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Digital Transformation in Public Service: Mapping Research Trends, Emerging Themes, and Future Research Directions Through Bibliometric Analysis

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ABSTRACT
Digital transformation has become a strategic priority in public service reform to improve efficiency, transparency, and inclusivity. Despite the rapid growth of research in this field, existing studies remain fragmented, with limited attention to governance challenges, inclusivity, and the broader implications of digital transformation for public sector governance. This study aims to identify research trends, intellectual structures, knowledge gaps, and future research directions in digital transformation within public services. A bibliometric analysis was conducted on 574 Scopus-indexed publications published between 2012 and 2025 using the Bibliometrix package in RStudio. The findings reveal a substantial increase in publications after 2020, reaching a peak in 2024, largely driven by accelerated digital adoption during the COVID-19 pandemic. Keyword co-occurrence analysis identifies digital transformation, public services, e-government, and public administration as dominant research themes, while artificial intelligence, smart cities, blockchain, and sustainability emerge as rapidly growing topics. Geographical analysis indicates significant contributions from Russia, Germany, and Indonesia, reflecting the global relevance of digital transformation across diverse governance contexts. This study contributes by systematically mapping the intellectual landscape of the field, identifying underexplored governance and inclusivity issues, and proposing future research directions that integrate advanced digital technologies with sustainability and citizen-centered public service governance.

Keywords: Digital Transformation, Public Service, E-Government, Bibliometric Analysis.

I. Introduction

The 21st century has witnessed an unprecedented acceleration of digital technologies that fundamentally reshape the landscape of public service delivery worldwide (Baimenov & Liverakos, 2019). Digital transformation has evolved based on the premise that utilizing digital platforms for various public

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service activities and processes can lead to improved service quality, effectiveness, and efficiency (Mergel et al., 2019). This transformation encompasses the integration of artificial intelligence, blockchain technology, smart city initiatives, and e-government systems, all aimed at creating more responsive, transparent, and citizen-centric public administration (Zhang & Li, 2025). The global imperative for modernizing public services has intensified, particularly following the COVID-19 pandemic, which served as a catalyst for accelerated digitalization across governmental sectors worldwide (Amankwah-amoah et al., 2021). Beyond administrative modernization, digital transformation is increasingly viewed as a strategic instrument for promoting sustainable development, social inclusion, and economic resilience. Digital technologies enable governments to improve decision-making processes, optimize resource allocation, and deliver services more efficiently while supporting broader sustainability goals. Digital transformation is not merely a technological process but also a strategic organizational change that creates value through the integration of digital technologies into governance and service delivery systems (Vial, 2019). Furthermore, the United Nations (2024) emphasizes that digital government plays a crucial role in accelerating sustainable development by enhancing accessibility, responsiveness, and citizen participation in public services.

However, a significant discrepancy exists between the idealized vision of seamless digital transformation in public services (das sollen) and the complex empirical reality (das sein) faced by public administrators globally. While the theoretical framework envisions comprehensive digital integration leading to enhanced efficiency, transparency, and citizen satisfaction, the practical implementation reveals substantial challenges, including digital divide issues, resistance to change, inadequate infrastructure, and governance complexities (Lněnička & Máchová, 2022). The rapid use of digital technology in the public sector may marginalize groups without access to or familiarity with digital platforms, creating a digital divide and worsening inequities by leaving people behind (Latupeirissa et al., 2024). This gap between expectation and reality necessitates a systematic examination of how digital transformation unfolds across different geographical contexts and administrative systems. In the Indonesian context, digital transformation has been accelerated through the implementation of the Electronic-Based Government System (SPBE), smart city initiatives, and integrated digital public service platforms. Although these initiatives have improved efficiency and accessibility, several challenges remain, including unequal ICT infrastructure, disparities in digital literacy, fragmented digital systems, and institutional readiness across regions. Research by Hafel (2023) highlights that governance capacity and institutional adaptation remain major challenges in Indonesia's digital transformation process. Similarly, Sundari & Sartika (2025) found that successful implementation of SPBE requires stronger interoperability, leadership commitment, and organizational readiness to improve public service quality.

Despite the growing body of literature on digital transformation in public service, several critical research gaps persist that limit our comprehensive understanding of this phenomenon. Existing studies predominantly focus on technological aspects while neglecting the socio-economic impacts and governance challenges across diverse cultural and institutional contexts (Helbing et al., 2011). Digital transformation has become a buzzword that is permeating multiple fields, including public administration and management. However, it is unclear what is transformational and how incremental changes contribute to meaningful organizational change (Haug et al., 2024). Recent scholarship has increasingly emphasized that digital transformation extends beyond technological adoption and involves profound changes in governance structures, organizational processes, and public value creation. Nevertheless, the literature remains fragmented across different disciplines, often examining specific technologies or organizational contexts in isolation. Consequently, there is still limited understanding of how different streams of digital transformation research collectively contribute to sustainable governance, institutional resilience, and long-term public sector innovation (Trip et al., 2025). Moreover, the socio-economic consequences of digital transformation remain underexplored within public service research. While digital technologies can improve service accessibility and efficiency, they may simultaneously reinforce existing inequalities among citizens with different levels of digital access, digital literacy, and socio-economic resources. This phenomenon extends beyond the traditional notion of the digital divide and raises concerns regarding digital justice, particularly in

