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Research Article

Transforming Narratives and Engagement of AI and its Related Technology in Different Domains of Journalism - A Bibliometric Analysis

Prabhat Dixit[1], Aprna Tripathi[2*], Usha Jain[3], Saroj Kumar Ranjan[4], Sunil Kumar[5], Sudeep Varshney[6]

[1]*Dept. of Journalism and Mass Communication, Manipal University Jaipur, Rajasthan, India-303007*
[2]*Dept. of Data Science and Engineering, Manipal University Jaipur, Rajasthan, India-303007*
[3]*Dept. of Computer Science and Engineering, Manipal University Jaipur, Rajasthan, India-303007*
[4]*Dept. of Business Administration, Manipal University Jaipur, Rajasthan, India-303007*
[5]*School of Computer Science and Engineering, Galgotias University, Greater Noida, Uttar Pradesh, India-201310*
[6]*Dept. of Computer Science and Engineering, SET Sharda University, Greater Noida, Uttar Pradesh, India*

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ABSTRACT

Introduction: This research paper explores the profound impact of Artificial Intelligence (AI) on the print media landscape, highlighting its transformative effects on narrative construction and audience engagement. As AI technologies advance, Indian media organizations are actively integrating these innovations to enhance content creation and audience interaction.

Objectives: Citation analysis employs a full counting method, while timeline and burst detection analyses uncover significant topic trends and recent citations.

Methods: The paper conducts an extensive bibliometric analysis of AI utilization in media research, drawing from publications in the Scopus database over the years. The analysis encompasses yearly publications, types of publications, and trends across various domains, including content creation and audience engagement.

Results: The research highlights bibliometric findings related to authors, organizations, publication types, and documents with the strongest collaborative linkages within the context of AI in Indian media.

Conclusions: The paper provides valuable insights into how AI is reshaping the print media sector in India, emphasizing the key trends and collaborative efforts driving this transformation.

Keywords: Print Media, Journalism, News, Artificial intelligence, Machine Learning

INTRODUCTION

There was a time when the media industry was popular among the public for its reporting skills, and people used to watch their favourite anchors. However, technology quickly made its presence felt, prompting a significant transformation in the entire style and work culture of media. Like any other profession, the media industry has also embraced technology in its newsrooms and has not shied away from adopting even advanced technologies like AI[29, 30, 31]. Over the last decade, Artificial Intelligence (AI) has become gradually more prevalent in mass media and news agency newsrooms (Noain-Sánchez, 2022)[12]. In the modern world, data and technology are crucial in influencing many decisions we make in different area of our lives. Because of this, industries need to change and adopt these innovations in order to be viable in the long run. Artificial intelligence (AI) is not a new concept, despite the term's recent rise in popularity [15, 16, 17]. It dates back to 1955 when Stanford University's Professor John McCarthy used the term to describe the science and engineering of making intelligent machines. [26, 27,28]. The pervasive nature of information and communications technology (ICT) and the datafication of society have expanded their applicability in a variety of fields, such as journalism (Gelgel 2020) [14]. Consequently, today, AI-generated anchors have appeared in many countries as well as in india media houses. The integration of AI in the Indian media

industry has marked a significant milestone, with the introduction of the nation's first AI anchor by The India Today group (Stanly, 2023) [5]. This development has elicited a variety of responses and concerns within the sector. Media experts have presented different viewpoints on the impact of AI on journalism, emphasizing its capacity to introduce neutrality to news coverage, while also acknowledging the challenges and risks linked to the widespread adoption of AI in media outlets. (Krishnan, 23) [3]. The use of AI in the form of automated journalism, or robot journalism, is reshaping the way news stories, images, and videos are created from data, leading to a revaluation of the role of traditional journalism in the face of technological advancements. (LAL, 2023) [4]

As AI continues to gain prominence in the media industry, it has become evident that the impact of AI on Indian media goes beyond just technological advancement, raising fundamental questions about the future of journalism, the ethical implications, and the need for regulatory frameworks to ensure responsible use. (Krishnan, 23) [3]. In March 2023, the world witnessed the launch of NewsGPT, the first news channel whose content is entirely generated by artificial intelligence, marking a significant development in the realm of journalism. (Jeevanandam, 2023) [2]

Motivation, Importance, and Benefits of the Current Study

The reason behind the current study is twofold: firstly, to offer comprehensive insights into the usage of artificial intelligence within Indian media houses over time, and secondly, to unveil the most critical research domains, trends, and audience engagement strategies related to content creation. The study aims to guide further research in this fast evolving field. The significance of this study lies in its exploration of the usage of AI in Indian media, a topic crucial for shaping community opinion. Any oversight in this aspect may lead to misinformation, the proliferation of fake news, and ethical ramifications. Therefore, this study's bibliometric analysis contributes significantly to the broader field of media. The benefits of this work are significant. It provides great value to the scientific research domain by identifying the most influential researchers, institutions, and journals. Additionally, monitoring the chronological development of study subjects, topics, and keywords enables researchers to focus their investigations on specialized and underexplored areas. This study also emphasizes significant future and developing research domains, offering vital perspectives for prospective scholars in this discipline.[32, 33, 34]

This study also highlights important areas of future and current research, offering crucial insights for future scholars in this field.

OBJECTIVES

The primary objectives of the bibliometric study are as follows:

- To assess the evolution of the media and artificial intelligence field through an examination of publications over the last decade.
- To analyze the diverse forms of content produced by artificial intelligence within the media sector.
- To investigate the representation of various publication types (e.g., research papers, conference proceedings, editorials, and reviews) in the dataset.
- To identify the most commonly occurring terms in the titles and abstracts of the articles.
- To scrutinize citation patterns of the papers and identify the most frequently cited articles.

