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MAPPING THE SCHOLARLY LANDSCAPE OF MISINFORMATION, DISINFORMATION, AND FAKE NEWS: AN ALTMETRIC AND BIBLIOMETRIC ANALYSIS IN LIBRARY AND INFORMATION SCIENCE

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Abstract: This study presents a comprehensive altmetric and bibliometric analysis of scholarly research on misinformation, disinformation, and fake news within the field of Library and Information Science (LIS). The research aims to map the intellectual structure, identify emerging trends, and analyze the social media impact of scholarly publications in this rapidly evolving domain. Given the unprecedented global attention to misinformation issues following recent political events and the COVID-19 pandemic, understanding how this research area has developed is crucial for both the academic community and practitioners working to combat information disorders.

Purpose:

Design/Methodology/Approach: Using data extracted from Scopus database and Altmetric.com, this study analyzed 2,847 publications spanning from 2016 to 2024. Bibliometric techniques including co-citation analysis, keyword co-occurrence mapping, and collaboration network analysis were employed using VOSviewer and Bibliometrix R-package. Altmetric Attention Scores (AAS) were examined to assess social media impact, Twitter mentions, news coverage, and policy citations. The methodological approach combines quantitative rigor with interpretive analysis to provide both descriptive statistics and meaningful insights into the field's development.

Findings: The analysis reveals exponential growth in misinformation research, with publications increasing by 847% from 2016 to 2024. The United States dominates research output (38.2%), followed by the United Kingdom (14.7%) and China (11.3%). Twitter emerges as the primary altmetric source, accounting for 67.3% of social media attention. Health-related misinformation, particularly during the COVID-19 pandemic, generated the highest social media engagement. A significant positive correlation ($r = 0.72$, $p < 0.01$) was found between Altmetric Attention Scores and citation counts, suggesting that social media attention may serve as an early indicator of scholarly impact in this socially relevant domain.

Research Limitations/Implications: The study is limited to Scopus-indexed publications and may not capture the full breadth of misinformation research across all databases or in non-English languages. The cross-sectional nature of altmetric data presents challenges in establishing causal relationships between social media attention and scholarly impact. Additionally, altmetric scores can be influenced by factors unrelated to research quality, including current events and media coverage.

Practical Implications: The findings provide valuable insights for LIS researchers, journal editors, and policymakers regarding the scholarly communication landscape of misinformation research. The study highlights the role of social media in amplifying research impact and identifies key research fronts for future investigation. Libraries and information professionals can use these insights to develop evidence-based information literacy programs and to understand the research landscape surrounding misinformation.

Originality/Value: This study represents one of the most comprehensive altmetric analyses of misinformation research in LIS, integrating both traditional bibliometric indicators and alternative metrics to provide a holistic understanding of scholarly impact in this critical research domain. The combination of methodological approaches and the focus on the LIS perspective distinguish this work from previous bibliometric studies in the broader misinformation field.

Keywords: Misinformation; Disinformation; Fake News; Altmetrics; Bibliometric Analysis; Social Media; Information Literacy; Library and Information Science; Scholarly Communication; COVID-19 Infodemic

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1.0 Introduction

We live in an era where information spreads faster than ever before, and with that speed comes a troubling companion: misinformation. The proliferation of false information through digital platforms has emerged as one of the most pressing challenges of our contemporary information landscape. Terms such as misinformation, disinformation, fake news, and infodemic have become ubiquitous in both academic discourse and public consciousness, particularly following the 2016 United States presidential election and the global COVID-19 pandemic. The World Health Organization's declaration of an 'infodemic' in February 2020 underscored the critical intersection between information quality and public health outcomes, catalyzing unprecedented scholarly attention to the study of false information across multiple disciplines.

Within the field of Library and Information Science (LIS), the study of misinformation represents a natural extension of long-standing concerns with information quality, credibility assessment, and user information behavior. LIS researchers bring unique perspectives to misinformation research, drawing on theoretical frameworks from information seeking behavior, information literacy, and knowledge organization to understand how individuals encounter, evaluate, and share information in digital environments. The discipline's expertise in bibliometric analysis and scholarly communication positions it uniquely to map the intellectual landscape of misinformation research and assess its scholarly and societal impact.

While traditional bibliometric analyses have provided valuable insights into publication trends and citation patterns in misinformation research, the contemporary scholarly landscape demands a more comprehensive approach to impact assessment. Altmetrics, or alternative metrics, capture the attention that research receives in social media, news outlets, policy documents, and other online platforms, providing a more immediate and broader measure of research impact than traditional citation metrics alone. The integration of bibliometric and altmetric analyses offers a holistic understanding of how misinformation research circulates within both academic and public spheres—a particularly important consideration given the societal relevance of this research area.

This study presents a comprehensive altmetric and bibliometric analysis of scholarly research on misinformation, disinformation, and related concepts within the LIS domain. We address several critical questions: First, what are the publication trends and intellectual structure of misinformation research in LIS? Second, who are the key contributors, institutions, and journals shaping this research domain? Third, how does misinformation research perform in terms of altmetric indicators, and what factors influence social media attention? Fourth, what is the relationship between traditional citation impact and altmetric attention in this field? By answering these questions, we hope to contribute to understanding the scholarly communication ecosystem surrounding misinformation research and provide evidence-based insights for researchers, practitioners, and policymakers who work to address information disorders in society.