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developing countries where technological benefits are often unevenly distributed (Heeks, 2022). Furthermore, limited attention has been given to the sustainability dimensions of digital transformation, particularly how emerging technologies can contribute to long-term development goals while maintaining social equity and environmental responsibility. The fragmented nature of current research lacks a systematic synthesis that could guide evidence-based policy-making and implementation strategies.

This study addresses these research voids through a comprehensive bibliometric analysis that maps the intellectual structure and emerging trends in digital transformation research within public service contexts. The novelty of this research lies in its systematic integration of technological advancement with governance theory, sustainability considerations, and cross-national comparative perspectives. By analyzing 574 publications from the Scopus database spanning 2012-2025, this study contributes to the existing knowledge base by: (1) providing the first comprehensive bibliometric mapping of digital transformation in public service research; (2) identifying key geographical and disciplinary contributions that shape the field; (3) revealing emerging research themes that connect artificial intelligence, blockchain, and smart city initiatives with public administration; and (4) establishing a future research agenda that bridges technological innovation with sustainable governance practices.

The main argument of this study posits that digital transformation in public service has evolved from a primarily technological concern to a multidisciplinary field that encompasses computer science, social sciences, economics, and sustainability studies. Organizations show varying degrees of digital transformation, depending on their pre-COVID characteristics and responsibilities, yet the acceleration during the pandemic period has fundamentally altered the trajectory of public service digitalization (Fischer et al., 2023). This transformation is not merely about adopting new technologies but represents a strategic instrument for building modern, inclusive, and accountable governance systems that can respond effectively to contemporary societal challenges. The purpose of this article is threefold: first, to systematically map the knowledge landscape of digital transformation in public service through bibliometric analysis, identifying key publication trends, geographical contributions, and disciplinary perspectives; second, to examine the evolution of research themes and emerging topics that define the current and future directions of the field; and third, to establish a comprehensive research agenda that addresses identified gaps while proposing pathways for integrating advanced technologies with sustainable public service delivery. Through this systematic approach, the study aims to provide scholars, policymakers, and practitioners with evidence-based insights that can inform future research directions and practical implementation strategies in the digital transformation of public services.

II. Literature Review and Hypothesis Development

Digital transformation has become a central concept in contemporary public administration, reflecting the integration of digital technologies into government operations, service delivery, and governance processes. Unlike traditional e-government initiatives that primarily focus on digitizing existing administrative procedures, digital transformation represents a broader institutional change involving organizational structures, decision-making processes, and interactions between governments and citizens (Filgueiras et al., 2019). In this context, digital transformation is not merely the adoption of technological tools but a strategic effort to create more responsive, transparent, and citizen-centered public services. The growing importance of digital transformation is closely associated with advances in technologies such as e-government platforms, big data analytics, artificial intelligence (AI), cloud computing, and digital service ecosystems. These technologies enable governments to improve service efficiency, accelerate administrative processes, and enhance transparency in public service delivery (Gantika, 2025). Similarly, Gaie & Mehta (2024) argue that digital transformation optimizes service provision, improves the performance of civil servants, and increases the overall effectiveness of government operations through the strategic utilization of information and communication technologies.

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Recent studies demonstrate that digital transformation has generated significant benefits for both governments and citizens. Digital platforms facilitate easier access to public services, reduce administrative burdens, and support evidence-based policymaking through data-driven approaches. Wang & Ma (2022) found that digital interfaces not only simplify citizen participation in service evaluations but also contribute to higher levels of citizen satisfaction compared to conventional service channels. Likewise, Syaifuddin (2025) highlights that digital technologies, including web-based applications and social media platforms, can strengthen government–citizen interactions, improve transparency, and enhance public trust in government institutions. Despite these opportunities, the implementation of digital transformation in public service remains challenging. Studies indicate that barriers such as inadequate digital infrastructure, low levels of digital literacy, organizational resistance to change, and limited technological readiness continue to hinder successful implementation (Gkrimpizi et al., 2023). Furthermore, digital transformation raises broader governance concerns related to privacy protection, cybersecurity, accountability, and ethical decision-making. Osborne et al., (2022) emphasize that while digital technologies and AI can improve service accessibility and efficiency, they may also create risks associated with algorithmic decision-making, unequal access to services, and the exclusion of vulnerable populations lacking digital capabilities.