Research Questions:

To address these objectives, the study will explore the following research inquiries in depth:

- What trends are observed in the volume of scholarly articles concerning AI and media from 2014 to the present?
- Which researchers and institutions have made noteworthy contributions to this field?
- How are various types of publications (such as research articles and conference papers) distributed across different time periods within the selected dataset?
- Which publications have garnered the most mentions, and what topics do these frequently cited works focus on?

- How is research activity distributed among different regions or countries, and which regions exhibit leadership in terms of publication output in the intersection of media and AI?

By addressing these questions, our aim is to gain a deeper insight into the research terrain of Media and AI applications, along with understanding the emerging trends and significant implications of this swiftly expanding and crucially vital field of study. This study on "Transforming Narratives and Engagement of AI and its Related Technology in Different Domains of Journalism - A Bibliometric Analysis" is organized into several key sections. First, the **State of Work and Data Collection** outlines the current landscape and data sources, including academic journals and industry reports, and details the collection process. The **Methodology** section describes the bibliometric analysis techniques, tools, and metrics used to analyze the data. **Results and Discussion** present the findings, highlighting publication trends, key themes, influential authors, and research gaps. Finally, the **Conclusion and Future Scope** summarizes the key insights, discusses the implications of AI in journalism, and suggests directions for future research.

STATE OF WORK AND DATA COLLECTION

The following subsections provide a brief overview of related bibliometric and review studies, followed by detailed information on the data sources, data collection methods, and data preprocessing techniques used in the current work.

The study conducted by Sonia Parratt Fernández et al on Artificial Intelligence in Journalism: An Automated News Provider, (2024) [25]delves into the operations and perceptions surrounding Narrative, an automated news provider with bases in Spain and the United States. The primary aim is to analyse the company's business model, the perspectives of its managers and technologists towards journalism, and the functionality of its technology within the realm of news production. Despite Narrative's intentions to expand significantly in the United States, its implementation of artificial intelligence technologies remains modest in Spain, where it presently holds exclusive clientele. However, the research indicates a noteworthy commitment among Narrative's Spanish media clients to integrate AI into their operations, underscoring their prioritization of innovation. The limited adoption in Spain is attributed less to the product's efficacy and more to economic constraints and journalistic scepticism. Furthermore, the study highlights a discrepancy between the United States and Spain in how news articles generated by Narrative are presented. While in the U.S., the AI-generated nature of the content is typically disclosed, the same is not observed in Spanish outlets. This discrepancy suggests a dual phenomenon: a tendency toward secrecy among Spanish newsrooms, likely stemming from concerns over reader acceptance of automated news, and a missed opportunity for Narrative to bolster its visibility as a company[35,36].

The Theory of Planned Behavior Regarding Artificial Intelligence in Recommendations and Selection of YouTube News Content, this paper was presented by Mohammad Habes et al, [1]at the International Conference on Multimedia Computing, Networking and Applications (MCNA) in June 2023. This paper talks about the increasing role of AI in facilitating access to YouTube-based news content. The incorporation of Artificial intelligence algorithms in recommendations and video selection processes is accelerating the popularity of such content. The study, conducted with 280 respondents in Jordan, focuses on understanding the points influencing the selection process of YouTube-based news items. Drawing from the theory of planned behavior, the researchers found strong associations between attitudes, subjective norms, and the selection of YouTube content for news consumption. Additionally, they discovered that AI plays a significant mediating role in influencing attitudes, subjective norms, and content selection behaviors among users of YouTube-based news. Paper suggests that AI is not only instrumental in enhancing the accessibility of news content but also in shaping user intentions and their mindset regarding the usage of youtube for news. The study comes to the conclusion that AI is a key factor in making people more likely to use YouTube to find, choose, and watch news material.

Addressing the Impact of Artificial Intelligence on Journalism: the perception of experts, journalists and academics (2022), [12] In this paper Amaya Noain-Sánchez discussed about the quality standards and ethical principles in the journalism. They conducted 15 in-depth interviews with journalists, media professionals, academics, industry experts, and technology providers involved in AI development. The interviewees were from America, United Kingdom, Germany, and Spain, shared a consensus on the potential of AI to enhance journalists' capabilities. They highlighted its ability to save time, streamline news-making processes, and boost productivity in the mass media industry .However, the interviews also revealed a necessity for a shift in mindset within the media landscape towards

AI adoption. Additionally, there was a recognized need for prioritizing training on AI tools due to observed knowledge gaps among professionals. Furthermore, the emergence of ethical concerns emphasized the importance of ongoing monitoring and supervision of AI processes to address potential issues [37, 38].

In their 2020 study titled A Comparative Analysis of News Categorization Using Machine Learning Approaches, Nabamita Deb et al. [22] focused on employing different algorithmic techniques to categorize news content. Specifically, they concentrated solely on utilizing the BBC dataset for this purpose. By utilizing various machine learning methods, the research aimed to compare the effectiveness of these approaches in accurately categorizing news sections.

Vignesh Rao and Jayant Sachdev [23]wrote an article titled, A Machine Learning Approach to classify News Articles based on Location (2017) In this paper they explored the possibility to use machine learning algorithms to classify the news articles based on cities. The methodology process was started with the Data Retrieval module which was the collection of their dataset wherein self-developed web scraping algorithm was employed to extract the actual text from the webpage. Experiments show that different Classifiers, like Naive Bayes, Support vector Machines, and Random Forest, can be used to solve this problem. Random Forest has done better than the other classifications. Naive Bayes has performed well too, and Support Vector machine is at the bottom in terms of the performance metrics used in their approach. The proposed system can be used as a part of more complex news article classification systems.