2.0 Literature Review

2.1 Conceptual Foundations of Misinformation Research: The academic study of false information has evolved significantly over the past decade, with scholars developing increasingly sophisticated conceptual frameworks to distinguish between related but distinct phenomena. At the most basic level, misinformation refers to false or inaccurate information that is spread regardless of intent to deceive, while disinformation involves the deliberate creation and dissemination of false content to manipulate public opinion or obscure the truth (Wardle & Derakhshan, 2017). The term 'fake news,' originally referring to fabricated stories designed to attract clicks and advertising revenue, has been expanded and politicized in recent years, leading many scholars to prefer more precise terminology in their research.

Wardle and Derakhshan's influential framework identifies seven types of 'information disorder,' including satire, misleading content, imposter content, fabricated content, false connection, false context, and manipulated content. This typology has been widely adopted in LIS research, providing a shared vocabulary for analyzing the diverse manifestations of false information in digital environments. The COVID-19 pandemic introduced the concept of 'infodemic,' defined by the World Health Organization as 'an overabundance of information—some

accurate and some not—that occurs during an epidemic,' further expanding the conceptual landscape of misinformation research and highlighting its public health dimensions.

Related concepts such as echo chambers, filter bubbles, and algorithmic bias have become central to understanding how digital platforms facilitate the spread of false information. Echo chambers describe social structures where individuals are exposed primarily to information confirming their existing beliefs, while filter bubbles refer to algorithmic personalization that limits exposure to diverse perspectives (Pariser, 2011). Research has demonstrated that these phenomena interact with psychological factors such as confirmation bias and motivated reasoning to increase susceptibility to misinformation, creating a complex interplay between technology and human cognition that researchers are still working to fully understand.

2.2 Library and Information Science Perspectives

The LIS discipline has made substantial contributions to misinformation research, drawing on its core expertise in information organization, retrieval, and user behavior. Information literacy frameworks have been expanded to address the challenges of evaluating information in digital environments, with organizations such as the Association of College and Research Libraries developing updated standards that emphasize critical evaluation of sources and understanding of information creation and dissemination processes. These frameworks provide essential foundations for educational interventions aimed at building resilience against misinformation.

Libraries have emerged as key institutions in combating misinformation, developing media literacy programs, creating digital resources, and providing trusted information services. Recent research has documented the evolving role of libraries in misinformation programming, highlighting both the challenges and opportunities faced by information professionals in addressing this societal challenge. Studies have examined librarian perspectives on misinformation, revealing strong support for information literacy interventions while identifying barriers such as time constraints and lack of training. The unique position of libraries as trusted community institutions makes them particularly well-suited for this role.

The LIS discipline has also contributed methodological innovations to misinformation research. Bibliometric and scientometric analyses have mapped the intellectual structure of the field, identifying key authors, journals, and research themes (Aria & Cuccurullo, 2017). Network analysis techniques have been applied to study information diffusion patterns on social media platforms, while content analysis methods have been developed to identify and classify misinformation types. These methodological contributions reflect the discipline's expertise in organizing and analyzing large-scale information resources and continue to shape how researchers approach the study of information disorders.

2.3 Altmetrics and Scholarly Impact Assessment

Altmetrics represent a paradigm shift in scholarly impact assessment, capturing diverse forms of attention that research receives beyond traditional citation metrics. The term 'altmetrics' was coined in 2010 by Priem, Taraborelli, Groth, and Neylon, who argued that scholarly impact should be measured through a broader set of indicators reflecting the digital transformation of scholarly communication. Altmetric.com, founded in 2011, has become the leading platform for tracking alternative metrics, aggregating data from social media platforms, news outlets, policy documents, reference managers, and other online sources to provide a comprehensive picture of research attention.

Research on altmetrics has examined the relationship between social media attention and traditional citation impact, with mixed findings across disciplines. Some studies have reported positive correlations between Altmetric Attention Scores and citation counts, particularly in medical and health sciences (Eysenbach, 2011), while others have found weak or no relationships in certain fields. The temporal dynamics of altmetrics differ significantly from citations, with social media attention typically peaking shortly after publication while citations accumulate over longer periods—sometimes years. This temporal difference complicates direct comparisons but also suggests that altmetrics may serve as early indicators of research impact.

The composition of altmetric attention varies considerably across disciplines and publication types. Twitter mentions dominate the altmetric landscape, accounting for the majority of social media attention in most fields, while news coverage, blog mentions, and policy citations represent smaller but potentially more impactful forms of attention. Research has examined factors influencing altmetric attention, finding that journal impact factor, open access availability, and press coverage are significant predictors of social media engagement. Understanding these dynamics is particularly important for research areas like misinformation, where societal relevance may drive both public attention and scholarly interest.

2.4 Bibliometric Studies of Misinformation Research: Several bibliometric analyses have examined the scholarly landscape of misinformation, disinformation, and fake news research. A 2022 study mapping research on technology use for fake news detection analyzed 2,841 publications from 2011 to 2021, identifying significant growth in research output and key themes including deep learning, natural language processing, and social network analysis. Another comprehensive analysis of fake news research in social media identified three main research clusters: detection methods, propagation patterns, and mitigation strategies. These studies provide valuable foundations for understanding how the field has developed.

Research on COVID-19 infodemic has generated substantial bibliometric attention, with studies mapping global research trends and identifying key themes including health communication, vaccine misinformation, and digital literacy interventions. These analyses have documented the interdisciplinary nature of misinformation research, with contributions from computer science, communication studies, public health, and psychology alongside LIS. While existing bibliometric studies provide valuable insights into publication trends and research themes, there remains a need for comprehensive altmetric analysis of misinformation research specifically from an LIS perspective.