The COVID-19 pandemic further accelerated digital transformation across public sectors worldwide, reinforcing its role as a critical component of governance modernization. According to Sahin (2023), the pandemic intensified the digitalization of public services and demonstrated the strategic importance of digital technologies in maintaining service continuity during periods of disruption. Nevertheless, the long-term success of digital transformation depends not only on technological innovation but also on governments' ability to address issues of inclusivity, digital inequality, organizational adaptation, and sustainable governance. Consequently, digital transformation should be understood as a multidimensional process that integrates technological advancement with institutional reform and public value creation.

III. Research Method

This study employs a bibliometric approach using Scopus as the primary database. Bibliometric analysis has rapidly developed into an important tool across research fields, as it enables both qualitative and quantitative evaluations of contributions, structures, relationships, patterns, and trends within scientific disciplines (Perdana, 2025). The research procedure followed the framework proposed by Öztürk et al., (2024), which consists of four main stages: (1) defining the research objective, (2) collecting relevant literature data, (3) conducting analysis and visualization, and (4) interpreting the findings and results. A bibliometric design was selected because it enables a systematic mapping of the intellectual structure, research trends, influential contributors, and emerging themes within a specific field, making it particularly suitable for addressing the research question concerning trends, gaps, and future directions in digital transformation research.

Data collection was conducted using the Scopus database due to its extensive coverage of peer-reviewed international publications and its widespread use in bibliometric studies. The search strategy employed the query TITLE-ABS-KEY ("Digital Transformation") AND TITLE-ABS-KEY ("Public Service"), ensuring that only documents explicitly addressing digital transformation in the context of public services were retrieved. The initial search yielded 822 documents. To improve dataset relevance and consistency, a filtering process was subsequently applied. First, document types were limited to journal articles (ar), conference proceedings (cp), and book chapters (ch), reducing the dataset to 759 documents. Second, only English-language publications were included to ensure consistency in data analysis and interpretation. Following this filtering process, a final dataset of 574 documents published between 2012 and 2025 was retained for analysis.

The inclusion criteria comprised: (1) publications related to digital transformation within public service contexts, (2) journal articles, conference proceedings, and book chapters, (3) English-language publications, and (4) documents indexed in Scopus. Documents were excluded if they were editorials, notes, letters, errata, non-English publications, duplicate records, or studies unrelated to public services despite

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containing the selected keywords. Titles, abstracts, and keywords were reviewed during the screening process to ensure thematic relevance and reduce the inclusion of irrelevant records.

The dataset was then analyzed using the Bibliometrix package in R. Bibliometrix was selected because it provides comprehensive tools for performance analysis, science mapping, network analysis, and thematic exploration within a reproducible computational environment (Aria & Cuccurullo, 2017). Prior to analysis, a data-cleaning process was conducted to improve metadata consistency. This process involved checking duplicate records, standardizing author names and institutional affiliations, and harmonizing keywords to minimize inconsistencies resulting from spelling variations, abbreviations, and synonymous terms. These procedures were undertaken to reduce data collection errors and improve the reliability of the analytical results.

The analysis involved a data cleaning process to ensure metadata consistency, followed by descriptive analyses to map publication trends, major sources, contributing countries, and influential authors. Network analyses were subsequently performed using co-occurrence, co-authorship, and co-citation techniques to identify conceptual linkages, research collaborations, and citation influences. The results were visualized through network maps, density maps, and overlay maps, providing a comprehensive overview of the structure, dynamics, and future directions of research on digital transformation in public services. The final stage involved interpreting the bibliometric findings to identify dominant research themes, emerging topics, influential contributors, and potential research gaps. Particular attention was given to issues related to governance, sustainability, digital inclusion, and technological innovation in public service delivery. To enhance research transparency and reproducibility, the search query, filtering procedures, inclusion criteria, and analytical workflow are explicitly documented, enabling future researchers to replicate the study using the same dataset and methodological procedures.

IV. Result and Discussion

4.1. Research Trends in Digital Transformation on Public Service

The graph of annual scientific production generated from the SLR analysis using R Studio shows the growth of publications on the topic of "Digital Transformation in Public Service" over time. Between 2012 and 2017, the number of published articles was very low and remained stagnant. Starting in 2018, publications began to increase, though slowly at first. A significant upward trend appeared after 2020. From that year onward, the number of articles rose steadily. The sharpest growth occurred between 2021 and 2023, likely driven by the accelerated adoption of digital technologies across sectors, including public services, as a response to the limitations of conventional services during the COVID-19 pandemic (Bendary & Rajadurai, 2024). This period sparked many studies focused on the role of digital technology in ensuring service continuity (Kamulegeya et al., 2020). The peak of scientific output was in 2024, with more than 120 articles published, marking a sharp jump compared to earlier years. In 2025, the volume of publications slightly decreased but remained stable at a much higher level than the 2012–2019 period. This trend reflects strong and sustained research interest in digital transformation in public service, influenced by the growing complexity of societal needs and global dynamics in technology and governance (Millard, 2023).