In her paper titled 'Future News Corp, or How the AI Act Changed the Future of News,' (2024) Natali Helberger [18] proposes that employing fictional or future scenario writing could be instrumental in aiding scholars, policymakers, and regulators in understanding the repercussions of regulation on AI-driven technological and societal advancements. She contends that scenario writing serves as a method for fostering creative anticipatory ethical or legal reasoning and can effectively engage diverse perspectives and expertise, facilitating robust debate. Helberger specifically utilizes scenario writing to amalgamate cutting-edge insights into the media sector with legal analysis, envisioning potential futures resulting from regulatory decisions within the European AI Act framework.The dual objectives of the article are to conduct a critical analysis of the AI Act's potential impact and to explore scenario writing as a means of anticipating risks and impacts arising from regulatory choices. Given the intricate and dynamic nature of the socio-technical environment, effective regulation such as the European AI Act necessitates regulators and policymakers' foresight into its implications on innovation, technology development, and human rights.

7- In their article 'Artificial Intelligence in News Media: Current Perceptions and Future Outlook,' (2022) [13] Mathias-Felipe de-Lima-Santos and Wilson Ceron delve into the multifaceted applications of AI within the news industry. Through a review of existing literature, the study underscores that AI manifests in various forms within this ecosystem, with three prominent subfields emerging: machine learning, computer vision, and planning, scheduling, and optimization. The study reveals that third-party organizations play a pivotal role in developing and disseminating these AI solutions to newsrooms. Examples include Piano in the U.S. and Deep BI in the U.K., highlighting the emergence of a market for AI-driven solutions tailored specifically for the news industry. Additionally, major tech platforms such as Google contribute to this landscape by offering solutions like Jigsaw, designed to aid community managers in mitigating toxic comments and enforcing community guidelines [39,40].

8- Machine Learning Models for News Article Classification, (2023 Machine Learning Frameworks for News Article Categorization, (2023) [26] In this research, Professor Beebi Naseeba and colleagues discuss the categorization of news data using five distinct machine learning models. These models are employed to categorize news articles into four different classes. The Support Vector Machine (SVM) attained the highest level of accuracy. In her conclusion, she stated that the utilization of automated learning and methods for natural language processing is extremely valuable for jobs such as article classification, which falls within the realm of classification of text attempts. The AG dataset provides a wide array of article data, making it a great resource for numerous technologies related to news. Through utilizing these methods, it becomes possible to categorize articles purely based impartially and precisely on their content. Though the models used in this investigation were simple, they showed significant effectiveness in classifying articles [41].

9- The study was done in 2018, named 'Automated News Categorization using Machine Learning Techniques,'U. Suleymanov and S. Rustamov [19] collected a large dataset consisting of 130,000 news stories, with each article given to one of eight different groups. Their research emphasizes the importance of feature extraction and selection in text

classification, as demonstrated by the classification accuracy of naïve Bayes and SVM algorithms. The study investigates the efficacy of artificial intelligence algorithms in automating the classification process by properly choosing and arranging an extensive number of news stories. It offers useful insights for future enhancements in this field.

10- In their systematic review titled 'Artificial Intelligence and Journalism- Systematic review of scientific production in Web of Science and Scopus (2008-2019)' (2020), [20] Luis Mauricio Calvo Rubio and María José Ufarte Ruiz examined 209 scientific documents retrieved from the Web of Science and the Scopus database. The study was carried out between January 2008 and December 2019. Their research sought to determine the development settings and problems within this rapidly changing field. They compiled the findings by employing inclusion and exclusion criteria, doing database identification, utilizing search engines, and assessing the outcomes. Notably, their investigation revealed that the majority of publications originated from the United States. Furthermore, a significant surge in scientific production related to Artificial Intelligence in journalism occurred in 2015, with publications steadily rising to 61 by 2019, indicating a growing scholarly interest in the intersection of AI and journalism.

11- In 2019, Jonathan Stray's research, 'Making Artificial Intelligence Work for Investigative Journalism,' [21] examined the application of AI techniques to uncover hidden trends in large datasets, significantly reducing investigative reporting costs. Despite its potential, AI has been scarcely used in investigative journalism, with limited and focused applications. Stray's work outlines the advancements in AI for investigative reporting and identifies challenges in adopting more sophisticated methods. These challenges include the specificity of journalistic stories, scarcity of accessible training data, high costs of complex models, and restricted access to pertinent data controlled by governments and corporations. Additionally, journalistic accuracy and human verification are crucial to avoid defamation, and the social nature of newsworthiness is hard to encode computationally. Stray highlights AI's immediate potential in data preparation tasks, such as extracting data from various documents and linking records across databases using probabilistic methods[42, 43, 44].

METHODOLOGY

For this bibliometric study, our primary reliance was on the Scopus database for sourcing articles related to Media and AI. Scopus, renowned for its comprehensive coverage of academic journals, conference proceedings, and other scholarly publications, serves as a vital resource for various bibliometric inquiries.

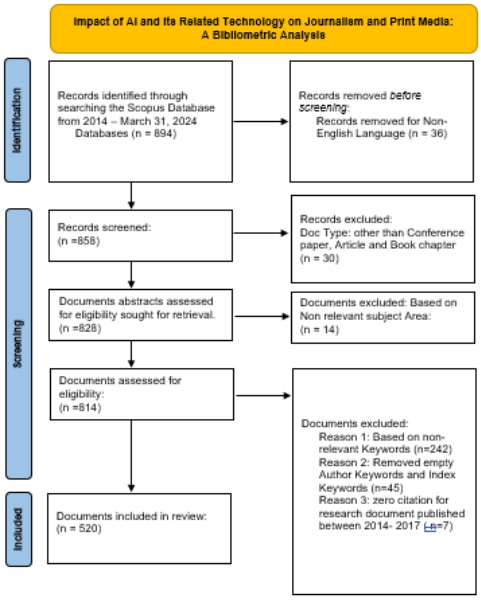

Fig 1: PRISMA Model for Document Analysis

The following search query was used to launch the literature search:

((news AND farming) OR journalism OR news OR (print AND media) OR (electronics AND media) OR (media AND content AND creation)) AND (ai OR ml OR (machine AND learning) OR (artificial AND intelligence))

To ensure a thorough picture of current research tendencies, a search was done to include publications from 2014 (the beginning of the past decade) up to the present year. Given that the Scopus database, developed by Elsevier, is one of the largest abstract and citation databases, primarily encompassing SCI and EI, it was initially utilized for the article selection process. To filter literature pertinent to our research topic, keywords related to the topic were identified in the first stage. In the second stage, synonyms of these keywords were explored to further uncover relevant documents.