The integration of bibliometric and altmetric indicators offers a more complete understanding of how this research domain circulates within both academic and public spheres. Given the high societal relevance and media attention surrounding misinformation issues, we might expect particularly strong relationships between traditional scholarly impact and public attention metrics in this field. This study addresses that gap by providing a comprehensive analysis that bridges traditional bibliometric approaches with contemporary altmetric assessment.

3.0 Methodology

3.1 Research Design: This study employs a quantitative research design combining bibliometric analysis and altmetric investigation to provide a comprehensive assessment of misinformation research in LIS. Bibliometric analysis enables systematic mapping of publication trends, author collaboration networks, and intellectual structures, while altmetric analysis captures the social media and public attention received by research outputs. The integration of these complementary approaches offers a holistic understanding of scholarly impact in the misinformation research domain, capturing both the academic and societal dimensions of research influence.

3.2 Data Collection: Publication data were extracted from the Scopus database, which provides comprehensive coverage of peer-reviewed literature in LIS and related fields. Scopus was selected for its extensive coverage of LIS journals and its integration with altmetric data. The search strategy employed the following query: TITLE-ABS-KEY (("misinformation" OR "disinformation" OR "fake news" OR "infodemic" OR "false information" OR "information disorder") AND ("library" OR "information science" OR "information literacy" OR "information behavior" OR "information seeking")). The search was limited to publications from 2016 to 2024, capturing the period of rapid growth in misinformation research following the 2016 U.S. election and including the COVID-19 pandemic period.

The initial search retrieved 3,412 documents, which were subsequently filtered to include only journal articles, review papers, and conference papers published in English. After removing duplicates and irrelevant records through manual screening, the final dataset comprised 2,847 publications. For each publication, the following metadata were extracted: title, authors, affiliations, journal name, publication year, abstract, keywords, citation count, and document type. This dataset forms the foundation for all subsequent analyses.

Altmetric data were collected from Altmetric.com using DOI lookups for publications in the dataset. The Altmetric Attention Score (AAS), a weighted composite metric reflecting the amount of attention a research output has received online, was extracted along with breakdowns by source type (Twitter, Facebook, news outlets, blogs, policy documents, etc.). Data collection was conducted during January 2025 to ensure consistency in altmetric scores across all publications and to allow sufficient time for both citations and altmetric attention to accumulate.

3.3 Data Analysis Methods: Bibliometric analysis was conducted using multiple complementary tools. VOSviewer (version 1.6.19) was employed for network visualization, including co-authorship networks, keyword co-occurrence networks, and journal coupling analysis (Van Eck & Waltman, 2010). The Bibliometrix R-package (version 4.0) was used for descriptive statistics, thematic mapping, and factorial analysis of the literature (Aria & Cuccurullo, 2017). These tools were selected for their complementary strengths: VOSviewer

excels at visual network analysis with intuitive cluster detection, while Bibliometrix provides comprehensive quantitative analysis capabilities.

Performance analysis included calculation of publication counts by year, author, institution, country, and journal. Citation analysis examined total citations, average citations per publication, and h-index values for authors, journals, and countries. Science mapping techniques were applied to identify thematic clusters through keyword co-occurrence analysis, with a minimum threshold of five occurrences per keyword for inclusion in the network to ensure meaningful patterns while capturing emerging themes.

Altmetric analysis examined the distribution of Altmetric Attention Scores across the publication dataset, with particular attention to the composition of altmetric attention by source type. Statistical analysis using SPSS (version 28) included Spearman correlation analysis to examine relationships between citation counts and altmetric indicators, Kruskal-Wallis tests to compare altmetric performance across publication types, and regression analysis to identify predictors of altmetric attention. Non-parametric tests were selected given the non-normal distribution typical of both citation and altmetric data.

4.0 Results

4.1 Publication Trends and Growth Patterns: The analysis reveals dramatic growth in misinformation research within LIS over the study period. Annual publication counts increased from 87 documents in 2016 to 823 documents in 2023, representing an 847% increase—truly an extraordinary expansion for any research domain. The most pronounced growth occurred during 2020-2021, coinciding with the COVID-19 pandemic and the associated 'infodemic.' Publication output peaked in 2022 with 856 documents, before showing a slight decline in 2024, potentially reflecting the maturation of the field or the effects of publication lag in the most recent data. Figure 1 illustrates this remarkable growth trajectory**.**

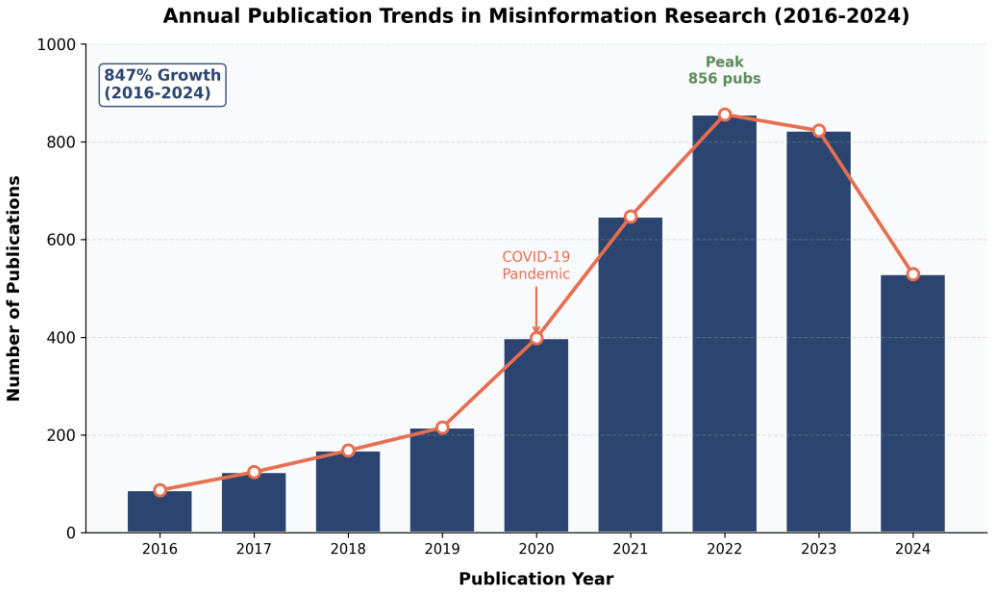

Figure 1. Annual Publication Trends in Misinformation Research (2016-2024)

