International Journal of Innovative Research and Scientific Studies, 8(7) 2025, pages: 237-251

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

Digital transformation and user experience: A bibliometric analysis of academic research (2014–2024)

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Abstract

This paper explores the articulation between digital transformation and user experience (UX) through a bibliometric and descriptive approach based on the Scopus database. The purpose of the study is to address the fragmented state of research in this area and to provide an integrated overview that clarifies its evolution and main directions. The study relies on a corpus of 236 articles published between 2014 and 2024 in the field of management and business research. Findings highlight a significant growth in publications from 2018 onwards, with an unprecedented peak in 2024. While pioneering journals such as Technological Forecasting and Social Change and Technology in Society remain dominant, the field is progressively diversifying across multiple outlets. Geographically, the United States, China, and the United Kingdom lead academic production, although emerging countries such as Malaysia, India, and Ukraine are increasingly visible. The analysis also reveals persistent fragmentation: collaborations between authors and institutions remain limited, and no central academic figure has yet emerged. Keyword co-occurrence mapping identifies core themes around technological innovation, digital services, sustainability, and inclusivity. The study concludes that research on digital transformation and UX is expanding rapidly, but remains structurally fragmented and lacks unifying scholarly leadership. By offering an integrated view of this evolving field, it contributes to consolidation of digital transformation and UX research while outlining key challenges and opportunities for future investigations. The practical implications lie in guiding researchers toward greater collaboration and thematic integration, while offering practitioners and policymakers insights into how digital transformation can be more effectively aligned with inclusivity and sustainability goals.

Keywords: Bibliometrics, Digital transformation, Interdisciplinarity, Scientific collaboration, User experience, VOSviewer.

DOI: 10.53894/ijirss.v8i7.10431
Funding: This study received no specific financial support.
History: Received: 13 August 2025 / **Revised:** 16 September 2025 / **Accepted:** 18 September 2025 / **Published:** 02 October 2025

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Publisher: Innovative Research Publishing

1. Introduction

Digital transformation is one of the most significant changes in today's economy and society. Far from being limited to the simple adoption of digital technologies, it refers to a profound and systemic process of integrating digital technology into economic models, organizational processes, and social interactions [1]. In this sense, digitalization is redrawing competitive boundaries, imposing new governance paradigms, and establishing a logic of continuous adaptation in the face of rapid technological innovation [2]. It is part of a context of market globalization, accelerating innovation cycles, and growing pressure from stakeholders, who demand greater efficiency, transparency, and sustainability from organizations [3].

Digital transformation cannot therefore be viewed solely from a technical perspective. It also raises human, organizational, and societal issues. For example, the COVID-19 pandemic has been a powerful catalyst for digitalization, demonstrating both the ability of digital technologies to ensure business continuity and the limitations of hasty implementation [4]. In this context, successful digital transformation involves going beyond simple technological implementation to adopt an approach focused on the user experience.

The user experience (UX) is therefore an essential factor. Derived from work in ergonomics and interactive design, UX refers to all the perceptions, emotions, and reactions that an individual experiences when interacting with a digital product or service [5]. It reflects a shift in the focus of researchers and practitioners: it is no longer a question of designing technologies for their own sake, but of placing the end user at the heart of the value created [6]. Numerous studies show that a fluid, inclusive, and intuitive experience promotes adoption, stimulates satisfaction, and strengthens user loyalty, while a poorly designed UX can be a major obstacle to the success of digital initiatives [7].

The relationship between digital transformation and user experience is currently an emerging field of research. However, scientific literature reveals a certain fragmentation: research on digital transformation mainly comes from management and information systems, while research on UX tends to come from interactive design [8]. This disciplinary separation limits the development of an integrated approach, even though the success of digital strategies depends on a harmonious combination of technological performance and human experience.

From this perspective, the question guiding this article can be formulated as follows: to what extent does digital transformation relate to user experience, and how does academic research address this link in recent publications?

To answer this question, we use a bibliometric and descriptive approach based on the Scopus database, which allows us to map publication trends, identify influential authors and institutions, and reveal key emerging themes. The article follows a logical progression: it begins with a literature review that presents existing theoretical contributions and highlights remaining gaps, before detailing the methodology adopted and the criteria used to select the corpus. It then presents the results of the bibliometric analysis, highlighting the evolution of publications, the structure of research networks, and the centrality of keywords, before discussing these results through several lines of interpretation focusing on the growth of the field, the fragmentation of collaborations, the importance of pivotal authors, and the prospects for sustainability and inclusion. Finally, the article concludes with a summary of the main lessons learned, theoretical and practical implications, and avenues for future research.

2. Literature Review

Digital transformation has become an essential field of research and managerial practice, at the crossroads of several disciplines such as strategic management, information systems, design, and social sciences. It is not limited to process automation but involves a profound reconfiguration of business models, organizational practices, and value creation methods. As Bharadwaj, et al. [1] point out, digital strategy is now a direct extension of organizational strategy, integrating technology as a driver of competitiveness and innovation. In the same vein, Vial [2] proposes a systemic definition of digital transformation as a value creation process that mobilizes technology, organization, and individuals. These conceptual approaches are rooted in dynamic capacity theory [9] and resource theory [10] according to which competitive advantage depends on the ability of organizations to mobilize and reconfigure their resources in response to changes in the environment.

However, reducing digital transformation to an organizational perspective would be insufficient. Several studies have shown that its success depends on how it is experienced by individuals. This is where user experience (UX) comes in, a concept derived from ergonomics and interactive design [5]. UX highlights the quality of interactions between humans and

digital systems, emphasizing ease of use, accessibility, and overall satisfaction Garrett [8]. Hassenzahl [6] points out that the perceived value of a technology lies not only in its functionality but also in the experience it provides to the user. These contributions are part of the theoretical framework of Davis [11] which establishes that the adoption of an innovation depends on its perceived ease of use and usefulness. Recent extensions such as Venkatesh, et al. [12] Unified Theory of Acceptance and Use of Technology (UTAUT) enrich this approach by incorporating social and contextual variables.

User experience has become increasingly important in studies on digitalization. Verhoef, et al. [7] emphasize that the value created by digital strategies increasingly depends on user engagement and satisfaction. Jeske and Calvard [13] confirm that the success of digital projects depends directly on the quality of the UX, which acts as a catalyst for adoption and loyalty. This finding is consistent with the observations of Vermeeren, et al. [14] who emphasize the need to evaluate UX using a variety of contextualized methods in order to better understand the actual user experience.

Empirically, several sectors illustrate the convergence between digital transformation and UX. In banking, digital platforms are only successful if they offer a seamless, secure, and personalized experience [15]. In e-commerce, UX is the main driver of customer loyalty and repeat purchases [16]. In public services, it determines the uptake of government platforms and citizen inclusion [17]. These empirical results confirm that digital transformation, without taking into account the user experience, remains incomplete and unsustainable.