In the first stage four keywords were finalized, which are: Impact, AI, News, Journalism

In the second stage, after exploring synonyms, the final set of keywords—Impact, Effect, e-news, print media, and online news—was determined, and the search string was finalized. An initial search revealed literature dating back to 1984, but a notable increase in research activity was observed from 2014 onwards. Consequently, the search string was adjusted to include publications starting from 2014.

As showing in Fig.1, the refinement resulted in 894 documents being found are considered for PRISMA based document analysis. The three phase PRISMA model is taken for analysis: Identification, Screening and Included.

Algorithm 1: pseudocode for the described bibliometric study using the Scopus database

```
// Step 1: Initialize Variables
database = "Scopus"
keywords = ["news", "farming", "journalism", "print media", "electronics media", "media content creation"]
ai_terms = ["ai", "ml", "machine learning", "artificial intelligence"]
start_year = 2014
current_year = 2024
// Step 2: Construct Search Query
search_query = "( ( news AND farming ) OR journalism OR news OR ( print AND media ) OR ( electronics AND media ) OR ( media AND content AND creation ) ) AND ( ai OR ml OR ( machine AND learning ) OR ( artificial AND intelligence ) )"
// Step 3: Connect to Scopus Database
connect_to_database(database)
// Step 4: Perform Literature Search
results = perform_search(database, search_query, start_year, current_year)
// Step 5: Filter Initial Search Results
filtered_results = []
for document in results:
    if document.publication_year >= start_year and document.publication_year <= current_year:
        filtered_results.append(document)
// Step 6: Identify Keywords Related to Topic
related_keywords = identify_related_keywords(keywords)
// Step 7: Explore Synonyms of Keywords
synonyms = explore_synonyms(related_keywords)
// Step 8: Further Filter Results Using Synonyms
final_results = []
for document in filtered_results:
```

```
    for synonym in synonyms:
        if synonym in document.keywords:
            final_results.append(document)
            break
// Step 9: Analyze Final Set of Documents
analyze_documents(final_results)
// Step 10: Generate Report on Findings
generate_report(final_results)
```

Identification: Some documents were in non-English languages, so a language filter was applied, reducing the count to 858 documents.

Screening: After applying the screening criteria to include only document types such as articles, conference papers, and book chapters, 828 documents remained.

Included: An abstract-based review, including keyword analysis, identified, and excluded 272 irrelevant documents. Ultimately, after applying various screening criteria, 520 documents were included in the dataset for bibliometric analysis.

The documents considered for bibliometric analysis, are categorized into three categories: articles, Conference papers and Book chapter. In figure 2, the different portion of different document type is depicted.

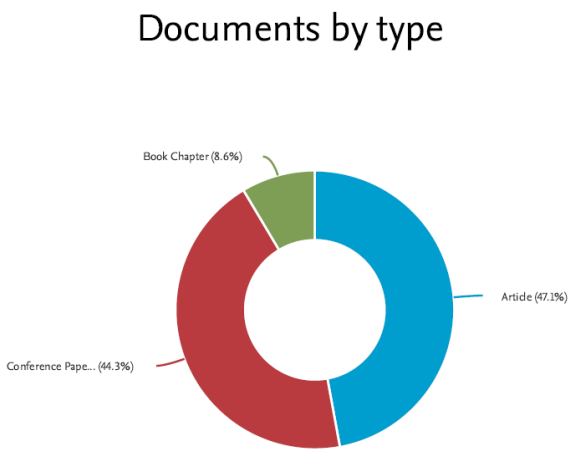

Figure 2: document types of categorizations and its portion

Visualization and analysis of Data

Various software tools were employed for data extraction and analysis. Statistical analysis was conducted using Microsoft Excel. For science mapping and bibliometric analysis [6, 7, 8], the "bibliometric" package in R and VOSviewer software were utilized. Additionally, Tableau was used to present a global analysis, offering superior visualization options for documents, citations, and author presence worldwide. The bibliometric analysis was carried out using VOSviewer (Eck, 2010) [11], Tableau (Batt et al., 2020) [10], and the R package (Derviş, 2019) [9]. VOSviewer, an interactive Java-based tool, generated graphical representations of results such as co-citation, country-wise affiliation, co-occurrence, and co-authorship. The purpose behind utilizing these tools (VosViewer, biblioshiny, Tableau) is to achieve the following objectives:

- Depict the relationship between documents and terms.
- Establish co-occurrence matrices.
- Organize clusters to group related items together, with clusters distinguished by unique colors for enhanced identification

- Import bibliographic data from diverse formats (such as BibTeX, RIS, PubMed)

RESULTS AND DISCUSSION

This section will analyze and discuss the findings generated by the visualization tools VOSviewer, Tableau, and the R package. The search identified 894 research documents published from January 1, 2014, to March 31, 2024.

Yearwise publication trends

The total number of articles published over the period of last ten years has been depicted in Fig. 3.

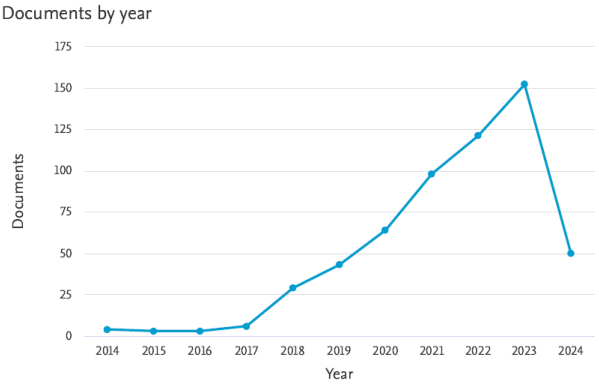

Figure 3: Yearwise documents publication

The graph depicts the progression of publications over the past decade. It is clear from the illustration that the highest volume of research documents was published in 2023, with a steady increase in publications observed since 2013.

