja & Rabadán, 2022; Gutiérrez-Caneda et al., 2024; Goyanes et al., 2025; Porlezza & Schapals, 2024; Velma, 2024). With particular attention to accountability, AI-generated misinformation has also been cited as one of the key concerns. For instance, since generative AI is prone to generate falsified information that appear realistic, the unsupervised use of AI tools causes significant risks and may also erode public trust and opinion (Ma et al., 2025, Peña-Fernández et al., 2023, also see Rohman et al., 2025). This polemic also arises from the so-called “black box dilemma” which signifies the lack of transparency of many AI models resulting, in our specific context, the struggle to explain how AI-generated content is produced and whether it adheres to traditional journalistic values (see Helberger, 2019). Second, research has increasingly concerned the potential negative impacts on journalists, i.e. how AI might change or have already changed roles and employment. In this regard, the aforementioned automation is reported to have the ability to endanger positions in journalistic jobs and may potentially lead to loss of employments as well, while others raised concerns over the “dehumanization” of the journalistic profession (Guenther et al., 2025; Møller et al., 2024; Møller et al., 2024b; Martínez-Navarro, 2025). Closely interconnected to the latter issue, the lack of “human touch” has also been examined on audiences where it has been noted that AI-generated news content may reduce emotional involvement and perceived bias and often exacerbates hostile media perceptions (particularly in coverage of controversial topics) (Hong et al., 2024; Liu & Wei, 2018). Coupled with a prevailing audience preference for human journalists whom they perceive as more credible despite potential biases, this trust deficit can significantly undermine the overall credibility of news outlets that increasingly rely on AI for content production (Hong et al., 2024; Liu & Wei, 2018). Finally, the use of AI in newsrooms also raises questions about bias, editorial control, and the implications of algorithmic decision-making in shaping public discourse (Montal & Reich, 2016, 2018; Calice et al., 2021; Jones et al., 2022).

## 2. Materials and Methods

Our study differs from Xu and Lan’s (2020) as it is built on the data from Elsevier’s Scopus, and not WoS. This consideration was supported by the fact that Scopus is not only more inclusive and highly reliable with probably the widest set of metadata available with rigorous quality control (Baas et al., 2020) but because it has been noted extensively that for research concerning social sciences Scopus offers a better coverage as well as more comprehensive metadata compared to other repositories (Norris & Oppenheim, 2007; Zhu & Liu, 2020; Prancutè, 2021).

Our research particularly focuses on the social sciences when examining AI and journalism. We created a specific search string in Scopus which allowed us to review in the best possible detail. We included a wide range of keywords because – as outlined in the introduction – the definition of AI journalism is rather vague and not uniform. We set the examined period to cover an 8-year period between 2017 and 2024. Similarly to other scientometric endeavors, we focused on articles in English

(cf. Mostafa, 2023). The start year was chosen to be 2015 as literature in examinable quantity was not available and 2024 was set as the end year because it was the last full year covered by Scopus at the time of the writing of this paper. Data was collected on 15 February 2025 with the following string:

*(TITLE-ABS-KEY("artificial intelligence" OR "machine learning" OR "deep learning" OR "natural language processing" OR "generative AI" OR "large language models" OR "AI-driven journalism" OR "algorithmic journalism" OR "computational journalism" OR "robot journalism") AND TITLE-ABS-KEY("journalism" OR "news media" OR "digital news" OR "news production" OR "journalistic practices" OR "automated journalism")) AND PUBYEAR > 2016 AND PUBYEAR < 2025 AND ( LIMIT-TO ( DOCTYPE,"ar" ) ) AND ( LIMIT-TO ( SUBJAREA,"SOCI" ) ) AND ( LIMIT-TO ( LANGUAGE,"English" ) ).*

With the specific string, we found 435 documents. However, to ensure that only papers that directly address journalism and AI, we manually sorted and filtered every paper in our dataset based on abstracts. We filtered out a total of 163 documents for topical inadequacy leaving a total of 273 includable documents for the examination. However, 3 documents lacked the necessary metadata such as data for corresponding authors, document type metadata, and citation count and we also excluded 1 duplicated item. In total, 269 documents were reviewed.

### 2.1. Analysis of publication trends (RQ1)

For the investigation of publication trends, we applied standard and general bibliometric analyses which included the quantitative examination of publication outputs, publication concentration, citation analysis, and journal analysis (Donthu et al., 2021; Xu & Lan, 2020). For this research question, we employed R's bibliometrix, an R package designed for comprehensive bibliometric and scientometric analysis, enabling users to perform citation analysis, co-authorship networks, thematic mapping, and trend analysis of academic literature (Aria & Cuccurullo, 2017). Three documents were not eligible for review as they lacked instrumental data for processing such as the data for corresponding authors, document type metadata, and citation count. All 269 documents were eligible for analysis. The main information about the dataset is displayed below in Table 1.