However, despite this growing interest, the literature remains fragmented. Research on digital transformation favors macro and strategic approaches [18] while research on UX is more rooted in design and engineering [6, 8]. Few studies manage to articulate these two perspectives in an interdisciplinary manner. In addition, the majority of studies focus on specific contexts such as e-commerce, healthcare, or finance, leaving out essential sectors such as education or SMEs [4].

Finally, this literature review highlights that digital transformation and user experience are two sides of the same coin, but that their interconnection has not yet been sufficiently studied. Theoretical contributions from strategy (dynamic capabilities theory), information systems (models: Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT, UTAUT2)), and experience design (UX, service design, inclusive design) provide a solid foundation for understanding this emerging field. However, the lack of integrated and comparative approaches is a limitation that future research will need to address in order to offer a more holistic and inclusive vision of digital transformation.

3. Methodology

The study is based on a bibliometric and descriptive approach, which has been widely used in recent work in management and management sciences [19]. This method was chosen because of its ability to analyze the evolution of a scientific field, map its intellectual networks, and identify emerging themes. Unlike strictly qualitative or quantitative approaches, bibliometric analysis is based on the objectivity of data from international databases and makes it possible to highlight the dynamics of a field over time, authors, institutions, and key concepts. In this context, several methodological steps were followed to ensure the rigor and reliability of the results.

3.1. Choice of Approach

The first step was to define the general research approach. The bibliometric option was chosen because it allows us to measure the temporal dynamics of publications, explore co-author and co-citation networks, and highlight keyword co-occurrences that reveal structuring themes [20]. This choice is also justified by the desire to go beyond the limitations of traditional systematic reviews, which are often characterized by a restricted selection, in order to offer a comprehensive and systemic view of the field under study.

3.2. Comprehensive and Systemic View of the Field Studied

3.2.1. Data Sources

The Scopus database was chosen as the main source due to its international coverage, the diversity of disciplines represented, and its status as a benchmark in bibliometric analyses [21]. Unlike Google Scholar, which offers very broad but poorly controlled indexing, or Web of Science, which is more selective but less comprehensive in certain emerging fields, Scopus strikes a balance between comprehensiveness, reliability, and scientific rigor.

The search key used was formulated to capture all relevant publications linking digital transformation and user experience:

```
TITRE-ABS-CLÉ ( ("digital transformation" OR "digitalization") AND ("user experience" OR "usability" OR "UX design" OR "interaction design" OR "inclusive design" OR "service design") )
ET PUBYEAR > 2013 ET PUBYEAR < 2025
ET (LIMIT-TO (SUBJAREA, "BUSI"))
ET (LIMIT-TO (DOCTYPE, "ar"))
ET (LIMIT-TO (LANGUAGE, "English"))
ET (LIMIT-TO (PUBSTAGE, "final"))
```

This query identified a corpus of 236 articles published between 2014 and 2024, ensuring temporal and disciplinary representativeness.

3.2.2. Selection Criteria

To ensure rigorous selection, explicit inclusion and exclusion criteria were defined.

Category	Inclusion factors	Exclusion factors	Justification
Period	Articles published between 2014 and 2024	Publications prior to 2014 or after 2024	Capture recent and current developments in the field.
Language	Publications in English	Documents in other languages (French, Spanish, Chinese, etc.)	Ensure consistency and international comparability.
Type of document	Scientific articles published in peer-reviewed journals	Conferences, book chapters, editorials, letters, non-academic documents	Ensuring scientific quality and reliability.
Publication status	Articles in the final stage (published and validated)	Documents “in process” or not approved	Avoid duplicates and unconfirmed texts.
Disciplinary field	Business, Management and Accounting (BUSI)	Other isolated fields (IT, engineering, etc. with no direct link to management)	Maintain thematic and disciplinary coherence.
Thematic relevance	Publications dealing with both digital transformation and user experience	Publications dealing solely with digital transformation or solely with UX	Respond directly to the question asked.

This methodological framework ensures the transparency and reproducibility of the study, two essential conditions for scientific validity [22].

3.2.3. Analysis Tools and Techniques

In this research, two complementary levels of analysis were used to enrich the interpretation of the results. On the one hand, a descriptive analysis provided an overview of scientific output. This step consisted of tracing the evolution of publications over time, observing their distribution across different academic journals, identifying the most prolific authors and countries, and examining the disciplinary distribution of articles. These descriptive indicators provide an initial mapping of the field studied, highlighting its growth, its main contributors, and its disciplinary roots.

In addition, a bibliometric analysis was conducted using VOSviewer software [23]. This tool generated visual representations of scientific networks across three main dimensions: co-authorship relationships, which reveal the dynamics of collaboration between researchers; co-citations, which highlight the theoretical references that structure the field; and keyword co-occurrences, which illustrate central and emerging themes. This approach makes it possible not only to identify the most influential actors and works, but also to understand how research is structured around thematic and conceptual clusters.

Thus, the combination of descriptive analysis and bibliometric analysis ensures both a quantitative and qualitative reading of the corpus, providing a detailed understanding of the evolution and structure of the field of digital transformation and user experience.

4. Bibliometric Analysis of Scientific Output (2014–2024)

Bibliometric analysis is an essential step in understanding not only the evolution of a scientific field, but also the structural logic that determines its dynamics. It allows us to observe, through various indicators, the temporal progression of publications, their dissemination in academic sources, the activity of authors and contributing countries, as well as the disciplinary diversity that underpins the field under study. The results from the Scopus database for the period 2014–2024 highlight a rapidly expanding field, driven by growing engagement from the international academic community.

4.1. Temporal Evolution of Publications

The production curve shows marked growth over the decade studied:

