The Rise of Digital Literacy in Business Communication: A Bibliometric Analysis

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Abstract

This study provides a comprehensive bibliometric analysis of the intersection between digital literacy and business communication, aiming to map the intellectual structure, thematic evolution, and research gaps within this emerging domain. Using data extracted from the Scopus database, a total of 13,126 documents were analyzed through country collaboration networks, keyword co-occurrence visualization, and subject area distribution. The findings reveal that research in this field is globally distributed yet dominated by contributions from developed countries. The subject area analysis demonstrates a strong interdisciplinary orientation, with the Social Sciences and Business, Management, and Accounting fields contributing the majority of publications. Keyword mapping indicates three major thematic clusters: digital literacy in organizational and technological contexts, socio-demographic and health-related dimensions, and external communication functions such as public relations and reputation management. Despite the large body of literature, only six documents were identified as directly addressing both digital literacy and business communication simultaneously, highlighting a significant research gap. This study underscores the need for a more integrated theoretical and empirical approach to understanding how digital literacy shapes communication effectiveness, organizational adaptation, and strategic engagement in digital business environments.

Keywords: Digital literacy, Business communication, Bibliometric analysis, Interdisciplinary research.



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1. Introduction

The emergence of digital technology has profoundly transformed the ways individuals and organizations communicate, collaborate, and exchange information. In the business domain, this transformation has shifted communication from traditional face-to-face or written correspondence to multifaceted digital environments that demand new skills and literacies. The rapid integration of social media, artificial intelligence, mobile technologies, and digital collaboration platforms has reshaped how businesses operate, creating both opportunities and challenges for effective communication. Within this context, digital literacy has become a cornerstone of modern business communication, determining how professionals interpret, produce, and exchange information in digital settings. It encompasses not only technical proficiency but also cognitive, critical, and ethical abilities to engage effectively and responsibly in digital communication (Falloon, 2020; Martínez-Bravo et al., 2022; Van Laar et al., 2017). Digital literacy has evolved from being a peripheral skill to a strategic competency central to business success. In organizational contexts, it supports internal communication, enhances external stakeholder engagement, and fosters innovation by enabling employees to access, evaluate, and disseminate digital information efficiently (Nyitse & Elele, 2024; Oladeinde et al., 2023). The digital economy increasingly relies on communication practices mediated through platforms such as video conferencing tools, social networking sites, and enterprise collaboration systems. Consequently, digital literacy determines how well individuals and organizations can adapt to fast-changing technological landscapes, manage information flows, and build trust in digital interactions (Chaliha et al., 2024). Effective digital communication now requires multimodal fluency—the ability to combine visual, textual,

and interactive content—making digital literacy a prerequisite for success in contemporary business environments.

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The intersection between digital literacy and business communication has therefore become an emerging and important area of scholarly inquiry. Business communication is no longer confined to the transmission of information; it now involves constructing meaning within complex digital ecosystems shaped by algorithms, data analytics, and user interactivity. As organizations expand across borders and adopt hybrid work models, communication practices are increasingly mediated by digital platforms that demand higher levels of digital competence. Researchers have started to explore how digital literacy influences leadership communication, corporate reputation, knowledge management, and employee collaboration in digital workplaces (Kiarie et al., 2025; Nikou et al., 2022; Shrestha, 2018). However, despite growing interest, the literature remains conceptually fragmented, with studies dispersed across disciplines such as communication, management, education, and information science.