**Table 1.** Main information about the dataset analyzed in bibliometrix

Description	Results
Timespan	2017:2024
Sources (Journals)	105
Documents	269
Document Average Age	2.94
Keywords Plus (ID)	224
Author's Keywords (DE)	851

Authors	569
Authors of single-authored docs	65
Single-authored docs	69
Co-Authors per Doc	2.54
International co-authorships %	25.28

## 2.2. Topic analysis (RQ2)

To examine the main topics, we used CiteSpace (version 6.4.R2 Advanced). CiteSpace is widely regarded as one of the most complex and comprehensive scientometric tools for topical and thematic analysis as it is powerful visualization tool that helps researchers identify emerging trends, intellectual structures, and key research frontiers in scientific literature through co-citation analysis, burst detection, and network visualization (Chen, 2004). CiteSpace has also been used for similar endeavors to analyze emerging topics from a more subject-based standpoint (Cataldo et al., 2022; Lendvai, 2025b). Here, we employed a document co-citation analysis which relies on the co-occurrence of citations, measuring how often two or more papers are referenced together within source articles (Small, 1973; Bradley et al., 2019).

We first converted all the references following the reference analysis procedure set forth by Cataldo et al. (2022) and Lendvai (2025b). Out of 15958 references 15070 references were found valid resulting in an extremely high validity rate of 94% which is eligible for review. We then loaded the references into CiteSpace setting the LRF (link retaining factor) to 2.5 and the maximum links per node to 10. The g-index used by CiteSpace was set to a scale factor of  $k = 125$  following Cataldo et al.'s (2022) standards.

The network created with CiteSpace contained 1246 nodes (N) and 3552 edges (E). The density of the network is 0.0046 which means a low density suggesting a sparse network where most citations or keyword relationships occur within specific clusters rather than across the entire network (cf. Barabási, 2016). Nearly half of the nodes are connected in one dominant structure (LCC = 610, 48%). The modularity of the network (Q) indicated strongly defined clusters, meaning the network is well-segmented into distinct research themes or topic groups (Q = 0.9295) which was also supported by the harmonic mean value (Q, S) of 0.9462. In brief, our network is highly eligible for thematic review as it conveyed distinct intellectual venues with different foci. A total of 15 major clusters were discovered by CiteSpace and in view of Cataldo et al.'s (2022) and Lendvai's (2025b) research we focused on the top 5 biggest clusters. (Table 2)

**Table 2.** Cluster information in CiteSpace with the indication of IDs. Examined clusters are highlighted in bold.

ClusterID	Size	Silhouette
<b>0</b>	<b>82</b>	<b>0.889</b>
<b>1</b>	<b>65</b>	<b>0.995</b>
<b>2</b>	<b>59</b>	<b>0.969</b>
<b>3</b>	<b>52</b>	<b>0.941</b>
<b>4</b>	<b>52</b>	<b>0.965</b>
5	48	0.992
6	45	0.979
7	37	0.968
9	31	0.94
10	29	0.992
11	27	0.963
12	25	1
16	20	0.992
17	20	0.985
18	18	0.996

### 2.3. Regional differences in outputs (RQ39)

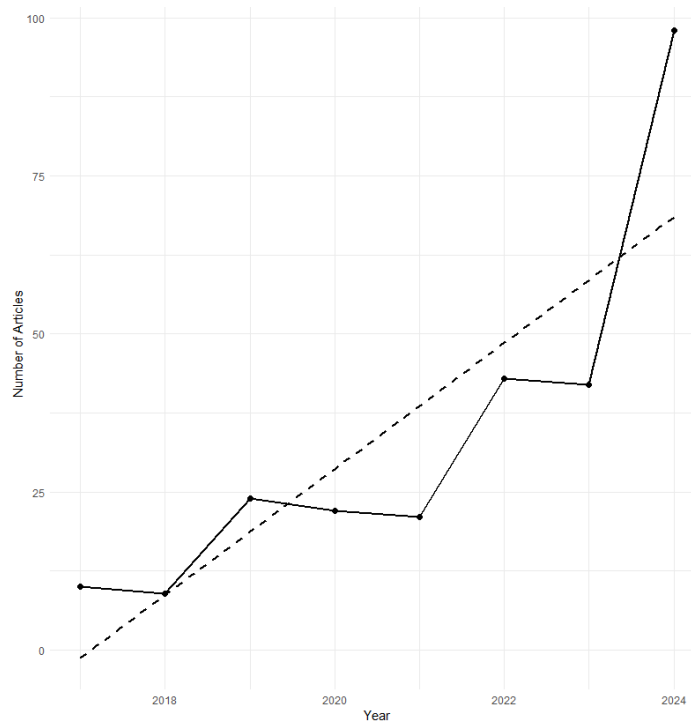
As the research specifically underlines the importance of investigating regional disparities in academic knowledge production (cf. Demeter, 2020), we employed VOSviewer to visualize intellectual structures with particular attention to co-authorship analysis (Van Eck & Waltman, 2009).