This finding is consistent with previous studies that reported a significant increase in digital government and public sector innovation research following the COVID-19 pandemic, reflecting the growing importance of digital technologies in ensuring service continuity and organizational resilience (Agostino et al., 2021). The observed publication growth also supports broader evidence that digital transformation has become a central pillar of contemporary public administration reform across both developed and developing countries.

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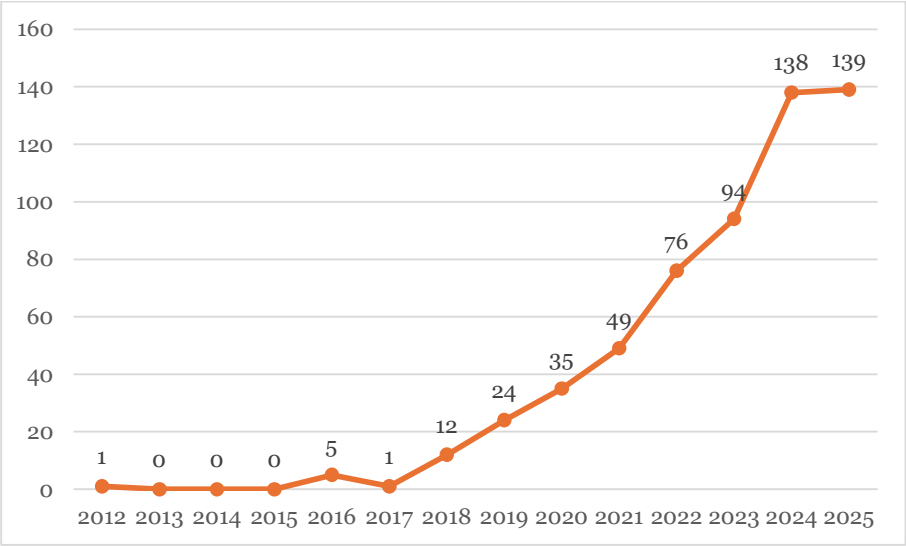

Figure 1. Research Trends in Digital Transformation of Public Service
Source: Database Scopus, (2025)

4.2. Leading Authors, Countries, and Institutional Affiliations

The analysis of author productivity in the field of Digital Transformation in Public Service reveals several prominent contributors. Ha, Lethanh emerges as the most productive author with 13 documents, far exceeding others. Figueiredo, Rejane Maria da Costa, and Mergel, Ines A. follow with 6 documents each, while Canedo, Edna Dias contributed 5 documents. Meanwhile, Bharosa, Nitesh, Dwivedi, Yogesh K., Edelmann, Noella, Meyerhoff Nielsen, Morten Meyerhoff, and Pedrosa, Glauco V. each produced 4 documents, and Balta, Dian contributed 3 documents. These findings suggest that although research in this area is widely distributed, a few key authors serve as central drivers of publication output.

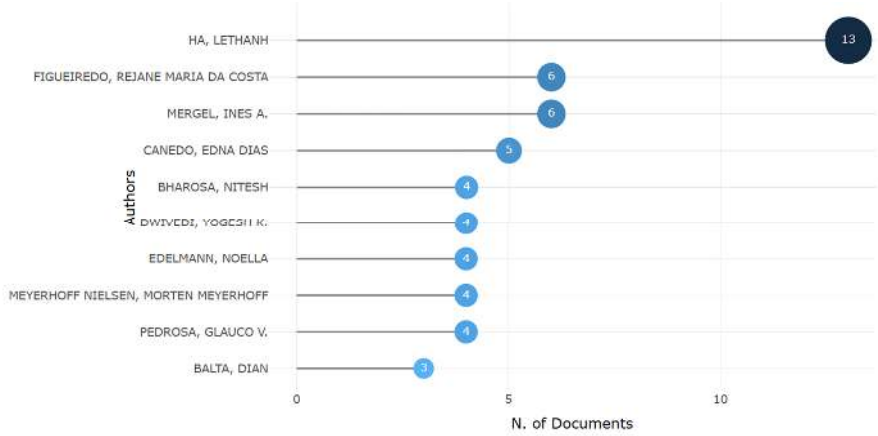

Figure 2. Leading Authors in Digital Transformation of Public Service
Source: Scopus Database, (2025)

The country-level analysis highlights the leading contributors to research on Digital Transformation in Public Service. The Russian Federation ranks first with 44 publications, followed by Germany with 39 and Indonesia with 38. China and Brazil also demonstrate strong research activity with 37 and 35 publications, respectively. Meanwhile, the United Kingdom (24), India (23), Italy (22), and Ukraine (22) contribute a significant but comparatively smaller share. This distribution indicates that research output in this field is

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geographically diverse, with both developed and emerging economies actively engaged in advancing the scholarly discussion on digital transformation in public services.