This fragmentation has made it difficult to grasp how digital literacy in business communication has developed as a research field. Scholars have used different definitions, frameworks, and methodological approaches, leading to a diverse yet disjointed body of knowledge. Some studies emphasize the technical dimension of digital literacy—focusing on the use of software, tools, and platforms—while others address socio-cultural aspects, such as collaboration, ethical awareness, and critical evaluation of online information (Rafa'al & Sangadji, 2023). This diversity reflects the multidisciplinary nature of digital literacy but also underscores the need for a comprehensive understanding of its intellectual evolution, key themes, and theoretical foundations within business communication research. The growing relevance of digital literacy is also linked to the increasing digitalization of business practices globally. The widespread adoption of digital tools has created new communication patterns between organizations, employees, and consumers. Businesses are expected to engage stakeholders through digital channels that require transparency, responsiveness, and adaptability—skills closely associated with digital literacy. The ability to manage information ethically and critically evaluate digital content has become essential in maintaining trust, especially as misinformation and data breaches pose serious threats to organizational reputation. Thus, digital literacy extends beyond operational efficiency to become a moral and strategic dimension of business communication.

In recent years, global events such as the COVID-19 pandemic have further accelerated the digitization of communication. Remote work, virtual meetings, and online collaboration have become the norm, making digital literacy not only a professional asset but a survival skill in business contexts (An et al., 2023; Bennett & McWhorter, 2021; Ebuka et al., 2020). Organizations with higher levels of digital literacy among employees demonstrated greater resilience and adaptability in sustaining communication continuity during disruptions. This period also intensified scholarly attention toward the digital competencies required to maintain effective communication in virtual settings, resulting in a surge of publications across various fields. However, while the volume of research has increased, a systematic overview of its evolution, key contributors, and thematic trajectories remains limited. Understanding the development and dynamics of this research domain is essential for advancing both academic theory and managerial practice. For academia, mapping the intellectual foundations of digital literacy in business communication can clarify how the concept has been theorized, operationalized, and contextualized across different studies. It allows scholars to identify research gaps, trace conceptual progress, and propose new avenues for interdisciplinary collaboration. For practitioners, insights into existing research can guide organizational strategies for workforce development, leadership training, communication management in the digital workplace. A clearer understanding of how digital

literacy contributes to effective business communication can also inform policy design in education and corporate training programs, ensuring alignment with the evolving demands of the digital economy.

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Despite the importance of this topic, existing research has yet to present an integrated view of its growth and intellectual structure. Previous studies have typically examined isolated aspects of digital literacy or business communication without exploring their intersection comprehensively. Consequently, there is a pressing need to consolidate existing knowledge, reveal dominant themes, and identify emerging research trends that define this field. A systematic synthesis of the literature can illuminate how digital literacy has influenced business communication theories and practices over time, as well as how digital transformation continues to redefine communication competences in organizational contexts. Against this backdrop, this study seeks to provide a comprehensive overview of the rise of digital literacy within the domain of business communication. By examining existing scholarly works, this research aims to uncover the intellectual patterns, conceptual relationships, and thematic evolutions that characterize this field. The ultimate goal is to deepen understanding of how digital literacy contributes to the advancement of communication in modern businesses and to highlight promising directions for future research that can strengthen both academic and professional discourse.

2. Method

This study employed a bibliometric analysis approach to systematically examine the intellectual structure, thematic evolution, and publication trends related to digital literacy in business communication. Bibliometric analysis is widely recognized as a robust quantitative method for evaluating scientific output, identifying influential contributors, and visualizing research networks within a given field (Donthu et al., 2021; Sangadji, 2023). The analysis in this study was based on scientific publications retrieved from the Scopus database, which is one of the largest and most authoritative sources of peer-reviewed literature in social sciences and business studies. Scopus was chosen due to its comprehensive coverage, high citation accuracy, and compatibility with bibliometric software. The data collection process was conducted in September 2025, using a search query that combined relevant keywords such as "digital literacy," "business communication," "corporate communication," and "organizational communication." Boolean operators and wildcard symbols were applied to ensure inclusivity and to capture variations of key terms. Only journal articles, reviews, and conference papers published in English were included, while book chapters, editorials, and non-peer-reviewed sources were excluded to maintain data reliability. The initial search yielded 23,189 documents, which were then refined through a systematic screening process to remove duplicates and irrelevant records, 13126 documents resulting in a final dataset of 6 publications for analysis.