We loaded all documents into VOSviewer, excluded publications with more than 25 authors to avoid the distortion of our data, however, to include as many countries in the examination as possible, we did not set a limit to country occurrence for the visualization. To measure how “international” collaborations are, we also used bibliometrix. All visualizations and tables are edited by the authors.

## 3. Results

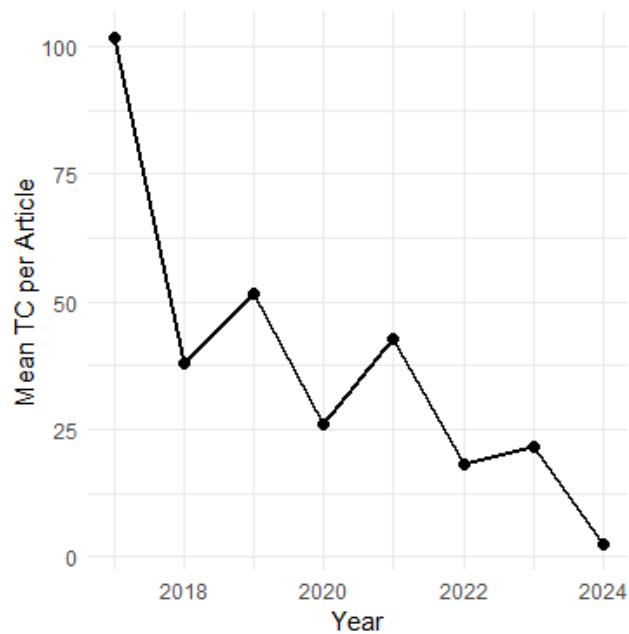
### 3.1. Quantitative analysis of trends (RQ1)

As mentioned by many scholars in the field, our data confirms that AI and its relation to journalism is indeed a highly trending and rapidly emerging scholarly topic (Sonni et al., 2024; Trejos-Gil & Gómez-Monsalve, 2024). In the examined period the number of outputs grew from only 10 articles in 2017 to 98 in 2024. The trend of the publication shows considerable growth ( $R^2 = 0.71$ ). The annual growth rate is 38.55% which is relatively, though it must be accentuated that the number of publications began to grow significantly after 2022 with a particularly productive year in 2024. (Figure 1)



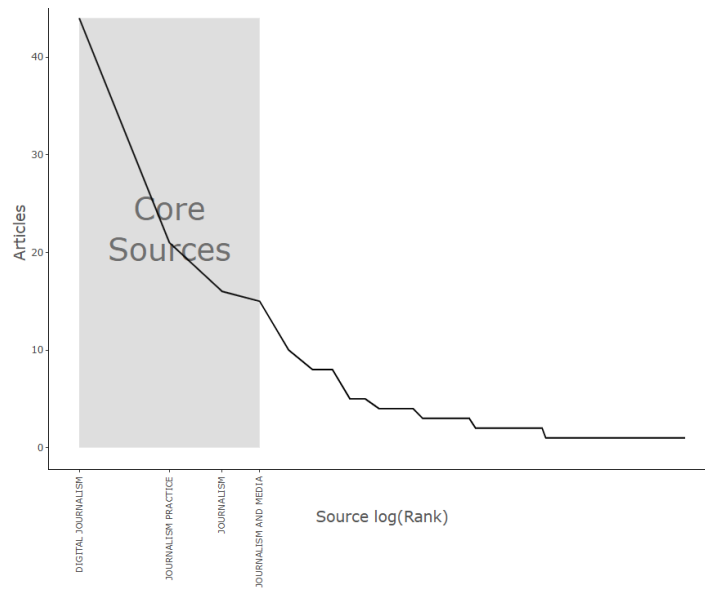
**Figure 1.** *Publication trends in the field of AI and journalism (solid line = N of papers; dashed line = trend)*