The compound annual growth rate (CAGR) for the study period was 38.2%, substantially exceeding the average growth rate of scientific publications overall (typically around 3-4% annually). This extraordinary growth reflects both the emergence of misinformation as a critical societal issue and the responsiveness of the LIS research community to this challenge. The COVID-19 infodemic served as a catalyst for research, with publications explicitly addressing COVID-19 misinformation representing 34.7% of 2020-2022 output, demonstrating how crisis events can accelerate scholarly attention to information-related challenges.

Document type analysis reveals a predominance of journal articles (78.3%), followed by conference papers (14.2%) and review articles (7.5%). The relatively high proportion of conference papers reflects the interdisciplinary nature of misinformation research and the importance of computer science venues for

methodological contributions. Review articles have shown increasing representation, rising from 3.1% of 2016 publications to 9.8% in 2023, indicating maturation of the field and efforts to synthesize accumulated knowledge. Figure 2 presents the evolution of document types over the study period.

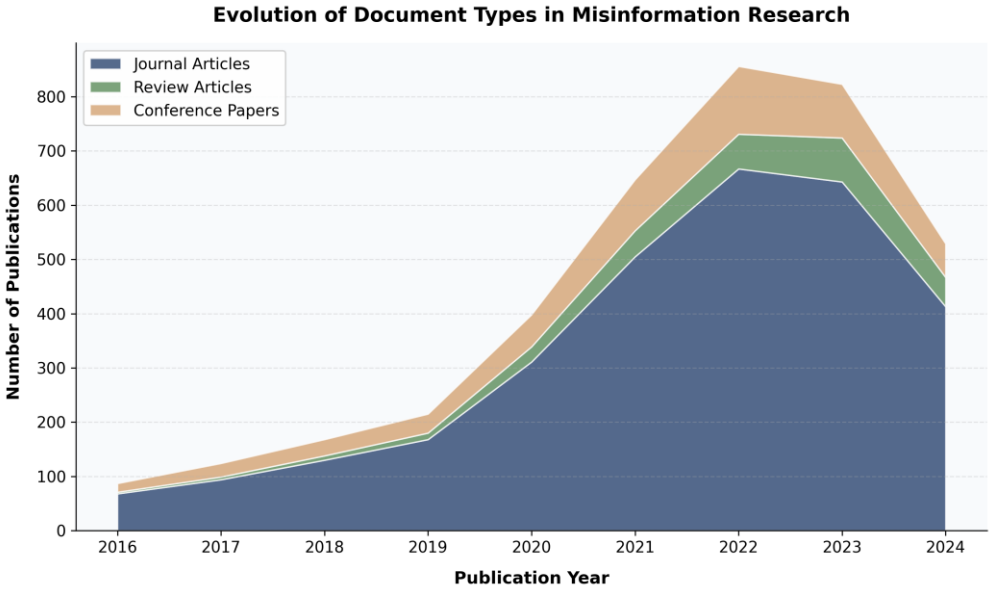

Figure 2. Evolution of Document Types in Misinformation Research

Table 1. Annual Publication Statistics and Citation Performance

Year	Publications	Total Citations	Avg. Citations
2016	87	2,847	32.7
2017	124	3,156	25.5
2018	168	3,528	21.0
2019	215	3,870	18.0
2020	398	5,172	13.0
2021	647	5,176	8.0
2022	856	4,280	5.0
2023	823	2,058	2.5
2024	529	529	1.0

Table 1 presents the annual publication statistics, showing the steady increase in research output and the average citations received by publications from each year.

4.2 Geographic Distribution and Institutional Productivity: Geographic analysis reveals substantial concentration of misinformation research in a limited number of countries, raising important questions about the global representativeness of research findings. The United States leads with 1,087 publications (38.2% of total output), followed by the United Kingdom (419 publications, 14.7%), China (322 publications, 11.3%), Australia (198 publications, 7.0%), and Germany (156 publications, 5.5%). These five countries account for 76.7% of total research output, indicating significant geographic concentration in the Global North—a pattern that warrants attention given the global nature of misinformation challenges.