The retrieved data were exported in CSV format, containing bibliographic information such as authors, titles, keywords, abstracts, source journals, affiliations, and citation counts. Descriptive analyses were conducted to assess publication trends over time, distribution by countries and institutions, and the most influential authors and journals contributing to the field. To explore the intellectual and conceptual structure of the research area, co-authorship, co-citation, and keyword co-occurrence analyses were performed using VOSviewer and Microsoft Excel—two widely used visualization tools in bibliometric research. Co-authorship analysis identified collaboration patterns among researchers and institutions, while co-citation analysis revealed the intellectual foundations underpinning the field. Keyword co-occurrence mapping was used to identify core themes and emerging research clusters, illustrating how concepts related to digital literacy and business communication are interconnected. The analysis emphasized both temporal and thematic

dimensions, highlighting the evolution of key topics and the growing intersections between digital competence, organizational communication, and technological transformation. The results were interpreted through a qualitative lens to provide meaningful insights into the quantitative findings, allowing for a nuanced understanding of how research in digital literacy and business communication has developed over time. This methodological approach ensured analytical rigor, transparency, and replicability in line with the standards of bibliometric studies published in reputable international journals.

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3. Result and Discussion

3.1 Result

The analysis indicates that research on digital literacy and business communication possesses a global scope, as evidenced by studies conducted across a wide range of countries. The detailed results of this analysis can be observed in Figure 1, Figure 2, Figure 3, and Table 1, which collectively illustrate the international collaboration patterns, thematic structures, and distributional characteristics within the research domain.

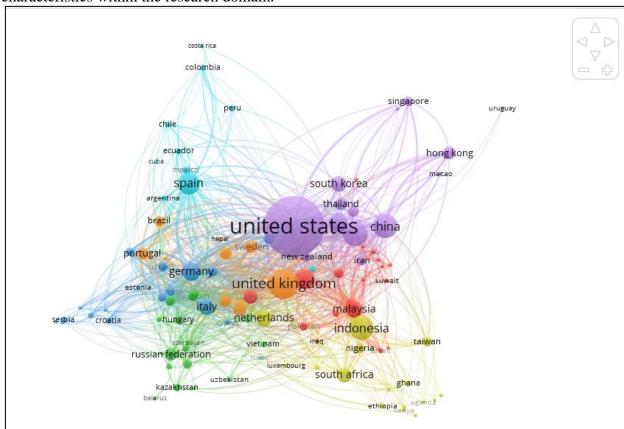


Figure 1. Country Collaboration Network Map

The country co-authorship network visualization (Figure 1) reveals that research on digital literacy in business communication constitutes a structured global endeavor organized into distinct regional and supranational collaboration clusters. The United States (US) stands out as the most central and dominant contributor, serving as a key hub that connects major research clusters. The Purple/Pink Cluster, anchored by the US, China, and South Korea, highlights intensive linkages between North America and East/Southeast Asia. The Red/Orange Cluster, led by the United Kingdom and the

Netherlands, indicates strong partnerships with Southeast Asian countries such as Malaysia and Indonesia. In contrast, the Blue/Green Cluster, involving Germany, Spain, and several Latin American nations, reflects solid intercontinental collaboration. Overall, while the topic exhibits a global reach, research productivity and collaboration remain concentrated among developed and select emerging economies, with the US playing a pivotal integrative role in cross-border knowledge exchange within this field.

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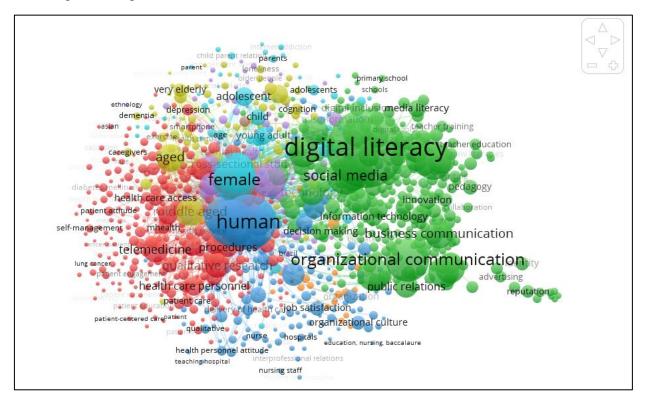