With the use of bibliometrix, we calculated the general information on citations, too. As in many other bibliometric cases (cf. Mohamed et al., 2024; , our analysis showed the paradox impact of the growth of publications as the more papers are published the less they are cited. The mean citation count per article fell from 101.7 to only 2.42 between 2017 and 2024 and a moderately strong trend can be outlined in the slowing of citations ( $R^2 = 0.693$ ). The same change occurs when examining citations on an annual basis. In 2017 the mean citations per year was 11.3 while in 2024 it fell to a drastically low 1.21. It can be, therefore, said that the field of AI and journalism becomes more and more condensed with a small number of articles accumulating most of the citations as noted by Merton (1968) in his foundational Matthew effect theory. (Figure 2)



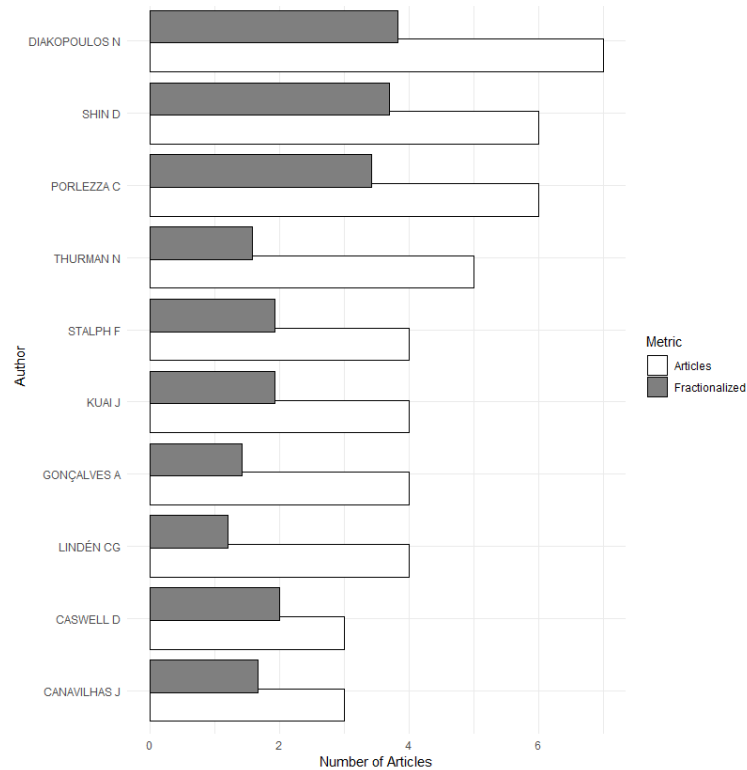
**Figure 2.** Citation trends in the field of AI and journalism (Mean total citations (TC))

The key sources include high impact journals such as *Digital Journalism* (44), *Journalism Practice* (21), *Journalism* (16), and *Journalism and Media* (15). Nonetheless, as in the case of citations, when Bradford's law on journal concentration is applied (Brookes, 1977), scholarly outputs are highly concentrated in core journals, while the majority of articles are published in marginally relevant journals receiving significantly less citations and visibility than those in the "Core zone". (Figure 3)



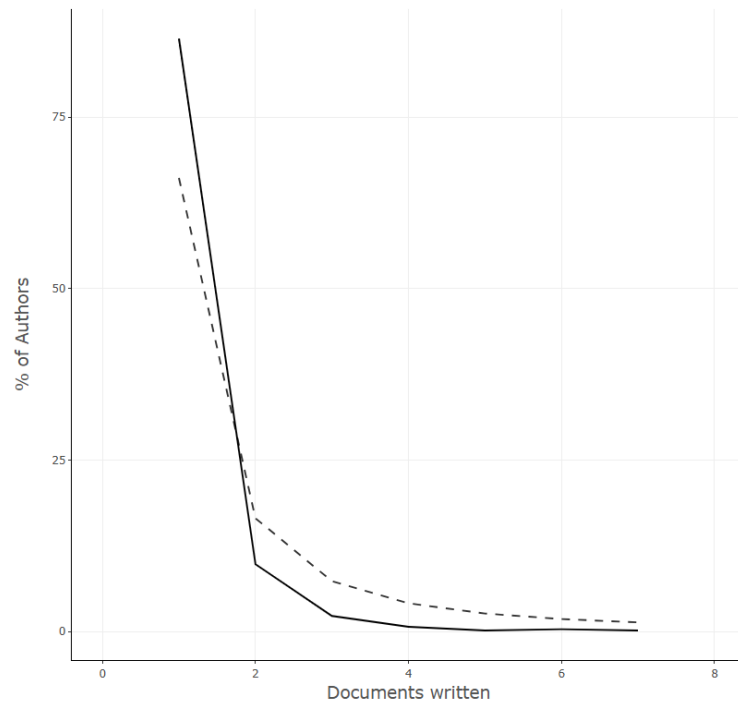
**Figure 3.** *Top journals in the field of AI and journalism*