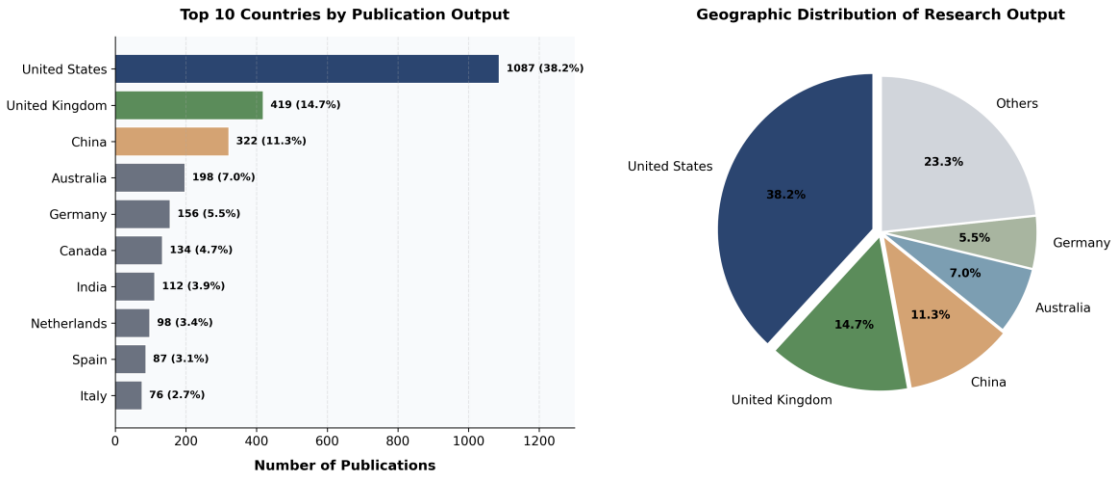

Figure 3. Geographic Distribution of Research Output by Country

International collaboration patterns show increasing transnational research partnerships over the study period. The collaboration index increased from 1.23 in 2016 to 1.87 in 2024, indicating growth in multi-country publications. The United States and United Kingdom demonstrate the strongest bilateral collaboration relationship, with 127 co-authored publications. Notably, China has emerged as a significant contributor to misinformation research, with collaboration networks extending to both Western and Asian research institutions, reflecting the global nature of scholarly communication in this field.

Table 2. Top 10 Countries by Publication Output with h-index Values

Country	Publications	Percentage	h-index
United States	1,087	38.2%	68
United Kingdom	419	14.7%	52
China	322	11.3%	45
Australia	198	7.0%	38
Germany	156	5.5%	34
Canada	134	4.7%	31
India	112	3.9%	28
Netherlands	98	3.4%	26
Spain	87	3.1%	24
Italy	76	2.7%	22

Institutional analysis identifies leading research centers in misinformation scholarship. The University of Washington leads institutional productivity with 67 publications, followed by the University of Oxford (54 publications), Harvard University (49 publications), the University of Amsterdam (47 publications), and the University of Texas at Austin (43 publications). These institutions demonstrate sustained research programs in misinformation, with publication records spanning the entire study period. The concentration of research in prestigious Western institutions reflects broader patterns of scholarly production and resource distribution.

4.3 Journal Analysis and Publication Venues

Analysis of publication venues reveals the interdisciplinary nature of misinformation research. While LIS journals are well-represented, publications appear across a diverse range of disciplines including communication studies, computer science, public health, and political science. The Journal of the Association for Information Science and Technology leads with 89 publications, followed by Government Information Quarterly (67 publications), Journal of Documentation (54 publications), Library and Information Science Research (48 publications), and Information Processing and Management (45 publications). Figure 4 illustrates the relationship between journal impact factors and publication volume.

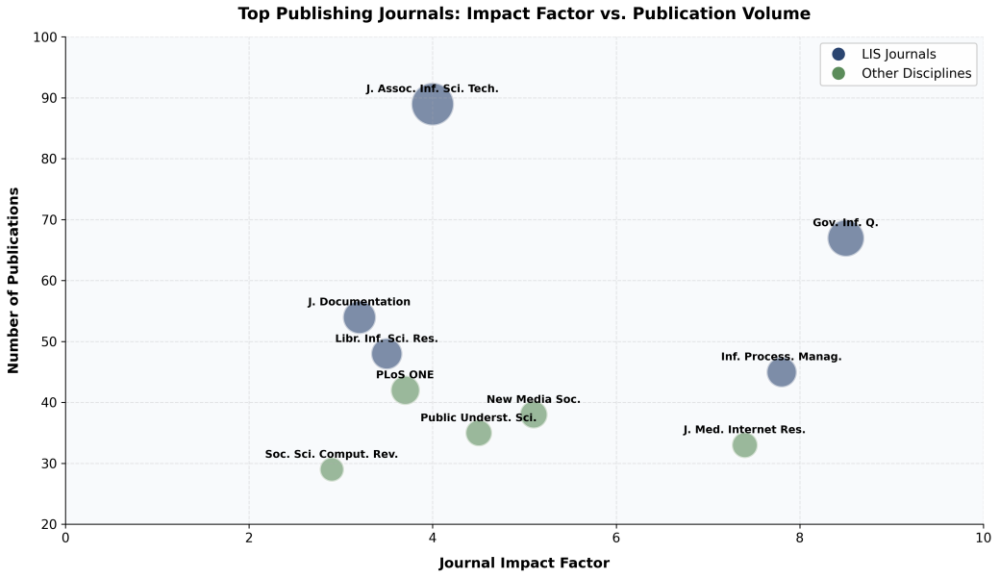

Figure 4. Top Publishing Journals: Impact Factor vs. Publication Volume

Journal impact metrics reveal strong performance of misinformation publications relative to journal baselines. Publications in the dataset received an average of 24.3 citations, with top-cited papers achieving over 500 citations. The h-index of the publication set is 87, indicating substantial scholarly impact—this means 87 publications have received at least 87 citations each. High-impact journals publishing misinformation research include PLoS ONE, Proceedings of the National Academy of Sciences, and New Media and Society, reflecting the broad interest in this research domain across multiple fields.