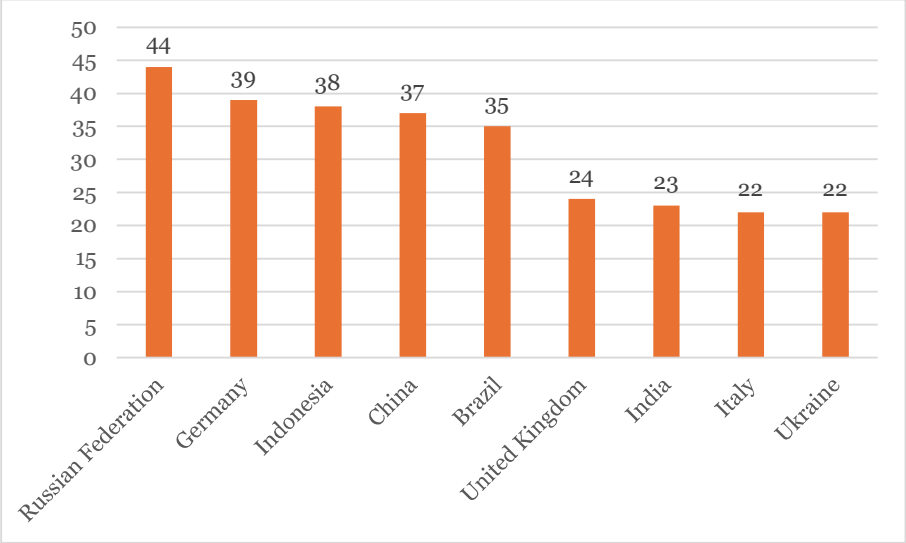

Figure 3. Leading Countries in Digital Transformation of Public Service
Source: Database Scopus, (2025)

The institutional analysis reveals several universities as leading contributors to research on Digital Transformation in Public Service. Universidade de Brasília emerges at the top with 11 publications, followed by National Economics University Hanoi with 9. Both the University for Continuing Education Krems and Peter the Great St. Petersburg Polytechnic University contributed 8 publications each. Delft University of Technology and Tallinna Tehnikaülikool recorded 7 publications each, while National Economics University and Mohammed V University in Rabat both produced 6 publications. These findings highlight the diverse institutional engagement across different regions, reflecting the global relevance of digital transformation in public service research.

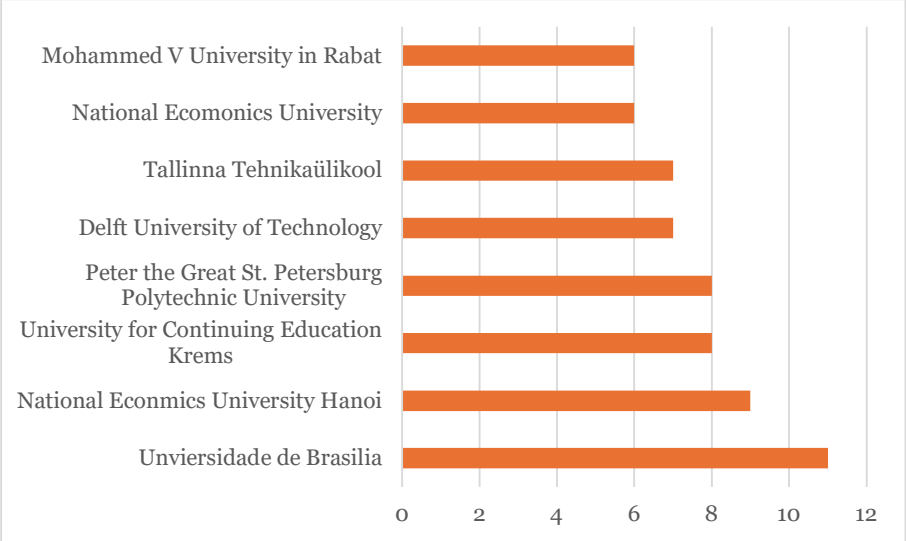

Figure 4. Leading Affiliations in Digital Transformation of Public Service
Source: Scopus Database, (2025)

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4.3. Most Cited Documents in the Field