Lastly, top authors were examined in both total and fractionalized article count. Fractionalized articles represent the proportional contribution of an author to an article, dividing credit among co-authors instead of assigning full credit for every paper. The most relevant authors by article count highlights Diakopoulos N as the most prolific author, with 7 total articles and 3.83 fractionalized articles. Porlezza C follows with 6 total articles and 3.42 fractionalized articles, while Shin D has the same total article count (6) but a slightly higher fractionalized value (3.69). Thurman N, with 5 total articles, has a significantly lower fractionalized count (1.58), suggesting higher co-authorship per paper. (Figure 4)



**Figure 4.** *Top authors in the field of AI and journalism in view of article count*

Similarly to journals, we were intrigued to see how concentrated publications in the context of author contribution are. For this, we applied Lotka's law (De Solla Price, 1976) which states that the number of authors publishing  $n$  papers is approximately inversely proportional to the square of  $n$ , meaning that a small number of authors produce most of the publications, while the majority publish only a few papers. Our analysis confirms that most authors publish only a single paper, with 86.5% (492 out of 569) contributing just one document. As the number of publications per author increases, the number of contributing authors rapidly declines, with only 9.8% (56 authors) publishing two papers and 2.3% (13 authors) producing three papers. (Figure 5)



**Figure 5.** Lotka's law in the field of AI and journalism

### 3.2. Thematic analysis (RQ2)

Using CiteSpace, we examined the key thematic clusters. Though CiteSpace proposes automated names, we were convinced that they do not fully convey a clear and directly usable denomination, therefore, after manually reviewing the papers in the assigned clusters we renamed the top five clusters. These included themes on the algorithmic governance problem in journalism (0), data-driven news production (1), the historic understanding of AI and journalism (2), the educational aspect of data journalism (3), and the specific use of automated decision-making in newsrooms (4). These clusters have all shown a high value of silhouette and are highly distinctive topics that dominate the field of AI and journalism. (Table 3)

**Table 3.** *Table of the key clusters in CiteSpace*

<b>ClusterID</b>	<b>Label (LSI)</b>	<b>Label (LLR)</b>	<b>Label (MI)</b>	<b>Average Year</b>	<b>New name</b>
0	algorithmic-driven tool	s authority (37.75, 1.0E-4)	metaverse-industrial complex (0.83)	2019	Algorithmic Governance in Journalism
1	data-based news work	real stories (36.43, 1.0E-4)	artificial intelligence (0.08)	2014	Data-Driven News Production
2	data journalism practice	data journalism (53.12, 1.0E-4)	artificial intelligence (0.08)	2018	The Evolution of Data Journalism
3	spanish universities	journalism education (76.65, 1.0E-4)	use expectation (0.52)	2021	Journalism Education and AI Integration
4	s mainstream newsroom	automated decision (28.97, 1.0E-4)	epistemic infrastructure (0.48)	2019	Automated Decision-Making in Newsroom
5	el confidencial	local news (40.55, 1.0E-4)	semantic unit (0.57)	2018	
6	news work	artificial intelligence (37.36, 1.0E-4)	news work (0.8)	2021	
7	s mainstream newsroom	chatgpt application (31.39, 1.0E-4)	epistemic infrastructure (0.26)	2020	
9	design consideration	journalistic identity negotiation (23.48, 1.0E-4)	epistemic infrastructure (0.22)	2017	
10	czech news agency	computer code (22.66, 1.0E-4)	artificial intelligence (0.11)	2015	

11	governmental restriction	governmental restriction (37.74, 1.0E-4)	artificial intelligence (0.09)	2022	
12	news	audience analytics (22.09, 1.0E-4)	artificial intelligence (0.13)	2017	
16	ethical challenges of algorithmic journalism	algorithmic journalism (13.48, 0.001)	artificial intelligence (0.15)	2014	
17	news	news view (29.81, 1.0E-4)	artificial intelligence (0.08)	2019	
18	algorithmic transparency in the news media	algorithmic transparency (10.71, 0.005)	artificial intelligence (0.15)	2014	

The first five major clusters in the dataset provide critical insights into the evolving relationship between AI and journalism. These clusters highlight a highly interdisciplinary interest in the issue; key themes such as algorithmic governance, data-driven storytelling, journalism education, and automated decision-making within newsrooms. With 82 articles and a high silhouette value of 0.889, Cluster 0 regarding algorithmic governance, indicates a strong thematic coherence. The central theme revolves around how AI-based tools influence journalistic authority and decision-making. The work of Johnson (2023), which discusses automated fact-checking, and Bastian et al. (2021), which examines professional values in algorithmic recommender systems, highlight concerns about the impact of automation on journalistic integrity. The presence of highly cited works (e.g., Stray, 2019) further accentuates that AI’s role and the “governance” aspect thereof in investigative journalism has been a growing research area.