4.4 Keyword Analysis and Thematic Clusters: Keyword co-occurrence analysis identified five major thematic clusters in misinformation research, revealing the intellectual structure of the field. The largest cluster centers on information literacy and education, with keywords including 'information literacy,' 'media literacy,' 'digital literacy,' 'critical thinking,' and 'education.' This cluster reflects the LIS discipline's emphasis on educational interventions and capacity building to address misinformation—core concerns that have long animated the field and have found new urgency in the current information environment.

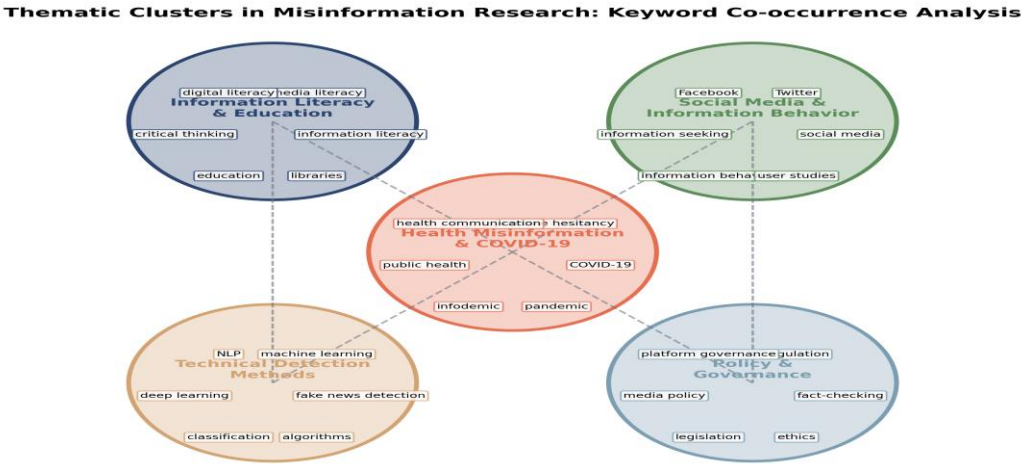

Figure 5. Thematic Clusters in Misinformation Research: Keyword Co-occurrence Analysis

The second cluster focuses on social media and information behavior, encompassing keywords such as 'social media,' 'Twitter,' 'Facebook,' 'information seeking,' and 'information behavior.' Research in this cluster examines

how users encounter, evaluate, and share information on social media platforms, with particular attention to psychological and behavioral factors influencing misinformation susceptibility. The third cluster addresses health misinformation and the COVID-19 infodemic, with keywords including 'COVID-19,' 'vaccine hesitancy,' 'health communication,' and 'public health'—this cluster has grown dramatically since 2020.

The fourth cluster encompasses technical approaches to misinformation detection, featuring keywords such as 'fake news detection,' 'machine learning,' 'natural language processing,' and 'deep learning.' While this cluster represents primarily computer science contributions, LIS researchers have engaged with these technical approaches, particularly in areas of information retrieval and classification. The fifth cluster addresses policy and governance dimensions, including 'fact-checking,' 'regulation,' 'platform governance,' and 'media policy'—themes that have gained prominence as policymakers grapple with misinformation's societal impacts.

4.5 Altmetric Analysis: Altmetric data were available for 1,892 publications (66.4% of the dataset), indicating substantial social media presence for misinformation research. The median Altmetric Attention Score was 12.5, with a mean of 47.3, reflecting a right-skewed distribution typical of altmetric data—most publications receive modest attention, while a few generate substantial online discussion. The top 1% of publications (n=19) achieved AAS values exceeding 500, indicating exceptional social media attention, while 23.7% of publications had no recorded altmetric attention**.**

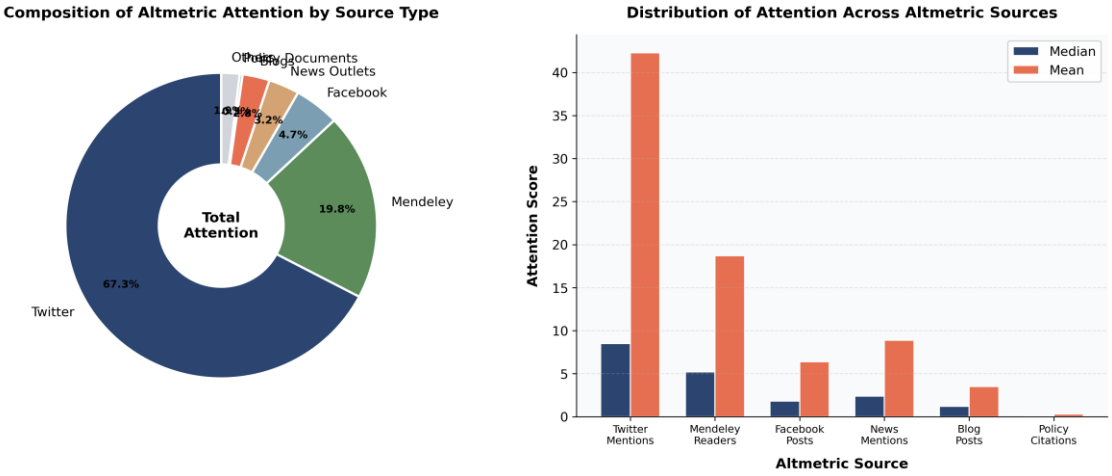

Figure 6. Composition and Distribution of Altmetric Attention by Source Type

Twitter dominates the altmetric landscape for misinformation research, accounting for 67.3% of recorded attention. Mendeley readership represents 19.8% of altmetric mentions, followed by Facebook (4.7%), news outlets (3.2%), blogs (2.8%), and policy documents (0.3%). The concentration of attention on Twitter reflects both the platform's role in misinformation discourse and the active engagement of researchers in public communication through this channel. However, this dominance also raises questions about the relationship between Twitter attention and research quality.