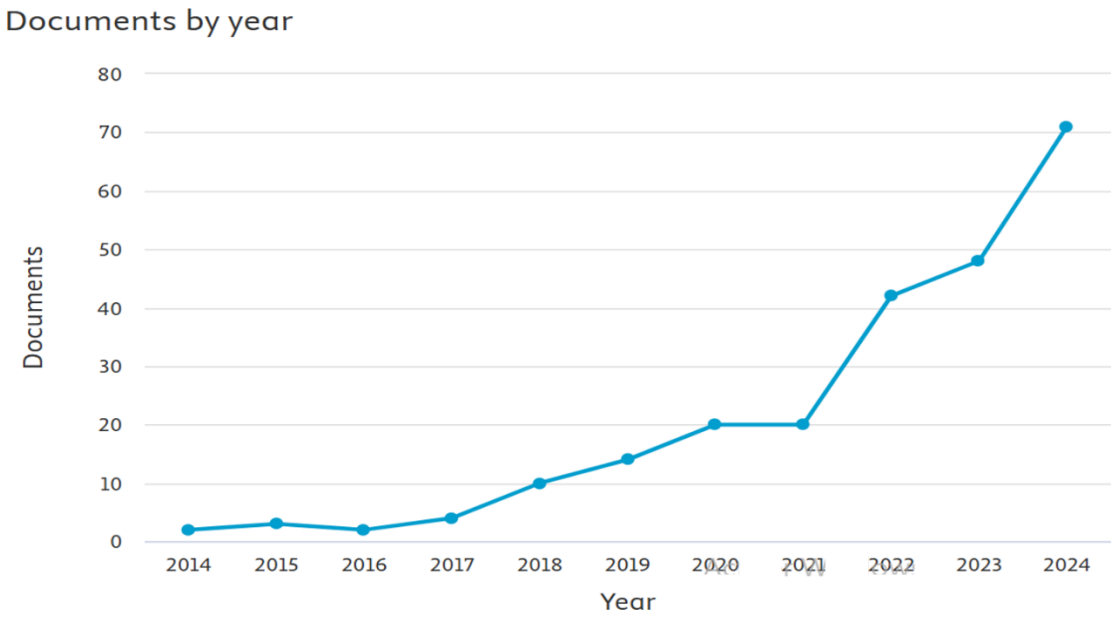

Figure 1.
Annual evolution of the number of documents published (2014–2024).
Source: Scopus, extraction 2025.

Between 2014 and 2017, research remained marginal, producing only a few articles per year. This low volume reflects an exploratory phase in which the subject had not yet gained academic visibility. From 2018 onwards, an initial acceleration appeared, with steady growth reflecting the emergence of a structured scientific community around the topic. The year 2020 marked a first turning point, coinciding with the Covid-19 pandemic, which stimulated reflection on digitalization and its impact on the user experience.

The real breakthrough came in 2022, when production doubled compared to the previous period. In 2024, more than 70 documents were published, an unprecedented number. This momentum illustrates the transition from a still-confidential field to one undergoing rapid scientific consolidation, revealing the growing strategic importance attributed to digital transformation and UX.

4.2. Dissemination by Publication Source

The distribution of publications highlights the growing diversity of academic media.

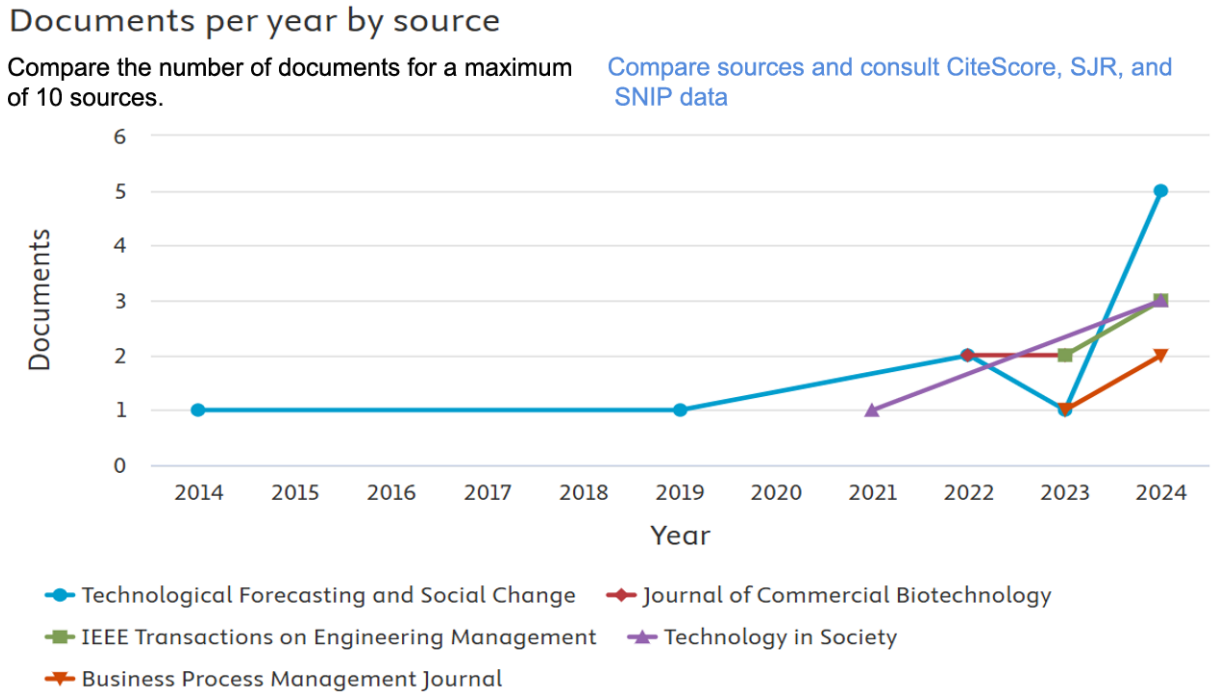

Figure 2.
Annual distribution of documents published by source (2014–2024).
Source: Scopus, extracted in 2025.

The journal Technological Forecasting and Social Change dominates in terms of its regularity and pioneering role, confirming its position as a preferred source of information on the topics of innovation and digitalization. Other journals such as Technology in Society and IEEE Transactions on Engineering Management have recently gained momentum, reflecting interdisciplinary interest.

The fact that production diversified from 2020 onwards indicates a shift from a small core of specialized journals to a broader range of academic channels. This development reflects the gradual legitimization of the field, which is opening up to more varied debates and growing recognition within scientific communities.