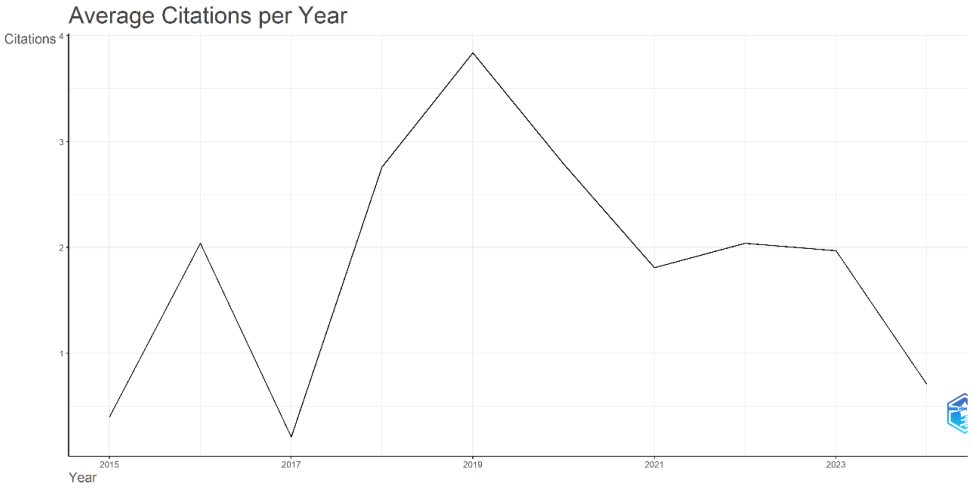

Figure 4: Yearwise Average Citation of documents

Figure 4 shows the average number of citations per year for the screened documents. It is evident that the average number of citations increased significantly in 2019. Figure 5 illustrates the trending topics on a yearly basis.

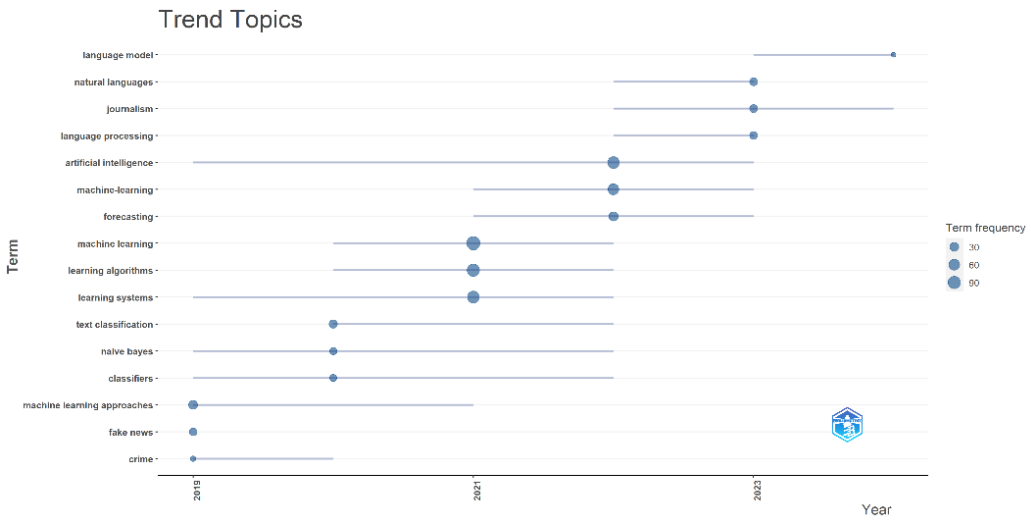

Figure 5: Yearwise topics in trend

The most trending topic is 'journalism, AI and Language model' in the recent years.

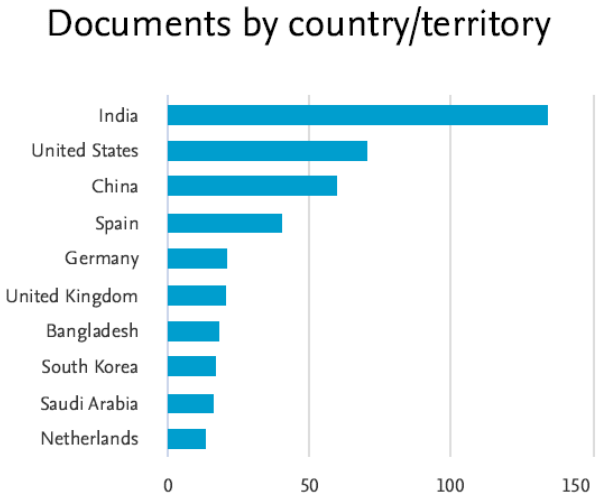

Figure 6: Location wise documents publication

Figure 6 shows that India is the topmost country where the research in the field of AI and journalism has been done. Other countries like US and China is also contributing good research work in this domain.

Scientific collaboration

Co-authorship denotes the joint effort of two or more authors on an academic publication, showcasing the integration of varied skills, knowledge, and resources. Collaboration often involves researchers from disparate institutions or fields combining their expertise for a common project. It offers a quantitative measure for evaluating collaborative practices both within and between disciplines. By pinpointing the most impactful collaborations across diverse fields, this data aids in shaping research agendas and strategies. The authors (Kuribayashi & minoru; mazurczyk & Wojciech; megías & David; rosales & andrea) have described co authorship as a proxy to research collaboration as shown in fig 7.