Figure 2. Keyword Co-occurrence Visualization

As illustrated in Figure 2, the keyword co-occurrence visualization in the domain of digital literacy and business communication reveals a dense and differentiated thematic structure organized around three major clusters. The Green Cluster centers on the core concept of "digital literacy", which is strongly associated with "social media", "information technology", and "organizational communication", reflecting the primary research focus on technological dimensions within business and organizational contexts. The large Blue/Red Cluster highlights social, demographic, and health-related dimensions, with central nodes such as "human", "female", and "aged/very elderly", indicating that digital literacy has been extensively examined in relation to vulnerable populations, healthcare applications (mHealth, telemedicine), and psychosocial aspects (depression, dementia). Meanwhile, the smaller Orange/Yellow Cluster connects to "public relations", "advertising", and "reputation", underscoring the intersection between digital literacy and external communication functions. Overall, Figure 2 demonstrates that digital literacy research extends beyond the core domain of business communication to substantially encompass healthcare and social demography, signifying a strong multidisciplinary integration across the literature.

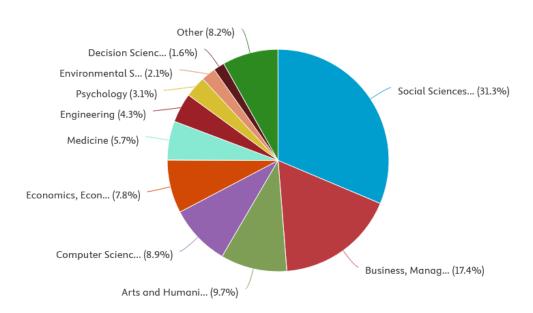


Figure 3. Document by Subject Area

As illustrated in Figure 3, the distribution of documents by subject area demonstrates that research on digital literacy and business communication is inherently interdisciplinary, with a predominant emphasis on non-technical fields. Social Sciences account for the largest share, contributing 31.3% (7,403 documents), followed by Business, Management, and Accounting with 17.4% (4,114 documents). The dominance of these two domains highlights the strong behavioral, social, and managerial orientation of the research in this area. Arts and Humanities rank third, representing 9.7% (2,291 documents), underscoring the importance of cultural and rhetorical perspectives. Although the topic is closely related to technology, Computer Science occupies the fourth position with 8.9% (2,098 documents), while other technical disciplines such as Engineering contribute only 4.3%, indicating that the research focus has gradually shifted from technological development toward the exploration of impacts, implementation, and socio-economic contexts of digital literacy.

Building upon the bibliometric visualizations presented in Figures 1–3, which collectively illustrate the global collaboration network, thematic structure, and disciplinary distribution of research on digital literacy and business communication, it is noteworthy that the scope of studies explicitly integrating both concepts remains highly limited. Out of the 13,126 documents retrieved from the Scopus database, only six documents were identified as directly focusing on the intersection of digital literacy and business communication. These selected studies, detailed in Table 1, offer valuable insights into how scholars have approached the integration of these two domains within the broader research landscape.

Table 1. Detailed List of Relevant Documents

Authors and Year	Title	Source title
(Ndone, 2025)	Public relations in the age of AI: the moderating effects of authentic leadership and supervisors' digital literacy on AI-induced uncertainty among Kenyan public relations practitioners	Corporate Communications: An International Journal
(Tautkevičienė & Pranckutė, 2024)	Competences of Librarians in Performing Different Roles in Citizen Science Projects	University Library at a New Stage of Social Communications Development. Conference Proceedings
(Phan, 2024)	Conceptual Framework for Teaching Business Writing via Social Media	Business and Professional Communication Quarterly
(Xu, 2023)	Digital literacies for virtual meetings: Exploring new challenges experienced by university business students	Perspectives on Teaching Workplace English in the 21st Century
(Blåsjö et al., 2021)	"I Don't Know if I Can Share This." Agency and Sociomateriality in Digital Text Sharing of Business Communication	Journal of Digital Social Research
(Torres et al., 2020)	The cost of smartphones entailed by communication professionals: Analysis of the social; El coste del smartphone entre los profesionales de la comunicación: Análisis de las consecuencias sociales, laborales y personales	Revista Mediterranea de Comunicacion