4.3. Leading Contributing Authors

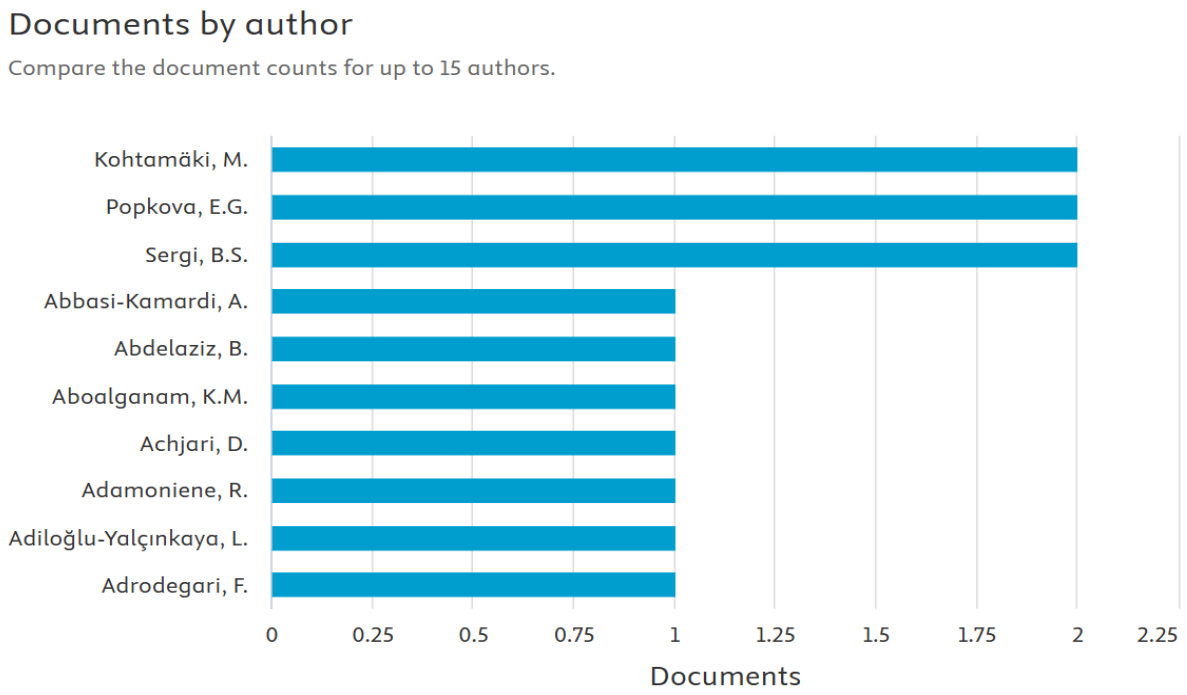

Figure 3.
Leading authors in terms of number of documents published.
Source: Scopus, extraction 2025. Kohtamäki, et al. [24]; Popkova and Sergi [25]; Abbasi Kamardi, et al. [26]; Abdelaziz, et al. [27]; Aboalganam, et al. [28]; Achjari [29]; Achjari [29]; Adiloğlu-Yalçinkaya [30] and Adrodegari and Saccani [31].

The authors' analysis reveals a field that is still fragmented, with no single scientific figure truly dominating. Three researchers—Kohtamäki, Popkova, and Sergi—stand out for their productivity, but with only two publications each, which remains modest compared to other more established disciplines.

The majority of contributions come from individual authors publishing a single article, confirming the emerging and diffuse nature of the field. Far from being a weakness, this dispersion also reflects openness, leaving room for new theoretical perspectives and a plurality of scientific voices that can enrich academic debate.

4.4. Geographical Distribution of Output

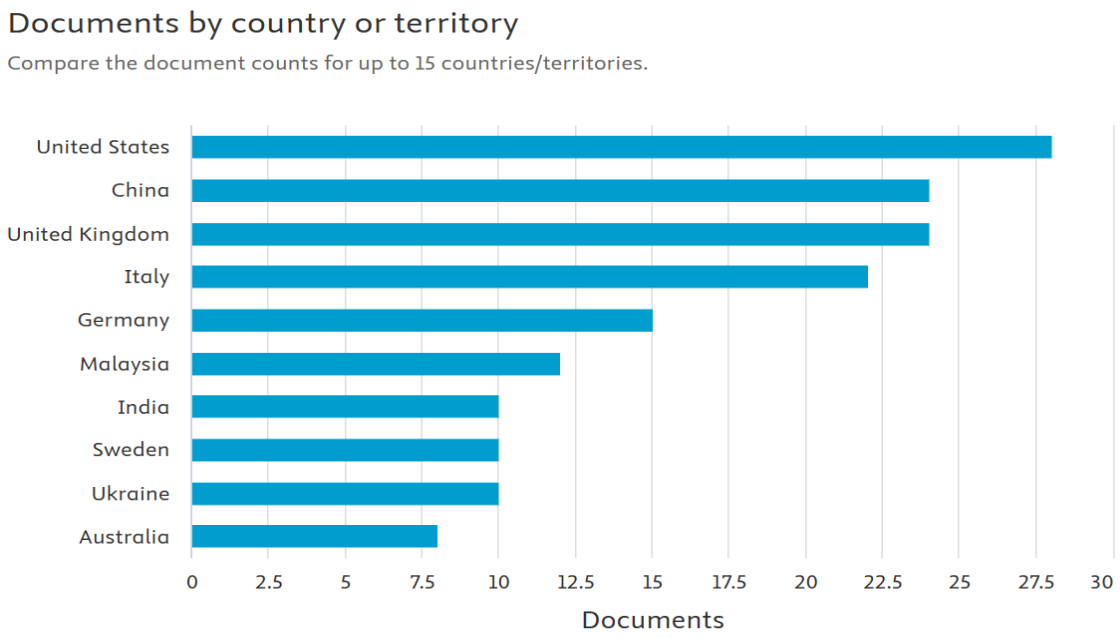

Figure 4.
Distribution of documents by country or territory.
Source: Scopus, extraction 2025.

The geographical map of publications shows a high concentration of contributions in the major academic powers, led by the United States, closely followed by China and the United Kingdom. These results confirm their leading role in international research and their strategic desire to establish themselves in the field of digitization.

However, the presence of emerging countries such as Malaysia, India, and Ukraine shows that the topic also attracts regions seeking to establish a global scientific presence. The gradual geographical diversification is a sign of the field's internationalization, even if transnational collaborations remain limited.

4.5. Distribution of Publications by Discipline

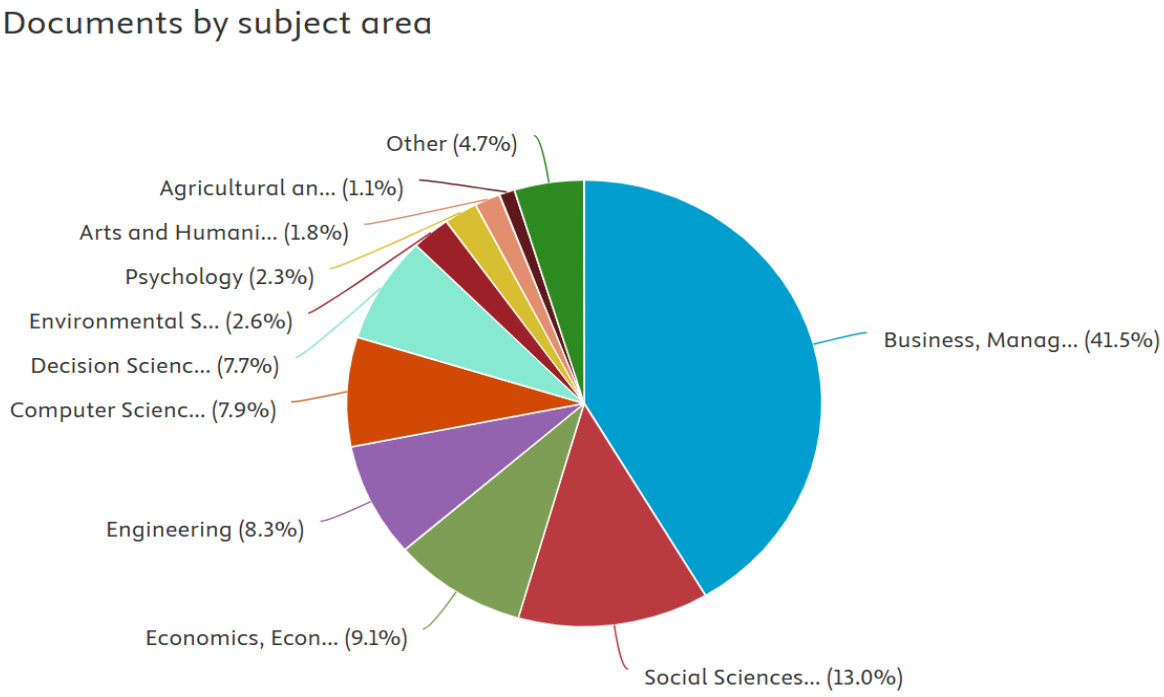

Figure 5.
Distribution of documents by disciplinary field.
Source: Scopus, extraction 2025.