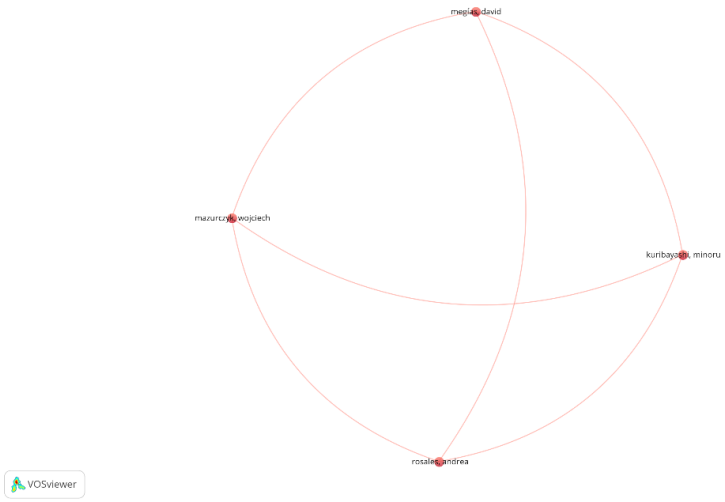

Figure 7: Co-Authorship network diagram

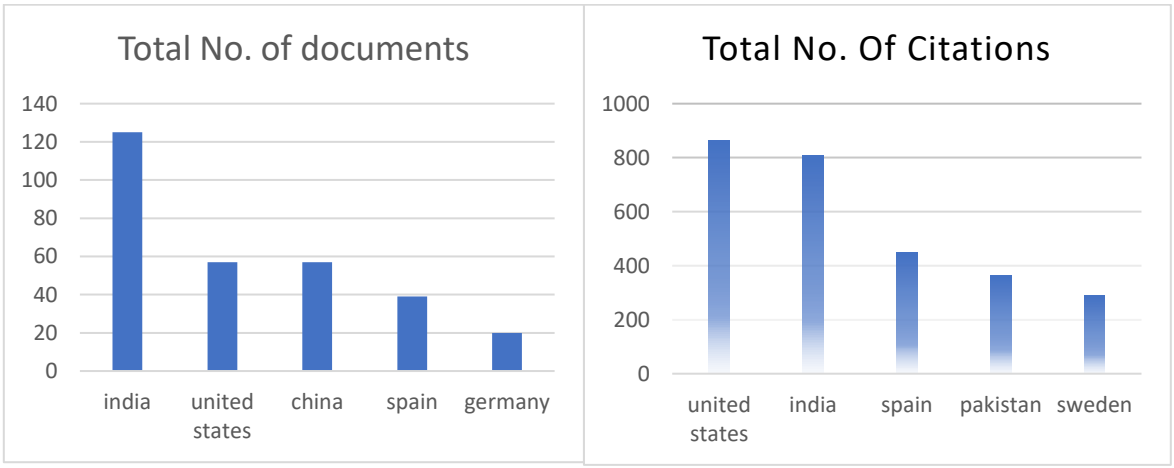

Figure 8: Top five countries (a) based on no. of documents (b) based on no. of citations

From figure 8(a) and (b), it is observed that the research in AI applications in journalism, India is the leading country. Also, the second position in citations shows the quality research is also going on in India. United stated is at first position in number of citations while in second position in publishing research documents. Figure 9 shows that India, US, China, Spain are the countries where research scholars, educators, researchers can look for projects, collaborations etc.

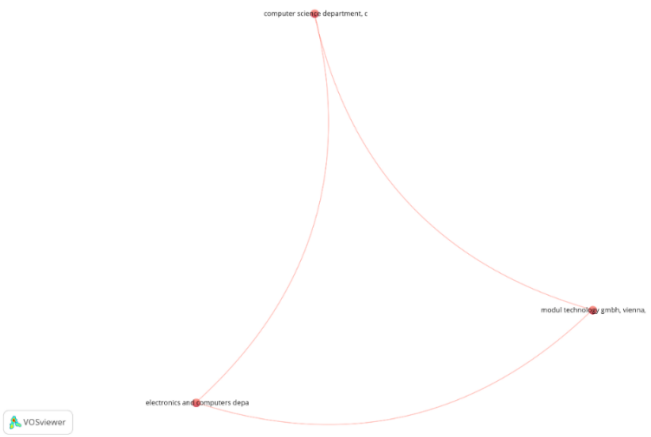

Figure 9: Co-occurrence analysis based on organizations.

Keywords Based Analysis

Using the VOSviewer software, keyword-based analysis is performed. Analysis is based on all keywords (Author Keyword and Index Keyword)

Index Keywords- These are keywords assigned by the Scopus database itself, usually generated by an algorithm. Index keywords aim to provide a standardized way of categorizing articles, which helps in consistent indexing and retrieval across the database.

Author Keywords- These are the keywords provided by the authors of the article. They are chosen to reflect the main topics, methods, and concepts discussed in the paper. They help in identifying the key themes and subjects of the research from the perspective of the authors.

Analysis Criteria: To find the strengthen keywords, minimum occurrence of keyword is set as 15. Out of 2784 keywords, there are 53 keywords meet out this criterion.

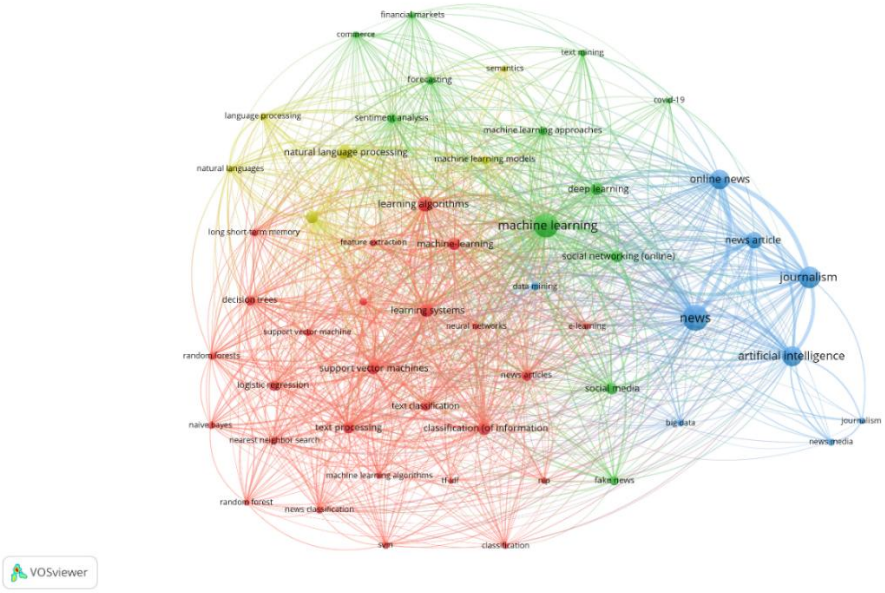

Figure 10: cooccurrence analysis based on Keywords(Author keywords and Index Keywords)