The second biggest cluster, Cluster 1, consists of 65 articles with a silhouette value of 0.995, suggesting strong consistency in research focus. The key themes in this cluster involve data journalism workflows and computational storytelling. The highly cited work by Caswell and Dörr (2017) introduces the concept of “Automated Journalism 2.0,” which moves beyond simple data aggregation to event-driven narratives. This cluster also discusses hybrid forms of journalism, where computational methods support traditional reporting rather than replace it. The presence of Boyles and Meyer (2017) on newsroom adaptations to data-based journalism suggests that news organizations have increasingly embraced data as a

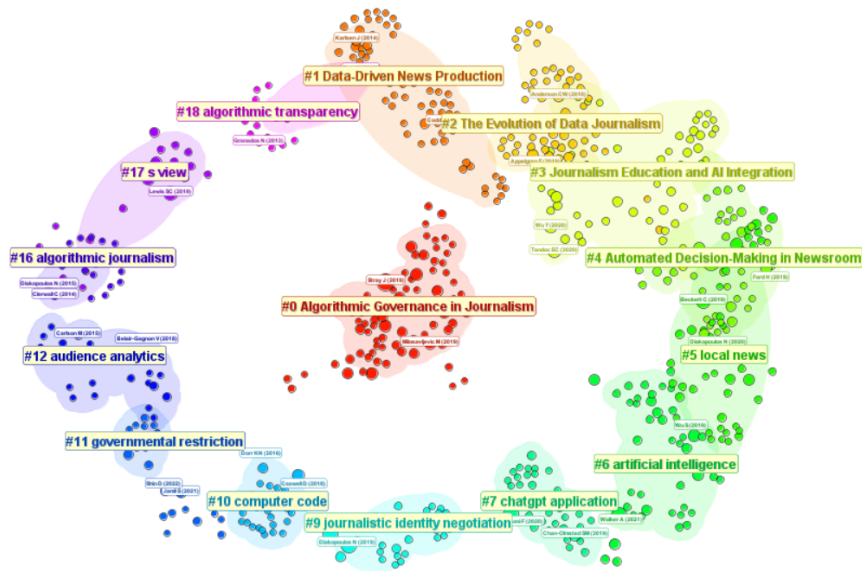
central component of storytelling. Furthermore, this cluster also discusses the classification issues concerning data journalism (Staplh, 2017). The concept of “real stories” in the cluster label reflects an ongoing debate on whether AI-generated narratives can be as impactful as human-written journalism. The dominance of Thurman et al. (2017) in citation metrics underlines the significance of professional journalists’ perspectives on automated writing.

Cluster 2, containing 59 articles with a silhouette value of 0.969, this cluster highlights the historical development and global expansion of data journalism. Data journalism has evolved from a niche practice to a widely adopted technique across newsrooms. The cluster's key works include Erkman’s (2023) foundational systemic review on data journalism, and Heravi and Lorenz’s work (2020), which examines data journalism practices globally, and Lanosga et al.’s study (2024), which assesses professional orientations towards data journalism across different regions. The presence of the works of Anderson (2018) and Appelgren et al. (2019), both stating to data journalism as a maturing field and suggesting that computational journalism is no longer an experimental practice, but an integral part of investigative reporting show a critical, more theoretical angle which is highly visible and cited in the works in this particular cluster. Cluster 2 also includes research on the challenges of implementing data journalism in non-Western contexts, as explored in studies from Sub-Saharan Africa and Latin America, though it is a rather peripheral venue in the data collection (Gondwe & White, 2021).

Cluster 3, with 52 articles and a silhouette value of 0.941, focuses on the adaptation of journalism education to AI-driven news environments, a theme marginally present in Cluster 2 as well. The key works by Wenger et al. (2024) and Okela (2024) explore how AI is reshaping journalism curricula and outline that the primary concern in this cluster is whether journalism programs adequately prepare students for AI-assisted reporting. As for the integration aspect of AI, the key contributions include Dierickx et al. (2024) who highlight the ethical considerations of AI in journalism with a specific focus on trustworthiness and in this context, there is a notable focus on the ethical challenges of teaching AI in relation to journalistic writing (Forja-Peña et al., 2024).