The graph highlights the disciplinary diversity of the publications. There is a strong concentration in the field of Business, Management & Accounting, which accounts for 41.5% of the documents. This shows that the topic studied is primarily approached from a management perspective.

Next come Social Sciences (13%) and Economics (9.1%), confirming the relevance of the socio-economic approach to analyzing this field. Engineering (8.3%), Computer Science (7.9%) and Decision Sciences (7.7%) also occupy an important place, reflecting the technological and analytical dimension of the research.

Other fields (psychology, environmental sciences, arts and humanities, agricultural sciences, etc.) remain marginal, each accounting for less than 3% of publications.

Overall, the distribution highlights a field that is both focused on management and economics, but enriched by interdisciplinary contributions, particularly from engineering, computer science, and decision sciences.

Overall, the results reveal a rapidly expanding scientific field, marked by sustained growth in publications, diversification of sources and disciplines, and gradual internationalization of contributions. This evolution reflects growing interest among researchers and ongoing structuring of the field under study, which is now firmly established as an academic discipline in its own right.

5. Bibliometric Analysis and Scientific Mapping

Beyond descriptive indicators, the analysis of intellectual networks provides a more detailed insight into the structure of the field. The examination of co-authors, institutions, keywords, and bibliometric coupling reveals contrasting dynamics, between dispersion and the emergence of thematic clusters.

5.1. Network of Co-Authors

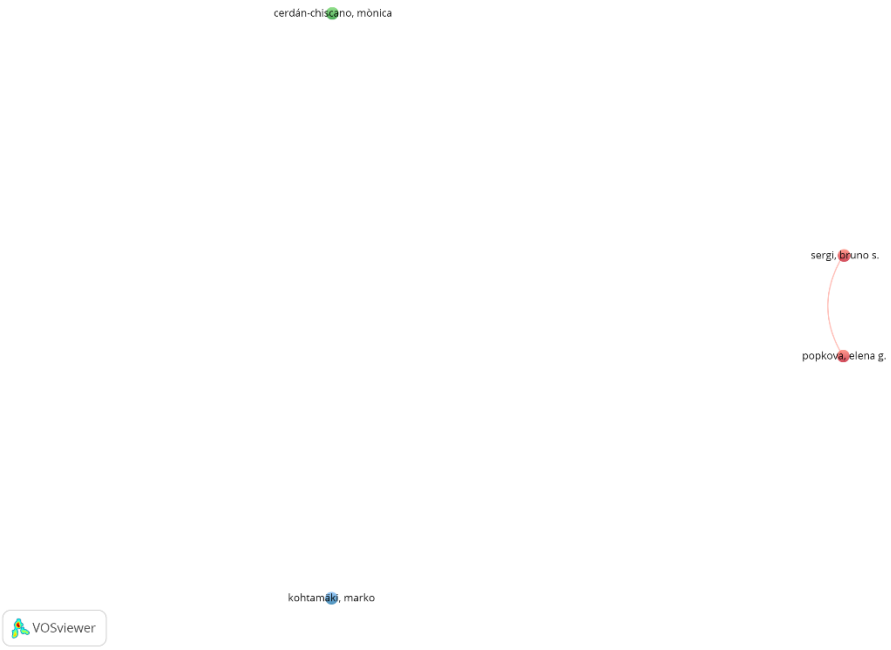

Figure 6.
Network of co-authors.
Source: Bibliometric data comes from the Scopus database and was analyzed using VOSviewer software.

Analysis of the co-author network reveals a relatively fragmented structure. Based on the corpus studied, four authors stand out: [24, 25, 32]. Among them, only Popkova and Sergi have a direct collaborative link, as evidenced by a link strength index of 2. This connection reflects regular scientific cooperation between these two researchers, supported by an identical number of publications (two documents each) and a comparable volume of citations (26 citations).

On the other hand, Cerdán-Chiscano and Darcy [32] appear as isolated nodes in the network, with no co-occurrence of collaboration in the sample. It should be noted, however, that Kohtamäki, although not connected to the other authors, stands out for his significant scientific impact, with 162 citations for only two documents, demonstrating strong academic visibility.

The visualization generated by VOSviewer confirms this dynamic: the graph shows a fragmented network, dominated by a single bilateral relationship (Popkova–Sergi), while the other authors gravitate independently. This configuration reflects a low density of collaboration within the field studied, suggesting that contributions are still driven by individual or small group initiatives, rather than by large interconnected scientific communities.

5.2. Citations of Organisations

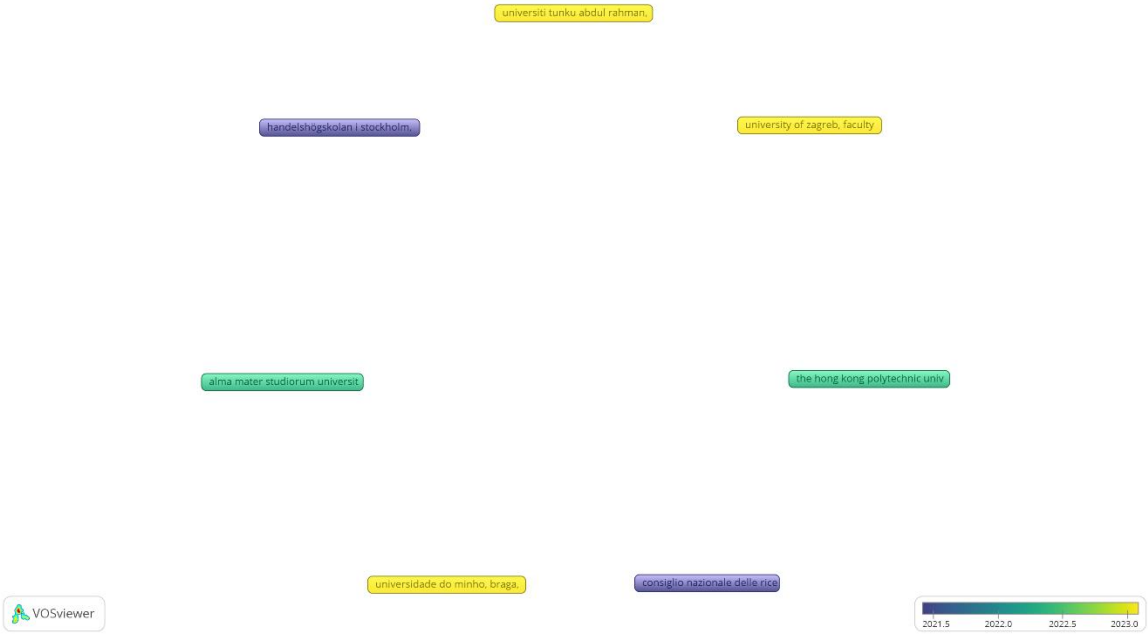

Figure 7.
Citations of organisations.
Source: Bibliometric data comes from the Scopus database and was analyzed using VOSviewer software.