As presented in Table 1, only six documents were identified as directly addressing the intersection of digital literacy and business communication. These studies, published between 2020 and 2025, collectively reflect the evolving nature of digital competence and its implications within professional and organizational communication contexts. The most recent work by Ndone (2025) explores digital literacy in the context of public relations, emphasizing its moderating role in mitigating AI-induced uncertainty among communication practitioners, thereby linking digital capability with leadership and organizational trust. Similarly, Tautkevičienė and Pranckutė (2024) highlight the importance of digital competencies in librarianship, illustrating how professional roles are being reshaped in citizen science environments. Phan (2024) proposes a conceptual framework for teaching business writing via social media, reinforcing the pedagogical relevance of digital literacy in business education. In a comparable educational context, Xu (2023) examines how business students navigate digital literacies in virtual meetings, identifying new communicative challenges in online professional environments. From a sociomaterial perspective, Blåsjö et al. (2021) investigate agency and digital text-sharing practices within business communication, emphasizing the interplay between technology, text, and human agency. Finally, Torres et al. (2020) analyze the social and occupational costs associated with smartphone use among communication professionals, revealing the blurred boundaries between digital work and personal life. Collectively, these studies underscore that while research explicitly integrating digital literacy and business communication remains scarce, it spans a range of contexts—organizational,

educational, and sociocultural—and contributes to a deeper understanding of how digital competence shapes communication practices in the contemporary professional landscape.

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3.2 Discussion

The findings from the bibliometric analysis provide meaningful insights into how research on digital literacy and business communication has evolved as a multidisciplinary and globally interconnected domain. The international collaboration patterns and thematic structures identified through the visualizations highlight both the maturity and fragmentation of the field, suggesting that digital literacy is increasingly viewed as a critical enabler of effective communication in organizational, educational, and societal contexts. The geographical clustering dominated by developed countries indicates that research capacity and knowledge production are still concentrated in regions with advanced digital infrastructures and established academic networks. This asymmetry underscores the continuing digital divide not only in access and skills but also in research participation, where scholars from developing nations, though increasingly active, remain underrepresented in global collaborations. These structural patterns reveal an important epistemological implication: while digital literacy is conceptually inclusive and global in relevance, its empirical exploration often reflects localized technological capacities and socioeconomic contexts. The dominance of the United States, the United Kingdom, and East Asian countries in co-authorship networks indicates that digital literacy has become a strategic research priority in economies that emphasize innovation, media development, and digital transformation. The close collaboration between these regions suggests the formation of epistemic communities that share theoretical frameworks and methodological approaches, particularly those rooted in communication studies, information systems, and education. Consequently, the global visibility of digital literacy research may be shaped by these dominant paradigms, which could limit alternative perspectives emerging from other cultural or organizational contexts.