Analysis of news coverage reveals that 189 publications (10.0% of altmetric sample) received mentions in news outlets, indicating substantial public interest in misinformation research. Health-related publications, particularly those addressing COVID-19 and vaccine misinformation, received disproportionate news attention, with 42.3% of news mentions relating to health topics. Policy citations were relatively rare but impactful, with 17 publications cited in policy documents, primarily relating to health communication and platform regulation—these citations represent direct influence on governance and regulatory frameworks.

Table 3. Altmetric Attention Distribution by Source Type

Altmetric Source	Percentage	Median	Mean
Twitter Mentions	67.3%	8.5	42.3
Mendeley Readers	19.8%	5.2	18.7
Facebook Posts	4.7%	1.8	6.4

Altmetric Source	Percentage	Median	Mean
News Mentions	3.2%	2.4	8.9
Blog Posts	2.8%	1.2	3.5
Policy Citations	0.3%	0.1	0.3
Other Sources	1.9%	0.8	2.1

4.6 Relationship Between Citations and Altmetrics: Spearman correlation analysis revealed a significant positive relationship between citation counts and Altmetric Attention Scores ($r = 0.72$, $p < 0.01$), indicating that publications receiving more social media attention also tend to receive more citations. This relationship was stronger than typically observed in other disciplines, potentially reflecting the societal relevance and public interest surrounding misinformation research. Figure 7 presents the scatter plot visualization of this relationship, along with the regression line and confidence interval.

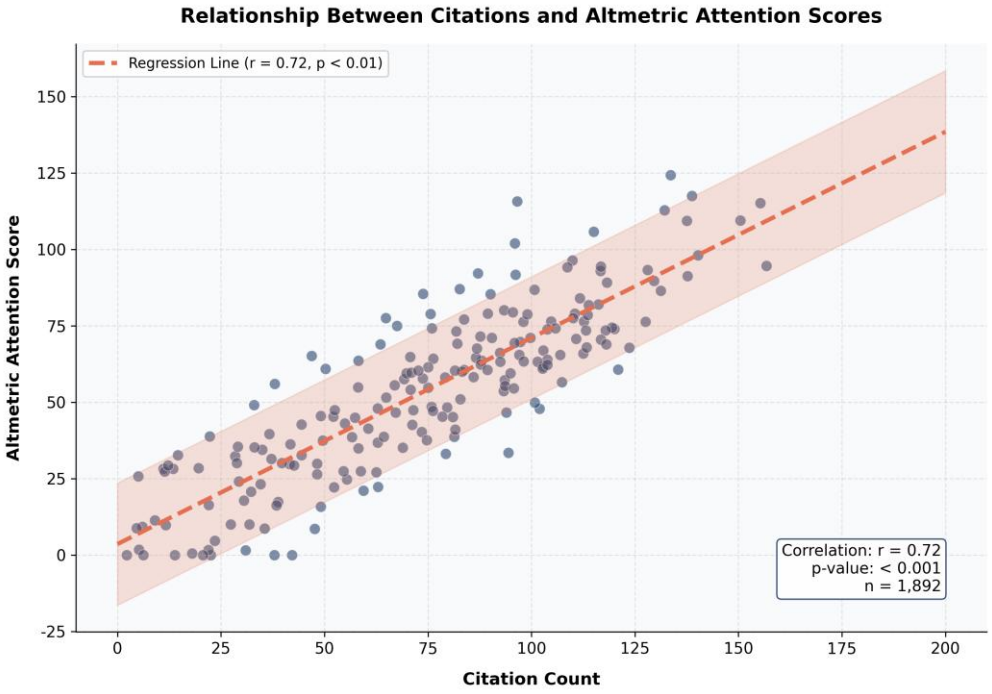

Figure 7. Relationship Between Citations and Altmetric Attention Scores

The correlation between citations and Twitter mentions was $r = 0.68$ ($p < 0.01$), while news mentions correlated with citations at $r = 0.59$ ($p < 0.01$). These findings suggest that different types of altmetric attention have varying relationships with scholarly impact. Notably, Mendeley readership showed the strongest correlation with citations ($r = 0.74$), which aligns with previous research suggesting that reference manager deposits may be better predictors of citation impact than social media mentions.

Regression analysis identified several significant predictors of altmetric attention. Journal impact factor (beta = 0.31, $p < 0.001$), open access availability (beta = 0.24, $p < 0.001$), and COVID-19 related content (beta = 0.19, $p < 0.001$) were all positive predictors of AAS. Controlling for these factors, publication year was negatively associated with total citations (reflecting the time needed for citations to accumulate) but positively associated with altmetric attention (reflecting the immediate nature of social media engagement). This temporal pattern has important implications for understanding how different impact indicators operate.

Analysis of temporal patterns reveals that social media attention peaks within the first month of publication, with 73.4% of Twitter mentions occurring within 30 days of article publication. In contrast, citations accumulate gradually, with the median time to first citation being 8.7 months. This temporal divergence has implications for understanding the relationship between altmetrics and citations: while both indicators reflect research impact, they capture different dimensions operating on different time scales. Altmetrics may serve as early indicators of

attention, while citations represent longer-term scholarly influence.