The figure illustrates the distribution of the main institutions that contributed to scientific publications during the period 2015–2023. Several universities appear as prominent players, including Universiti Brunei Darussalam, University of Nigeria Nsukka, Universidade do Minho Braga, and The Hong Kong Polytechnic University.

However, the map also highlights the lack of strong co-publication links between these institutions: each institution is isolated, reflecting a research dynamic that is still fragmented and weak in terms of international collaboration. The timeline legend also shows that contributions are mainly concentrated after 2020, confirming a recent and growing scientific interest in this topic.

5.3. Mapping of Keyword Co-Occurrences

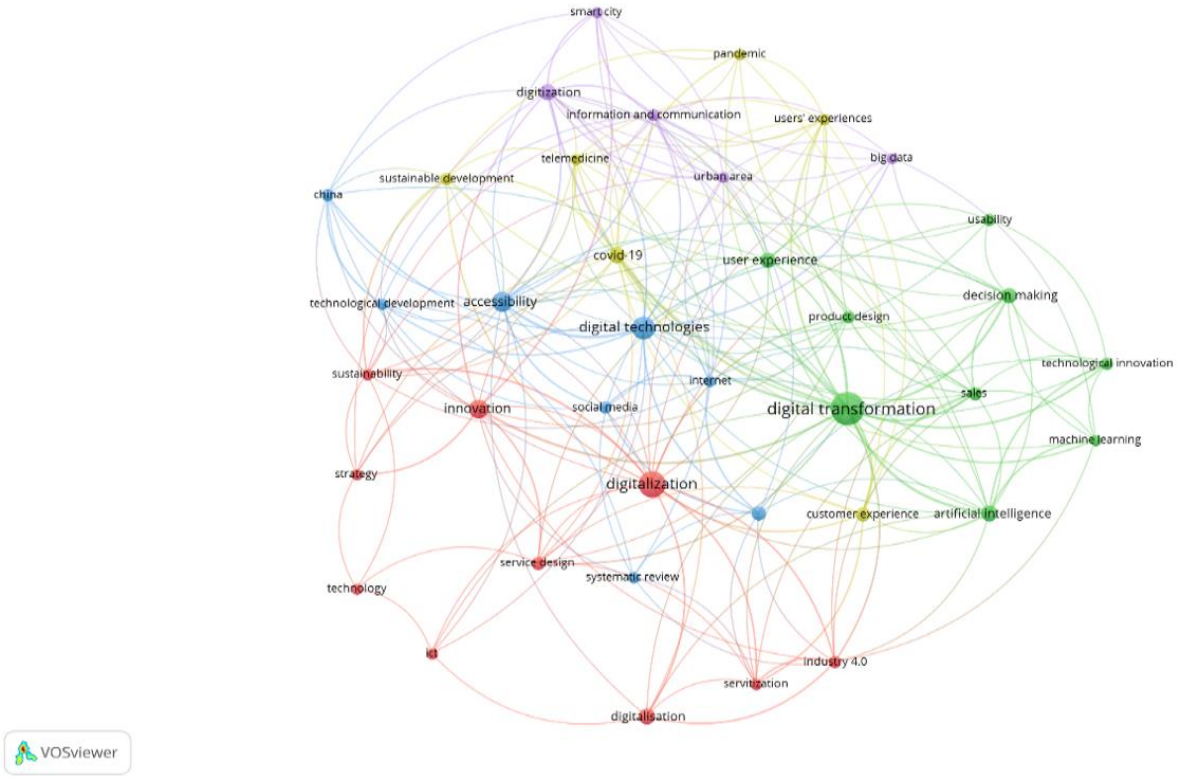

Figure 8.
Mapping of keyword co-occurrences related to digital transformation.
Source: Bibliometric data comes from the Scopus database and was analyzed using VOSviewer software.

The keyword co-occurrence map highlights the main areas of research related to the topic studied. The term "digital transformation" occupies a central position, confirming its role as a pivotal concept structuring the entire scientific field. Around this core, several thematic clusters are distinguished by color:

- In green, an area focused on technological innovation, machine learning, artificial intelligence, and user experience, reflecting a focus on the adoption of digital technologies and their direct impact on organizational practices.
- In red, a group related to digitization, services, and information technology, highlighting the importance of internal processes and organizational change.
- In blue, a cluster associated with sustainable development, smart cities, and emerging technologies, highlighting the interactions between digital transformation and societal issues.
- Finally, in purple, a more cross-cutting cluster linked to knowledge management, communication, and performance, suggesting that digital transformation also influences management and coordination methods.

The figure as a whole therefore reflects a rapidly expanding, multidimensional, and interconnected field of research, where digital transformation is the common foundation linking a variety of topics ranging from technological innovation to societal and organizational challenges.

5.4. Analysis of Bibliometric Coupling

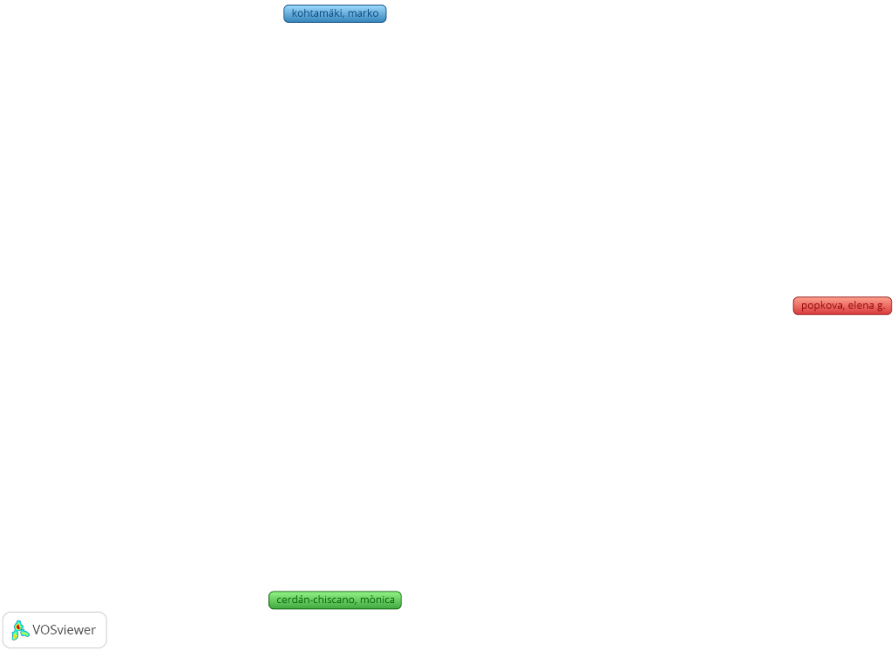

Figure 9.
Analysis of bibliometric coupling among key authors: parallel contributions with little interconnection.
Source: Bibliometric data comes from the Scopus database and was analyzed using VOSviewer software.