Analysis: from figure10, It is observed that major keywords are Artificial Intelligence, machine learning, news, journalism, news. Keywords related to news relate to artificial intelligence related keywords in the network, this shows the usage of AI related technology in journalism.

Figure 11: Word cloud for keywords

Figure 11 shows the strengths of keywords. Bigger the font of keyword higher number of usages of keyword in the research documents taken for review. Although the AI related technology related words are small but larger in counting, since there are several algorithms in machine learning and AI. So if the cumulatively figure 11 is analysed, it is clear that there is a good research is going on in the area of journalism using machine learning and AI algorithms.

Country Based Analysis:

Analysis Based on Documents and Citation: To understand the global research contribution, a country wise analysis is conducted.

Analysis Criteria: To find the strengthen countries, minimum number of documents published in a country is set as 10 and minimum number of citations of a country 20. Out of 91 countries, there are 12 countries meet out this criterion which is shown in table 1 and its visual analysis is shown in figure 12.

Table 1: Country wise published documents and its citations

Country	Documents	Citations
India	125	809
China	57	227
United States	57	865
Spain	39	450
Germany	20	169
Bangladesh	17	152
Saudi Arabia	17	159
United Kingdom	15	249
South Korea	14	61
Pakistan	13	364
Taiwan	12	91
Indonesia	10	48

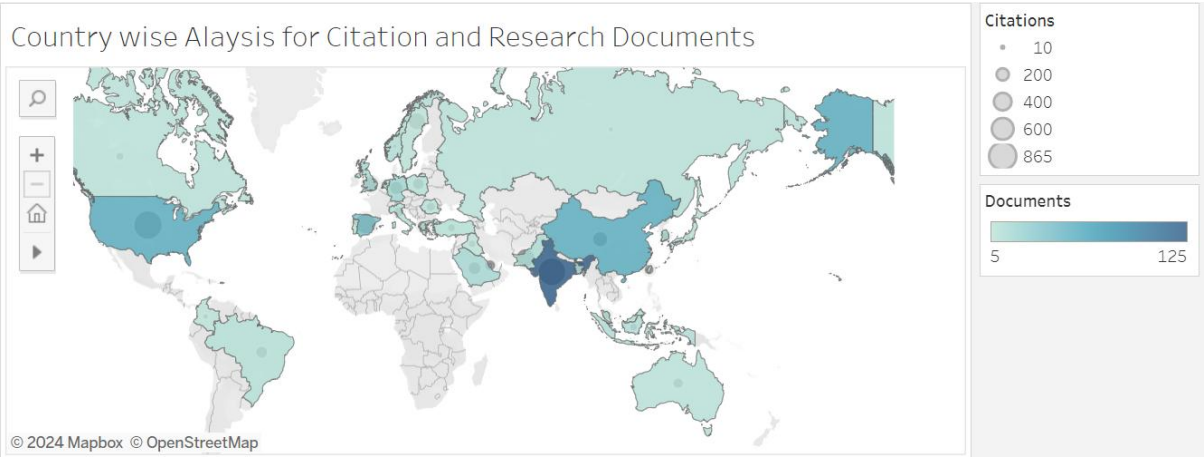

Figure 12: country wise documents publication and their citations

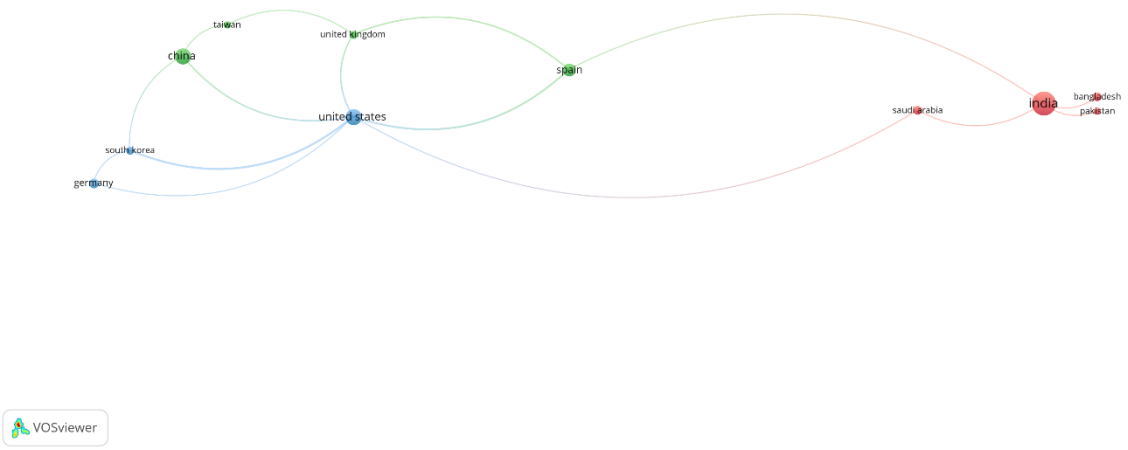

Figure 13: Cooccurrence analysis based on countries.