The analysis of the most cited documents in the field of Digital Transformation in Public Service highlights several highly influential works. The most prominent is Mergel et al. (2019), Defining digital transformation: Results from expert interviews, which received 976 citations, establishing it as a cornerstone in this research area. Following this, Gong et al. (2020) with Towards a comprehensive understanding of digital transformation in government have 207 citations, while Pittaway & Montazemi (2020) on digital leadership in local governments received 169 citations. The role of COVID-19 as an accelerator is captured by Agostino et al. (2020) with 167 citations. Other influential contributions include Alvarenga et al. (2020) on knowledge management (152 citations), Castro & Lopes (2022) on sustainable development (140 citations), and Scupola & Mergel (2022) on co-production and public value (136 citations). Additionally, works by Ha et al. (2022) link digitalization to environmental performance and energy security, receiving 131 and 111 citations, respectively. Finally, Kwilinski et al. (2023) explore the relationship between digital transformation and ESG performance with 94 citations. Collectively, these studies represent the intellectual backbone of the field, shaping both theoretical and practical understandings of digital transformation in public services. The prominence of these publications confirms the findings of previous bibliometric studies that identify digital governance, organizational transformation, and public value creation as the dominant intellectual foundations of digital transformation research. The high citation impact of studies by Mergel et al., (2019) and Gong et al., (2020) further demonstrates the continued relevance of governance-oriented perspectives in understanding digital transformation beyond purely technological dimensions.

Table 1. Most Cited Documents in the Field

Author	Title	Citation
Mergel et al., (2019	Defining digital transformation: Results from expert interviews	976
Gong et al., (2020)	Towards a comprehensive understanding of digital transformation in government: Analysis of flexibility and enterprise architecture	207
Pittaway & Montazemi, (2020)	Know-how to lead digital transformation: The case of local governments	169
Agostino et al.,(2021)	New development: COVID-19 as an accelerator of digital transformation in public service delivery	167
Alvarenga et al., (2020)	Digital Transformation and Knowledge Management in the Public Sector	152
Castro & Lopes, (2021)	Digital Government and Sustainable Development	140
Scupola & Mergel, (2022)	Co-production in digital transformation of public administration and public value creation: The case of Denmark	136
Ha et al., (2022)	Is digitalization a driver to enhance environmental performance? An empirical investigation of European countries	131
Ha, (2022)	Are digital business and digital public services a driver for better energy security? Evidence from a European sample	111
Kwilinski et al., (2023)	Unlocking Sustainable Value through Digital Transformation: An Examination of ESG Performance	94

Source: Database Scopus, (2025)

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4.4. Co-occurrence and Density Network Analysis

The first figure presents a network visualization in which "digital transformation" appears as the central hub (the largest node) connected to a wide range of other topics. The red cluster represents stronger connections to technological aspects such as digital platforms, information systems, artificial intelligence, big data, the service industry, and e-government. In contrast, the blue cluster reflects issues more closely related to policy and social contexts, including local government, smart city, public service, sustainability, the European Union, and digital public services. The connecting lines between nodes illustrate the intensity of research linkages among these keywords.

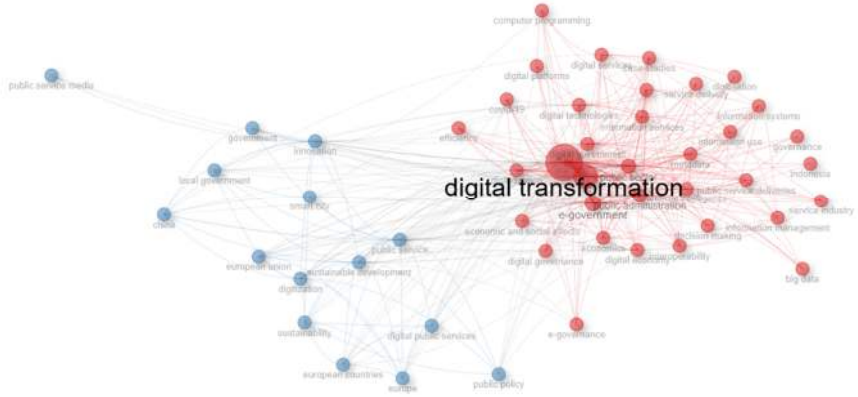

Figure 5. Co-occurrence Network Analysis in Digital Transformation of Public Service
Source: Scopus Database, processed using R Studio bibliometrix package (2025)

The second figure uses a density visualization to display the concentration of research around specific keywords. Darker or denser areas indicate a higher frequency of occurrence and stronger associations with the main keyword. "Digital transformation" remains the most concentrated focal point, followed by closely connected concepts such as digital government, public administration, e-government, digital economy, and information systems. By contrast, more peripheral areas such as public service media, China, or the European Union appear less frequently, as indicated by their lighter shading.