The keyword co-occurrence visualization further emphasizes the complexity of the topic by revealing the interplay between technological, social, and humanistic dimensions. The strong association between digital literacy and terms such as social media, organizational communication, and information technology signifies that the concept has transcended its original pedagogical boundaries and become central to understanding communication practices in digital environments. At the same time, the presence of keywords related to health, aging, and psychosocial well-being reflects the diversification of research interests beyond business or education. This indicates a paradigm shift toward understanding digital literacy as a social determinant that affects inclusion, empowerment, and quality of life. Such an expansion aligns with the broader movement in communication and information science that recognizes technology not merely as a tool but as a socio-technical system embedded in human interaction and institutional structures. The distribution of documents by subject area reinforces this integrative perspective. The predominance of social sciences and business disciplines underscores that digital literacy is not simply a technical competency but a social practice intertwined with communication behaviors, managerial decisions, and organizational culture. The comparatively smaller representation of computer science and engineering highlights a theoretical realignment from technology design to technology use and interpretation. This transition mirrors what Jenkins and colleagues describe as the "participatory turn" in digital communication, where users are no longer passive recipients of technology but active meaning-makers who negotiate digital affordances within professional and social environments. Accordingly, the intersection of digital literacy and business communication can be viewed as a dynamic space where knowledge, power, and media converge to shape contemporary communicative competencies.

However, the limited number of documents explicitly integrating both digital literacy and business communication—only six within a corpus of more than thirteen thousand—reveals a significant research gap. This scarcity suggests that while digital literacy and communication studies have developed in parallel, their conceptual integration remains underexplored. Existing studies tend to approach digital literacy either as a technological or educational construct, or as an auxiliary variable in communication effectiveness, rather than as a core dimension of business interaction. This fragmentation may stem from disciplinary silos, where communication scholars focus on messaging and media effects, while information scientists emphasize digital competence frameworks. Bridging these traditions requires a more holistic model that situates digital literacy as both a cognitive and relational construct influencing professional discourse, organizational identity, and stakeholder engagement. The small corpus identified in Table 1 illustrates how emerging scholarship has begun to bridge this divide. The focus on leadership, professional roles, and digital communication practices suggests a gradual convergence of interests between business communication and digital literacy research. This trajectory resonates with the broader shift toward digital transformation in corporate and institutional settings, where communication professionals must adapt to technologically mediated forms of interaction. Yet, the limited volume of integrated research highlights the need for a stronger theoretical synthesis that captures the mutual constitution of digital skills and communicative competence. Future studies should thus explore how digital literacy functions as a mediating mechanism linking technological capability to communication outcomes, organizational performance, and ethical decision-making.

Moreover, the predominance of studies from high-income countries points to the necessity of contextual diversification. Digital literacy practices in business settings are shaped not only by access to technology but also by cultural norms, linguistic diversity, and institutional infrastructures. For instance, in developing economies, digital literacy may manifest through informal communication channels, mobile-based entrepreneurship, or social media marketing, all of which challenge conventional models of business communication. Incorporating these perspectives would enrich the theoretical landscape and contribute to a more inclusive understanding of how digital literacy operates across socio-economic boundaries. Finally, the observed research trends imply significant practical and policy implications. For organizations, cultivating digital literacy is no longer limited to technical training but extends to fostering adaptive communication cultures that encourage transparency, collaboration, and ethical media use. For educators and policymakers, integrating digital literacy into business curricula and professional development programs is essential to prepare future leaders for digitalized workplaces. From a research standpoint, interdisciplinary collaboration should be strengthened to connect communication theory, management practice, and technological innovation. By doing so, scholars can advance a more comprehensive agenda that recognizes digital literacy as a pivotal component of sustainable business communication in the era of artificial intelligence, hybrid work, and global connectivity.

4. Conclusion

The present study concludes that research on digital literacy within the context of business communication remains conceptually fragmented and geographically concentrated, despite its growing recognition as a fundamental component of organizational competence in the digital era. The findings underscore the need to advance an integrative framework that positions digital literacy not only as a set of technical skills but as a communicative and strategic capability shaping interaction, decision-making, and organizational transformation. Future research should therefore expand beyond Western-centric and technologically advanced contexts to capture diverse cultural,

economic, and institutional realities, employing mixed or longitudinal designs to understand how digital literacy evolves and influences business communication effectiveness over time. Strengthening interdisciplinary collaboration among scholars of communication, management, and information systems will be crucial for developing more comprehensive models that explain how digital literacy fosters innovation, ethical engagement, and sustainable performance in increasingly digitalized work environments.

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