Finally, Cluster 4 on automated decision-making in the newsrooms, comprising 52 articles with a silhouette value of 0.965, explores how AI and automation are influencing editorial workflows. The research in this cluster is the most specific among the top clusters as it examines the epistemic infrastructure of automated decision-making, focusing on how algorithms influence news production. In this cluster, the highly cited study by Kreft et al. (2023) discusses journalistic identity negotiation in the face of automation, emphasizing that journalists are actively shaping AI’s role in the newsroom. There is also much attention given to perception of automated news. The cluster also includes studies on how journalists view AI adoption, with some seeing it as an enhancement of their work and others as a threat to professional identity. Discourse also revolves around perceptions, algorithmic bias

in automated news-making, the roles of recommender systems (Helberger, 2019; Shin, 2021). (Figure 6 and Appendix 1)



**Figure 6.** Key clusters and the network of scholarly outputs in the field of AI and journalism

### 3.3. Regional disparities in knowledge production (RQ3)

As the final step of our analysis, we investigated whether there is a core-periphery issue in terms of knowledge production distribution (Demeter, 2017). Based on the general co-authorship-analysis and knowledge production, the United States is heavily overrepresented with 93 publications in total, followed exclusively by other countries from the Global North such as Spain (56), Germany (42), the United Kingdom (41), and the Netherlands (24). In the top 10 most productive countries there is only two countries from Asia, China (20) and South Korea (13), and there is zero countries from Latin America, Eastern Europe, Africa, or Middle-East.

It can also be noted that Global North countries mostly collaborate with other Global North countries as seen from the Figure below. This phenomenon is particularly visible in the case of the United States, Germany, and the United Kingdom. There is, however, a well-noted collaboration pattern seen in other disciplines between Spain and Latin American countries (Lendvai, 2025; Demeter, 2020). It is striking, nonetheless, how marginalized Africa and Eastern Europe are in the discourse of AI and journalism which is even more polemic as many authors do,

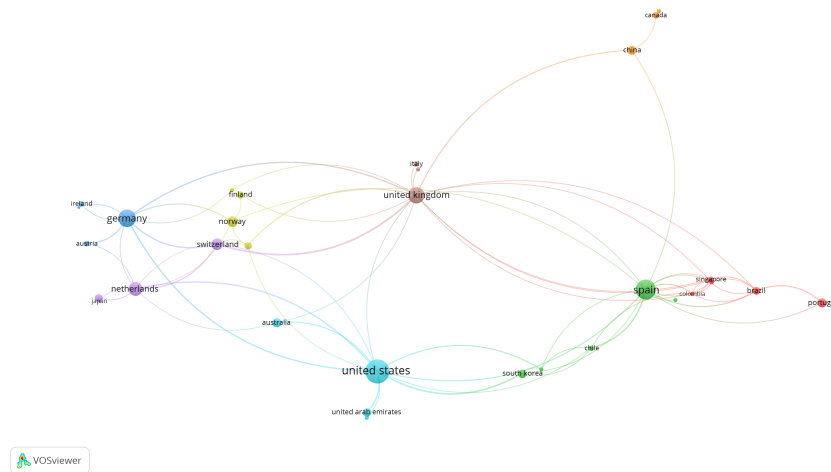
indeed, write about countries in these regions, however, they are affiliated to institutions in the Global North. (Figure 7)



**Figure 7.** *Authorship and co-authorship map*

We were interested in unveiling more complex results, therefore, we conducted a cluster-based co-citation analysis in VOSviewer with the criteria set forth in the Materials and methods section. Our network analysis resulted in a connected network of 34 Ns representing unique countries, 75 links, and 8 clusters. The network visualization confirms our previous endeavor and strongly illustrates the dominance of Global North countries in research. The United States is the most central player, serving as the primary connector between research networks, especially with Australia, the United Arab Emirates, and South Korea, extending its influence beyond North America. The United Kingdom plays a crucial intermediary role, linking European nations to China and Canada, demonstrating how Global North countries control the main intellectual exchanges (cf. Lendvai, 2025). Germany and the Netherlands form another dominant European cluster, showing strong intra-European collaboration with Norway, Finland, and Switzerland, but with limited ties to Global South countries. Again, it is evident that Spain appears to be the most inclusive among top nations of collaborating with scholars from the Global South as it acts as a gatekeeper for Latin America, maintaining close ties with Brazil, Portugal, Colombia, and Chile, but these connections remain secondary to European and North American networks. The Global South remains peripheral, with countries like Singapore, Brazil, and Colombia appearing in the network but lacking strong independent connections outside of their ties to Global North institutions. China's presence in the network is notable but isolated, indicating that while it is engaging in AI research, it does not yet play a central role in Western-dominated scholarly exchanges. The sparse connections between Global South countries themselves highlight a further, major disparity—knowledge production remains concentrated in the hands of the Global North,

reinforcing existing academic inequalities, however, it is also supported by the lack of collaborative efforts between peripheral countries. (Figure 8)