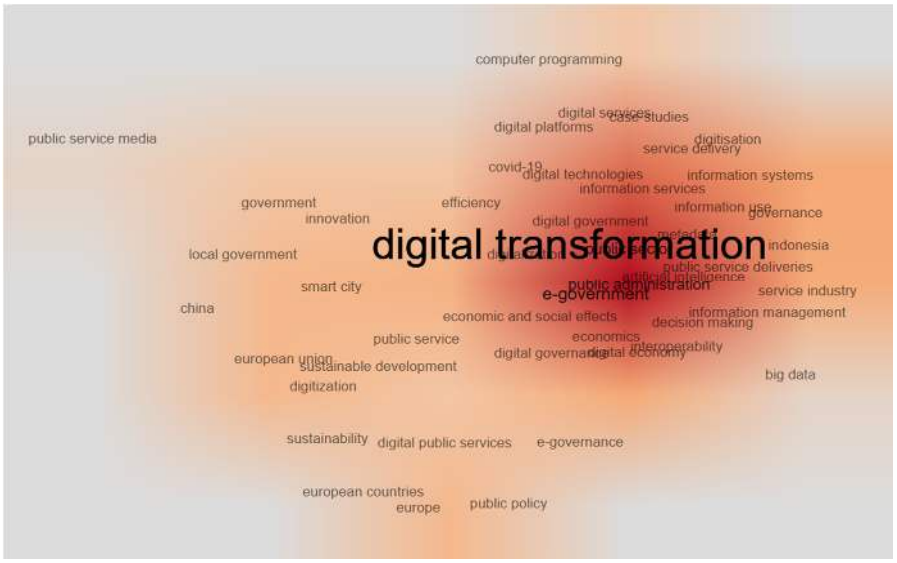

Figure 6. Density Analysis in Digital Transformation of Public Service
Source: Scopus Database, processed using R Studio bibliometrix package (2025)

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Taken together, the two visualizations show that research on digital transformation is divided into two main orientations: first, a focus on technology and digital system management; and second, a focus on public governance, policy, and social dimensions. Both orientations complement each other in explaining the role of digital transformation in government and public service delivery. Nevertheless, the network structure also reveals relatively limited attention to themes associated with digital inclusion, digital inequality, and ethical governance. Keywords related to algorithmic accountability, privacy protection, digital justice, and vulnerable populations appear less prominently within the network, suggesting that these issues remain underexplored despite their growing relevance in contemporary digital governance debates.

4.5. Word Cloud and Trend Topic in Digital Transformation of Public Service

In the WordCloud image, the most prominent term is "digital transformation." This indicates that the primary focus of research in this field is closely related to the digital transformation process in public service delivery. Additionally, the appearance of keywords like "public services," "e-government," and "public sector" strengthens the evidence that the research topic not only highlights technology but also its direct application in improving the quality of services to the public. Furthermore, keywords such as "public administration," "digital government," "artificial intelligence," and "smart city" show a strong connection between digital transformation, modern governance, and the use of smart technologies in supporting services. Meanwhile, terms like "sustainable development" and "decision making" suggest that the research orientation is not only focused on technological efficiency but also on achieving sustainable development and improving decision-making through data-driven approaches. In conclusion, the WordCloud reflects a consistent research focus on integrating digital technology into the public sector, with the primary goal of enhancing the effectiveness, efficiency, and quality of government services.

Figure 7. Word Cloud in Digital Transformation of Public Service
Source: Scopus Database, processed using R Studio bibliometrix package (2025)

Results of the bibliometric trend analysis indicate that research development between 2018 and 2025 has produced several relevant trend topics. Topics such as digital transformation, public services, and the public sector appeared consistently with high intensity during the 2021–2023 period. This indicates that the main research focus in this field is directed toward digital transformation processes in the public sector, particularly in delivering public services and modern governance. In addition, topics such as e-government, artificial intelligence, and digital technologies have become more prominent in recent years. This means that research development is not limited to digital transformation in general, but also involves the use of smart and innovative technologies to improve the efficiency, quality, and accountability of public services. The emergence of terms such as smart city and blockchain in more recent periods shows a diversification of research directions. This suggests that beyond focusing on public service and government administration, research has begun to integrate advanced technologies to support smart city development and service systems that are more transparent, secure, and sustainable. Thus, the results of this bibliometric trend

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highlight a major theme on the role of digital transformation and smart technologies in the public sector, suggesting that future research will place greater emphasis on integrating digital technologies as strategic instruments in building modern governance. Although artificial intelligence, blockchain, and smart city technologies are emerging as important research themes, the rapid adoption of these technologies also introduces governance challenges. Artificial intelligence applications in public services raise concerns regarding algorithmic bias, transparency, accountability, and privacy protection, while unequal access to digital infrastructure and digital literacy may reinforce existing socio-economic disparities. Consequently, future research should pay greater attention to inclusivity and ethical governance to ensure that digital transformation benefits all segments of society.