Figure 13 shows the relationship between countries for referring the research work. India has maximum number of documents (125) as well as citations (809). Figure 14 clearly depicts the contribution of topmost countries in publications and their citation.

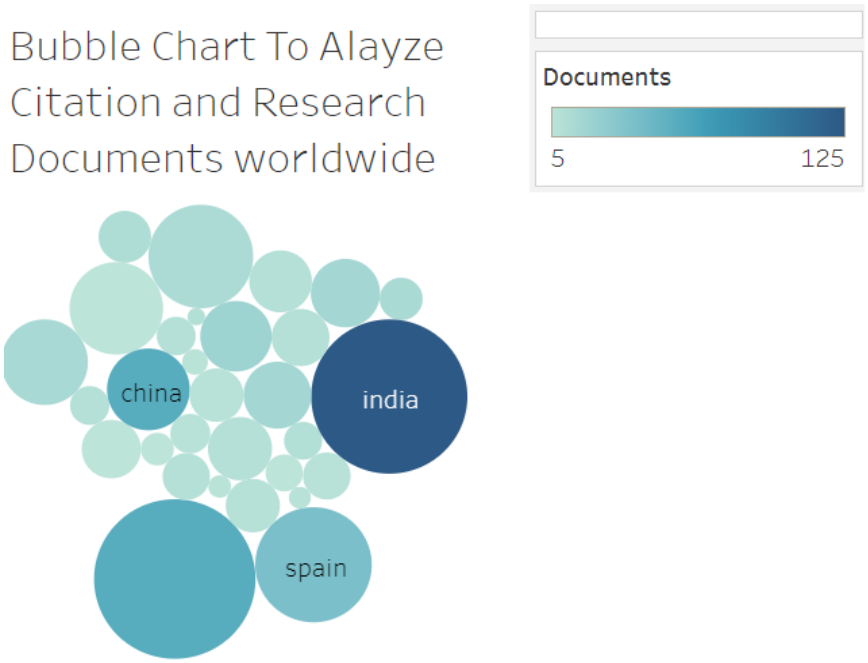

Figure 14: Top countries publication contribution and their citations

The size of the circle shows the number of total citations of the country while colour shade shows the number of research documents published by the country. Figure 14 shows that in India the research related to Journalism using AI is very impressive as not only India has highest number of documents but also highest number of citations.

Analysis Based on Co-Authorship and Country:

To visualize the research collaboration by authors of different countries, an analysis based on coauthor ship and country is conducted.

Analysis Criteria: To find the strengthen collaboration among different countries, minimum number of documents coauthored by a country is set as 10 and minimum number of citations of a country 20. Out of 91 countries, there are 12 countries meet out this criterion. Figure 15 shows that major research collaborates are: India- US, India- Saudi Arabia; India- Germany; China- US; China- UK

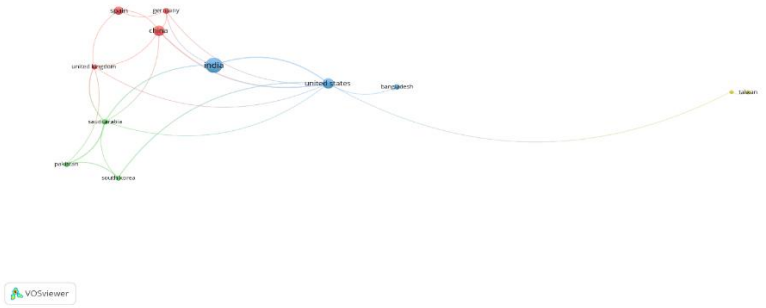

Figure 15: Coauthor ship network

STRENGTHS AND LIMITATIONS

This study delves into the bibliometric analysis of the theme "Impact of AI and its derivative technologies in journalism and news," an area that has not received much attention in recent years. The primary aim is to uncover research trends within this domain. The results are derived through various parameters including:

Examination of annual trends: Analysis of publication trends over time, average citations per year, and the production of content by country.

Citation analysis: Investigation of citations based on documents, authors, countries, and institutions.

Keyword analysis: Examination of keywords used by authors, index terms, and overall keyword usage.

Three tools—Biblioshiny, Tableau, and VOSviewer—were employed to present the results of this analysis effectively. This study provides researchers with valuable insights into the topic, allowing for a more targeted focus on research within this domain. Nonetheless, the study does have limitations. Despite our efforts to include a diverse range of parameters in the analysis, future studies could explore additional analyses. For instance, the current analysis only considers articles from journals, conference papers, and book chapters, potentially overlooking important studies available in other resources such as review papers or surveys. Furthermore, the study focuses solely on bibliographic coupling based on documents, sources, and authors, while parameters such as organizations and countries have been disregarded.

CONCLUSION

Bibliometric analysis serves as a powerful tool for exploring existing research in various fields, providing an effective, efficient, and time-saving approach. Journalism has become a prominent research area in recent times. This study focuses on the bibliometric analysis of the topic "Impact of AI in Journalism" over the past decade. The authors utilized various parameters for this analysis, with Scopus as the database to ensure access to a comprehensive range of relevant documents. Initially, 913 documents were detected, suggesting significant interest in the selected domain. Several filters were employed to sift through these documents, leading to a final collection of 520 documents chosen for analysis post data preprocessing. The analysis centred on observing annual growth patterns, keyword co-occurrences, and co-citation trends. The results indicate that most of the research activity originates from China, with the keyword "AI" displaying the most prominent association. The insights gained from this study provide a foundational understanding of the current research landscape, revealing both the depth and breadth of AI's impact on journalism. As AI technologies continue to advance, future research should explore emerging trends and their implications for journalism practice and ethics. Additionally, there is a need for more interdisciplinary studies that integrate insights from AI, journalism, and other relevant fields to foster a more holistic understanding of the opportunities and challenges presented by AI. Continued bibliometric analysis will be essential in tracking these developments, guiding researchers, practitioners, and policymakers in navigating the evolving landscape of AI in journalism.

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