**Figure 8.** *Clustered co-authorship analysis*

#### 4. Discussion

The results of this scientometric analysis confirm that AI has become an increasingly dominant topic in journalism research (Sanni et al., 2024). Research is both diverse and multidisciplinary with an extremely rich set of venues from ethical concerns to practical uses of AI in journalistic works, not to mention the even newer fields such as AI fact-checking for journalistic work or the use of LLMs (Gutiérrez-Caneda et al., 2024). However, despite the growing interest, citation trends indicate a paradox: as publication volume increases, citation impact per article decreases significantly, suggesting that AI and journalism is becoming a saturated research domain, where only a select number of publications gain broad scholarly recognition (Merton, 1968).

A key takeaway from the study is the clear structural imbalance in AI and journalism knowledge production, a critical theme that has been noted by several scholars in the field of communication and media studies. In our case, the United States, Spain, Germany, and the United Kingdom account for a disproportionate share of research output, with the United States alone contributing 93 publications—a figure that surpasses the total output of all Global South countries combined. This phenomenon is consistent with broader patterns in media and communication research, where Global North institutions dominate agenda-setting and resource allocation (Demeter, 2020). The dominance of the Global North in AI and journalism

research also has implications for thematic priorities. As the analysis of major clusters reveals, most research on AI in journalism focuses on issues pertinent to Western media landscapes. These results are synonymous with Calvo-Rubio and Ufarte-Ruiz's (2021) earlier findings who examined AI and its relation to journalism between 2008 and 2019 and found that the Global North is starkly overrepresented in the related knowledge production. Unfortunately, 6 years later, the same disparities exist and are seemingly reinforced. The Global South and other peripheral countries are almost invisible, even though automated journalism in authoritarian or hybrid regime contexts, the impact of AI-powered disinformation in fragile democracies, and AI accessibility for media outlets in low-income countries remain largely unexplored, though research is slowly expanding on related issues (see Jamil, 2021 and Vázquez et al., 2024). Naturally, the issue of the disproportionate underrepresentation of the Global South is a more complex issue. For example, AI research in general, but more particularly in journalism, requires access to costly computational resources, datasets, and advanced training and many Global South institutions lack the financial resources to support large-scale AI research (Hassan, 2022). This is further exacerbated by the fact that journalism is still a highly localized field where usually the key sources are written and disseminated in the language(s) of the respective nation. This, however, can create linguistic issues in academic knowledge production as in the latter English remains the dominant language, creating barriers for non-English-speaking researchers. While Spanish-speaking scholars benefit from Spain's influence in the field, researchers from Africa, the Middle East, and parts of Asia struggle to gain visibility in high-impact journals. We propose that to address these barriers, systemic changes are required in academic publishing and funding allocation. For instance, prioritizing open-access publishing, developing regional AI research consortia, and introducing targeted funding for Global South scholars could help democratize knowledge production in this field.

Despite its contributions, this study has limitations. Firstly, it relies exclusively on Scopus as its data source, which, while comprehensive, may exclude relevant studies indexed in other databases. Secondly, while our scientometric approach provides a quantitative overview of research trends, it does not account for qualitative dimensions such as theoretical depth, argumentation, or impact of specific works. Additionally, citation-based analyses may introduce biases favoring established scholars and institutions, reinforcing existing hierarchies in knowledge production (see Ray et al., 2022). Lastly, the study does not directly assess the practical implications of AI adoption in journalism, which would require qualitative methods such as interviews with media professionals or case studies of AI implementation in newsrooms. Future research should consider integrating mixed-method approaches to provide a more nuanced understanding of AI's evolving role in journalism.

## Conclusions

Our study aimed to highlight the rapidly growing field of AI-driven journalism, emphasizing the increasing academic interest in the topic, as well as the structural imbalances in knowledge production. We found that there is a strong need for a more inclusive and globally representative scholarly discourse, ensuring that discussions on AI in journalism extend beyond the Global North to address the challenges faced by underrepresented regions. We suggest that future research should address several critical gaps in literature. First, more comparative studies are needed to analyze how AI is implemented in different journalistic ecosystems, particularly in non-Western contexts. Second, the role of AI in misinformation detection, fact-checking (especially in view of the newer tensions surrounding this topic), and editorial decision-making remain underexplored and warrants deeper investigation. Third, interdisciplinary collaborations between journalism scholars, data scientists, and legal experts should be fostered to tackle the ethical and regulatory dimensions of AI-driven journalism. Lastly, efforts should be made to diversify academic knowledge production by promoting research from scholars in the Global South through funding opportunities, open-access publishing, and international collaborations.

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