Bibliometric coupling analysis highlights a small group of authors who have made a significant contribution to the topic under study. Four researchers stand out in particular: [24, 25, 32].

The table shows that each of them has produced two papers in the field, with highly variable citation levels: while Popkova and Sergi [25] each have 26 citations, and Cerdán-Chiscano and Darcy [32] has 18, Kohtamäki, et al. [24] stands out with 162 citations, reflecting a more significant scientific influence.

However, the graphical visualization reveals a lack of strong bibliometric links between these authors. This means that, even though they share a thematic proximity, their work is based on different bibliographic foundations and does not yet form a structured collaborative network. We therefore observe a certain fragmentation of the literature, where contributions appear parallel rather than interconnected.

In summary, this analysis suggests that while certain authors play a leading role in the dissemination of ideas (notably Kohtamäki through his citation impact), the construction of a coherent field of research remains limited by the lack of bibliographic overlap between researchers.

5.5. Influential Documents and Institutions

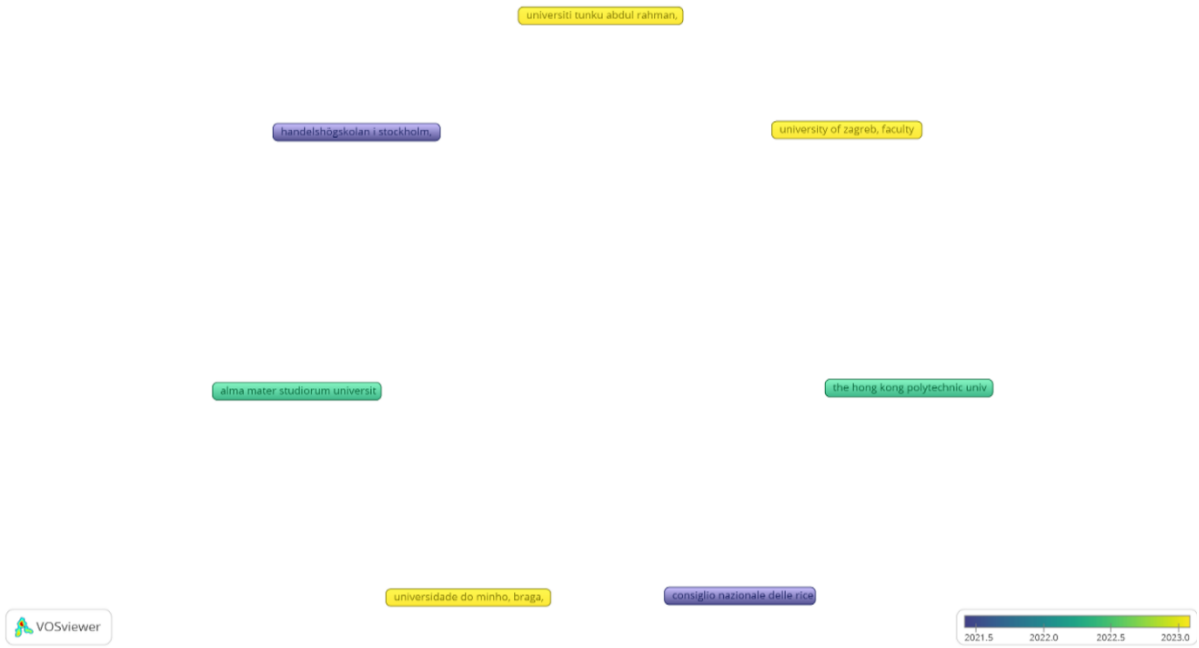

Figure 10.
Influential documents and institutions in the field of digital transformation: between major contributions and weak interinstitutional collaboration.
Source: Bibliometric data comes from the Scopus database and was analyzed using VOSviewer software.

The table of most cited documents shows that certain articles are essential references in the field studied. Among them are :

- Nylén and Holmström [33] with 541 citations, which ranks as the most influential contribution,
- Myovella, et al. [34] (423 citations) and Choi and Yi [35] (248 citations) also occupy a central place in the literature,
- more recent works such as George [36] (204 citations) and Rusch [37] (235 citations), which confirm the topicality and vitality of the field of research.

These figures reflect both the enduring nature of seminal contributions [38] and the emergence of new, recent, and already widely cited works, a sign of a rapidly expanding field.

At the same time, the map of institutions highlights a scientific landscape marked by geographical dispersion and a lack of strong co-publication links. Each university (e.g., Universiti Tunku Abdul Rahman, University of Zagreb, Universidade do Minho, The Hong Kong Polytechnic University) appears in isolation, reflecting a research network that remains fragmented. This suggests that while several institutions are interested in the subject, structured international collaborations remain limited.

6. Discussion of Results

The bibliometric analysis conducted over the period 2014–2024 highlights the rapid evolution of a scientific field that is still under construction but has now been consolidated as a recognized area of research. The results first show a remarkable temporal dynamic: after an exploratory phase between 2014 and 2017, when output remained marginal, the post-2018 period saw a real acceleration, amplified by the Covid-19 pandemic, which reinforced interest in digital transformation and user experience [3]. The year 2024 marks a turning point, with an unprecedented volume of publications, confirming that the subject has become a priority on international scientific agendas. This finding is consistent with the observations of Vial [2] and Verhoef, et al. [7] who emphasize the essential nature of digitalization for understanding contemporary organizational and societal changes.

The publication of research in various journals also confirms this trend toward academic legitimization. While certain sources, such as Technological Forecasting and Social Change, occupy a pioneering and dominant position, other journals such as Technology in Society and IEEE Transactions on Engineering Management have gradually established themselves as important outlets. This diversification illustrates the interdisciplinary nature of the field, which is now welcomed in a variety of areas, ranging from management to engineering and the social sciences. It reflects increased recognition and a broadening of dissemination channels, which is consistent with the observations of Donthu, et al. [19] on the growing maturity of emerging fields.