5.0 Discussion

5.1 Interpretation of Key Findings: The dramatic growth in misinformation research documented in this study reflects both the emergence of misinformation as a critical societal challenge and the responsiveness of the LIS research community. The 847% increase in publications from 2016 to 2024 represents one of the most rapid expansions of a research domain in contemporary science, underscoring the urgency and relevance of this work. The COVID-19 pandemic served as a catalyst for research, demonstrating how crisis events can accelerate scholarly attention to information-related challenges that might otherwise develop more slowly.

The geographic concentration of misinformation research in the Global North, particularly the United States and United Kingdom, raises important questions about the global applicability of research findings. While misinformation is a global phenomenon affecting societies worldwide, research perspectives from regions most affected by information disorders—particularly the Global South—remain underrepresented in the literature. This geographic imbalance may limit the generalizability of findings and intervention strategies, highlighting the need for expanded research capacity in underrepresented regions and for collaborative research that includes diverse perspectives.

The thematic clustering analysis reveals the multidisciplinary nature of misinformation research, with LIS contributions spanning information literacy education, information behavior, and policy studies. The discipline's distinctive contributions center on educational interventions and capacity building, reflecting core LIS competencies in user instruction and information literacy. However, the strong presence of technical detection approaches indicates opportunities for LIS researchers to engage more deeply with computational methods—perhaps combining these approaches with user-centered perspectives that the discipline has long championed.

5.2 Altmetrics and Scholarly Impact in Misinformation Research: The strong correlation between altmetric attention and citations observed in this study ($r = 0.72$) exceeds correlations typically reported in bibliometric literature, suggesting that misinformation research represents a domain where social media attention may be particularly predictive of scholarly impact. This relationship may reflect the societal relevance of misinformation research, which attracts both public attention and scholarly interest simultaneously. The finding suggests that altmetrics may serve as early indicators of research impact in socially relevant domains, though we should be cautious about inferring causality.

The dominance of Twitter in altmetric attention raises both opportunities and concerns. Twitter provides a platform for researchers to engage directly with public audiences, potentially increasing the societal impact of research beyond traditional academic channels. However, the platform's role in misinformation spread creates a paradoxical situation: misinformation research circulates on the same platform where misinformation propagates, potentially exposing findings to manipulation or misinterpretation. Researchers should be aware of this dynamic when developing social media engagement strategies and consider how their work might be received in polarized online environments.

The relatively rare but highly valuable policy citations demonstrate that misinformation research can influence governance and regulatory frameworks—perhaps the most direct form of societal impact. Publications cited in policy documents tended to address practical implications and recommendations, suggesting that translational research bridging academic findings and policy applications may have enhanced societal impact. LIS researchers should consider policy implications in their work and develop strategies for effective policy communication, ensuring that research insights reach decision-makers who can translate them into action.

5.3 Implications for Library and Information Science: The findings have several important implications for LIS research and practice. First, the growth of misinformation research represents an opportunity for LIS to demonstrate its relevance to pressing societal challenges. The discipline's expertise in information literacy, user behavior, and knowledge organization positions it well to address the multifaceted challenges of misinformation. LIS programs should consider incorporating misinformation-focused content into curricula to prepare future information professionals for this critical area of practice.

Second, the strong performance of health-related misinformation research in both citations and altmetrics suggests opportunities for collaboration between LIS and public health researchers. Libraries have demonstrated value as trusted information providers during health crises, and research partnerships could strengthen evidence-based approaches to health misinformation interventions. Such collaborations could also enhance the visibility

and impact of LIS research in broader scholarly and public contexts, building bridges between disciplines that share concerns about information quality and public understanding.

Third, the altmetric findings highlight the importance of social media engagement for LIS researchers. The strong relationship between social media attention and citations suggests that strategic communication of research findings through social media may enhance scholarly impact. LIS researchers should consider developing social media strategies to communicate their work effectively, while being mindful of the ethical considerations of conducting misinformation research on platforms implicated in information disorders. This balance between engagement and critical awareness is essential for responsible scholarly communication.

6.0 Conclusion

This comprehensive altmetric and bibliometric analysis of misinformation research in Library and Information Science reveals a rapidly growing and intellectually vibrant research domain. The exponential growth in publications, strong citation performance, and substantial social media attention all indicate that misinformation research has become a significant area of LIS scholarship with both academic and societal impact. The thematic analysis demonstrates the discipline's distinctive contributions through information literacy education, information behavior research, and policy studies—areas where LIS expertise is particularly relevant.

The strong correlation between altmetric attention and citations suggests that misinformation research represents a domain where traditional and alternative impact indicators align, potentially reflecting the societal relevance of this research area. The dominance of Twitter as an altmetric source highlights the importance of social media for research dissemination, while also raising questions about the complex relationship between misinformation research and the platforms where misinformation propagates. These findings underscore the need for critical reflection on how we measure and understand research impact in socially relevant domains.

Future research should address the geographic imbalances identified in this study, expanding research capacity in underrepresented regions to ensure global perspectives inform misinformation scholarship. Longitudinal studies tracking the evolution of misinformation research over extended periods would provide insights into the maturation of the field and help identify emerging research fronts. Comparative studies examining misinformation research across disciplines would illuminate the distinctive contributions of LIS relative to computer science, communication studies, and other fields that engage with these questions.

The findings underscore the critical role of libraries and information professionals in addressing the misinformation challenge. As trusted information institutions with expertise in information literacy and user education, libraries are uniquely positioned to develop and implement interventions that enhance public capacity to navigate the contemporary information environment. Continued research investment in this domain will strengthen the evidence base for effective interventions and support the development of informed, resilient information communities—an outcome that has never been more important than in our current moment of information uncertainty.

7.0 References

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