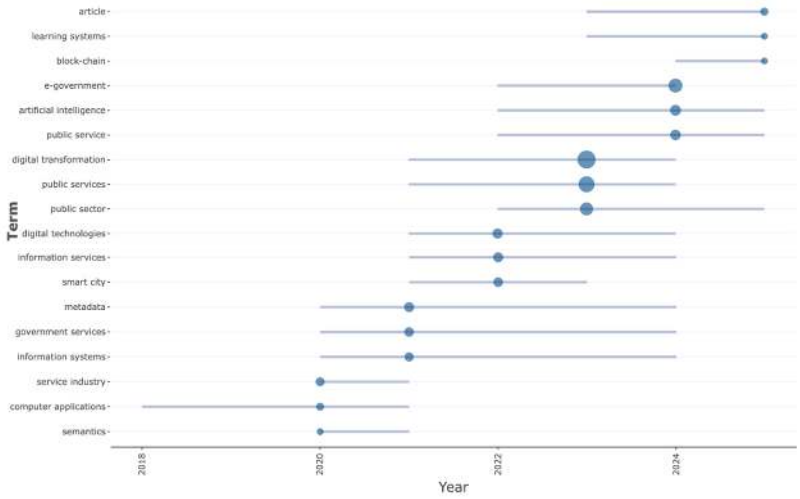

Figure 8. Trend Topic in Digital Transformation of Public Service
Source: Scopus Database, processed using R Studio bibliometrix package (2025)

Beyond these descriptive findings, the results provide a clearer answer to the research question: "What research trends, gaps, and directions characterize digital transformation in public service?" First, the trends show a consistent rise in studies after 2020, with particular emphasis on artificial intelligence, e-government, and smart city initiatives. This suggests that research is shifting beyond efficiency concerns to more strategic and citizen-centered digital governance. Second, the gaps remain visible in at least two dimensions. Methodologically, most studies rely on conceptual or descriptive approaches, while empirical case studies and cross-country comparisons are still limited. Substantively, issues such as inclusivity, digital inequality, and ethical concerns around AI adoption are underexplored, especially in developing country contexts. Finally, the direction of future research appears to be shaped by sustainability, blockchain-based governance, and the integration of advanced technologies for accountability and transparency. This trajectory highlights a shift in digital transformation discourse from being purely a technological reform to serving as a cornerstone of modern governance capable of addressing long-term societal challenges. From a practical perspective, these findings suggest that digital transformation should be viewed not merely as technological modernization but as a strategic governance instrument capable of improving efficiency, transparency, and accountability in public service delivery. Integrated digital platforms can simplify administrative procedures and improve citizen access to services, while data-driven systems and artificial intelligence can support evidence-based policymaking and performance monitoring. These implications provide useful guidance for governments seeking to accelerate digital governance reforms while maintaining public trust and service quality. Unlike previous studies that primarily described digital transformation through the lens of e-government and service efficiency, this research advances the discourse by systematically mapping the field and highlighting emerging directions. The integration of themes such as artificial intelligence, blockchain, smart city, and sustainability demonstrates how digital transformation research is evolving toward advanced technologies and long-term governance agendas. Furthermore, by emphasizing the contributions of both

developed and developing countries, particularly Indonesia, this study offers a more inclusive perspective on global digital governance. These insights mark a distinctive contribution by positioning digital transformation not only as a technological reform but also as a strategic instrument for achieving sustainable, accountable, and citizen-centered public services.

V. Conclusion

This study shows that digital transformation in public service has become an increasingly important research agenda, particularly after 2020, when the COVID-19 pandemic accelerated technology adoption across governance sectors. The bibliometric analysis demonstrates steady growth in publications, with a peak in 2024, and identifies dominant themes such as digital transformation, public services, e-government, and public administration. Emerging topics, including artificial intelligence, smart cities, blockchain, and sustainability, highlight the diversification of research directions toward advanced technologies and long-term governance challenges. Geographically, the contributions from both developed and developing countries, especially Russia, Germany, and Indonesia, indicate that digital transformation is a global concern, bridging issues of efficiency, transparency, and inclusivity in public service reform. These findings emphasize that digital transformation is no longer viewed solely as a technological shift but as a strategic instrument for building sustainable, accountable, and citizen-centered governance. This study contributes both theoretically and practically to the growing literature on digital transformation in public service. Theoretically, it provides a comprehensive bibliometric mapping that integrates technological, governance, and sustainability perspectives, thereby enriching current understanding of the field's intellectual development. Practically, the findings offer evidence-based insights for policymakers and public sector organizations by identifying emerging technologies, research gaps, and strategic priorities that can support more inclusive, transparent, and accountable digital governance reforms.

Despite offering a comprehensive mapping of the field, this study has limitations. The analysis relies solely on publications indexed in the Scopus database, which may exclude relevant works from other sources, potentially narrowing the scope of coverage. In addition, while bibliometric analysis provides valuable insights into trends and patterns, it does not capture the deeper contextual or qualitative aspects of digital transformation, particularly in specific case studies. Future research should address these gaps by incorporating multi-database sources, expanding to cross-country empirical comparisons, and exploring underexamined issues such as inclusivity, digital inequality, and ethical considerations in AI adoption. Moreover, as emerging technologies like blockchain, AI, and smart city platforms continue to evolve, future studies should investigate how these tools can be strategically integrated to advance sustainability, transparency, and long-term resilience in public sector governance.

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