However, this expansion remains marked by fragmentation in terms of authorship. Analysis reveals that only a few researchers, such as Kohtamäki, et al. [24] and Popkova and Sergi [25] stand out for their repeated publications, but their numbers remain limited. The majority of contributions come from isolated authors, reflecting a field that is still diffuse and not very centralized. This lack of strong scientific leadership limits the development of a unified theoretical framework, but it can also be interpreted as an openness to a plurality of approaches and the entry of new researchers. As Zupic and Čater [39] note, this dispersion is typical of emerging fields, before structuring around consolidated networks takes place.

The geographical dimension also confirms the hegemony of the major academic powers, with the United States, China, and the United Kingdom as the main contributors. However, the gradual emergence of emerging countries, notably Malaysia, India, and Ukraine, suggests growing internationalization, paving the way for richer contextual comparisons. Nevertheless, the results of co-author and institutional analyses reveal that this internationalization remains limited in terms of effective collaboration, with universities appearing as isolated actors. This finding echoes the criticism of Falagas, et al. [21] regarding the tendency for research to remain compartmentalized despite global visibility.

Another key finding concerns disciplinary distribution. While Business, Management, and Accounting dominate with over 40% of publications, other disciplines such as Social Sciences, Economics, Engineering, and Computer Science also make significant contributions. This interdisciplinarity reflects the intrinsic complexity of digital transformation and user experience, which cannot be understood solely from a managerial perspective. It confirms the calls made by Bharadwaj, et al. [1] and Hassenzahl [6] for a link between technological performance, organizational issues, and human dimensions.

Finally, an examination of intellectual networks and bibliometric coupling reveals persistent fragmentation. The main authors identified—Popkova and Sergi [25]; Cerdán-Chiscano and Darcy [32] and Kohtamäki, et al. [24] make significant contributions, but without any real bibliographic convergence. The field still draws on parallel contributions, which hinders the construction of a common paradigm. However, the existence of seminal articles [33] and recent contributions that are already highly cited [36, 37] suggests an ongoing process of consolidation, where the coexistence of heritage and renewal ensures the vitality of research.

Ultimately, this discussion highlights a rapidly expanding scientific field, legitimized by sustained growth and increased international visibility. However, it remains marked by a dispersion of authors and institutions, an interdisciplinarity that is still incomplete, and a lack of a unified theoretical framework. These results underscore the need, in the years to come, to strengthen international and interinstitutional collaborations, deepen interdisciplinary approaches, and work toward establishing a common conceptual foundation. Only then will research on digital transformation and user experience be able to fully establish itself as a consolidated academic field, capable of producing robust and useful knowledge for both the scientific community and practitioners.

7. General Conclusion

This study sought to explore the relationship between digital transformation and user experience (UX) using a bibliometric and descriptive approach based on the Scopus database. This field of research, which has gained ground over the last decade, is now part of a particularly vibrant academic dynamic, mobilizing various disciplines such as management, information science, design, and engineering. Analysis of publications over the period 2014–2024 has highlighted the evolution of scientific output, the emergence of networks of authors and institutions, and the gradual structuring of key themes.

The results show sustained and steady growth in academic output. After a period of low visibility between 2014 and 2017, research accelerated from 2018 onwards, before intensifying significantly in 2020. The Covid-19 crisis acted as a catalyst here, revealing the importance of digitalization for business continuity and placing the user experience at the heart of organizational concerns. The record volume of publications recorded in 2024 confirms the scientific legitimacy of this topic, now considered an essential lever for understanding changes in organizations and society [2, 7].

The analysis also highlights a gradual diversification of scientific dissemination channels. While early research was concentrated in a few pioneering journals, output has gradually expanded to include publications recognized in various academic communities, such as Technology in Society and IEEE Transactions on Engineering Management. This plurality reflects the interdisciplinary openness of the field and its growing integration into a variety of scientific debates, confirming its emerging maturity [19].

However, research remains marked by a dispersion of contributions. A few authors such as Kohtamäki, et al. [24] and Popkova and Sergi [25] occupy a prominent place, but their numbers remain limited, and most of the output comes from isolated authors. This fragmentation may slow down the development of a common theoretical framework, but it also reflects the richness of a field under construction, where the plurality of approaches and contexts of analysis contributes to broadening our understanding of the phenomenon [39].

Geographically speaking, the major academic powers—the United States, China, and the United Kingdom—dominate production, but the rise of emerging countries such as Malaysia, India, and Ukraine attests to a gradual internationalization. This openness contributes to diversifying perspectives, although the lack of strong transnational collaborations still limits the construction of a truly global scientific community. Institutions often appear as isolated hubs, which highlights the importance of strengthening cooperation to overcome compartmentalization.

The disciplinary breakdown confirms the importance of management and economics, but also reveals significant contributions from the social sciences, engineering, and computer science. This interdisciplinarity is essential for understanding the complexity of digital transformation and UX, which cannot be reduced to a technical or organizational interpretation but must be considered as systemic phenomena with human, social, and ethical implications [1, 6].

Finally, an examination of intellectual networks highlights the absence of a unified theoretical paradigm. Leading authors draw on different references, which further limits convergence in the literature. However, the existence of seminal articles [33] and recent works that are already widely cited [36, 37] attests to an ongoing process of consolidation, oscillating between conceptual heritage and renewal. This dynamic is a sign of a field that is still young but particularly vital.

Like any bibliometric research, this study has its limitations. The exclusive use of Scopus, although justified by its reliability and international coverage, may have overlooked certain relevant contributions indexed in other databases such

as Web of Science or Google Scholar [21]. The choice of the 2014–2024 period, focused on the recent emergence of the field, also excludes older works that may have laid important conceptual groundwork. Finally, the results are based on essentially quantitative indicators, which do not reflect the intrinsic quality of the contributions.

These limitations nevertheless open up exciting avenues for research. One possibility is to diversify the databases used in order to obtain a more comprehensive view and avoid the biases associated with relying on a single source. Another promising avenue would be to conduct in-depth longitudinal analyses, making it possible to track the evolution of theoretical frameworks and identify conceptual shifts that have marked the history of the field. The study of international collaboration networks also warrants further exploration, incorporating the geopolitical dimension of funding policies and academic cooperation. Furthermore, exploring sectors that have not yet been studied in depth—such as health, education, and public administration—would help to understand the role of UX in contexts where digital inclusion and equal access to services are crucial. Finally, the integration of ethical and environmental issues is imperative: digital transformation cannot be reduced to a tool for organizational efficiency; it must also be analyzed in terms of its impact on sustainability, social justice, and data protection [36].

Ultimately, this research confirms that digital transformation and user experience now constitute a scientific field in their own right, one that is rapidly expanding but still in need of consolidation. While the growth in output and interdisciplinary openness attest to its vitality, the fragmentation of contributions and the lack of theoretical convergence show that much remains to be done. The challenge in the coming years will be to strengthen international collaboration, consolidate conceptual frameworks, and fully integrate social, ethical, and environmental dimensions. Only then will research on digital transformation and UX be able to offer robust and useful contributions, both for the scientific community and for the actors called upon to lead the digital transition of contemporary organizations and societies.

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