

# From E-Government to Digital Governance: A Bibliometric Analysis of Public Sector Digital Transformation (2012–2025)

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Date of submission: 27 September 2025 | Date of acceptance: 23 November 2025

## ABSTRACT

This study aims to analyze evolution, intellectual structure, and emerging research trends in e-government and digital governance literature. A bibliometric analysis was conducted using 106 journal articles indexed in Scopus between 2012 and 2025. Data were collected using specific search queries related to e-government and digital transformation in the public sector. The analysis applied the PRISMA approach for systematic selection and VOSviewer to examine publication trends, co-occurrence networks, thematic clusters, and research evolution. The results reveal a significant growth in publications, particularly after 2021, indicating increasing scholarly attention to digital transformation in the public sector. Co-occurrence analysis identified four major research clusters: (1) digital transformation and technology adoption in public services, (2) digital governance and sustainable development, (3) public administration transformation through open government and smart cities, and (4) e-government service development. The findings also show a conceptual shift from e-government as a service-oriented approach toward digital governance as a broader paradigm emphasizing integration, collaboration, public value creation, and sustainability. The study is limited to English-language open-access articles within the social sciences subject area. Future research should include cross-disciplinary datasets and comparative. The findings provide strategic insights for policymakers to design digital transformation initiatives that emphasize inclusivity, sustainability, and value-oriented governance. This study offers a comprehensive bibliometric mapping that highlights the transition from e-government to digital governance and identifies emerging research directions in public sector digital transformation.

## Keywords

*Digital governance, E-government, Public sector digital transformation, Bibliometric analysis, VOSviewer*

## Introduction

Digital transformation has become a major strategic agenda for governments worldwide in efforts to improve the quality of public services, administrative efficiency, transparency, and governmental accountability. Since its introduction in the early 2000s, the concept of e-government has focused on the use of information and communication technologies (ICT) to deliver public services electronically and enhance interactions between government and citizens (Janssen et al., 2018; Sánchez-Torres & Miles, 2017). However, rapid technological advancements including cloud computing, artificial intelligence, big data, and platform technologies have driven a paradigm shift from mere service digitalization toward a comprehensive transformation of governance systems, known as digital government and digital governance (Tutar, 2025; Tangi et al., 2021).

This transformation marks a fundamental shift in the objectives and orientation of public sector digitalization. While e-government primarily emphasizes efficiency and web-based service delivery, digital governance focuses on organizational integration, cross-sector collaboration, citizen participation, and the creation of broader public value (Younus et al., 2025; Dobrolyubova, 2021; Lindgren et al., 2019). Digitalization is no longer viewed solely as a technological initiative, but rather as an institutional transformation process that affects organizational structures, bureaucratic culture, decision-making processes, and the relationship between the state and its citizens (Alshahrani, 2025; Castelnovo & Sorrentino, 2018; Tassabehji et al., 2016).

Nevertheless, several studies indicate that the success of digital government is not determined solely by the availability of technological infrastructure. Institutional factors, leadership, organizational capacity, and policy sustainability play critical roles in shaping the success of public sector digital transformation (Lopes et al., 2025; Chung et al., 2022; Makki & Alqahtani, 2022). In addition, organizational resistance, limited digital competencies among public officials, and the complexity of inter-agency coordination remain major challenges in the implementation of digital government across countries (Nielsen & Madsen, 2022; Tangi et al., 2021).

In recent years, the digital governance literature has also shifted toward social and normative dimensions, particularly issues related to public trust (digital trust), digital inclusion, and the social impacts of government digitalization. Digital trust has become a key factor influencing the adoption and sustained use of government digital services, where user perceptions, expectations, and satisfaction serve as primary determinants in building such trust (Guo, 2022). On the other hand, digital transformation may also exacerbate social inequalities through the digital divide, particularly in rural areas, among women, and within vulnerable groups that face limited access and digital literacy (Djatkiko et al., 2025; Bokingkito et al., 2025; Larsson, 2021; Soni & Mitchell, 2022).

Beyond trust and inclusion, the sustainability dimension has also gained increasing attention in the literature. Digital government is expected to contribute to the achievement of the Sustainable Development Goals (SDGs) through improved governance capacity, policy coordination, and data-driven decision-making (Sudirman & Saidin, 2022; Durkiewicz & Janowski, 2021; Marcovecchio et al., 2019). However, several studies suggest that advancements in digital government do not always correspond with improvements in governance quality or democratic performance, raising critical questions about the actual impact of digitalization on public value (Nicholls, 2019; Durkiewicz & Janowski, 2021).

Emerging technologies such as artificial intelligence, blockchain, and automation have further expanded the scope of digital governance toward more adaptive and data-driven concepts, including smart government and platform government (Alexopoulos et al., 2021; Anthopoulos et al., 2021). However, the adoption of these technologies also introduces new challenges related to algorithmic accountability, ethics, data security, and the potential for administrative exclusion of certain societal groups (Larsson, 2021; Petrakaki, 2018).

Despite the significant growth in the number of studies on e-government and digital governance, the existing literature remains fragmented. Research is dispersed across various themes such as technology adoption, digital trust, social inclusion, leadership, organizational transformation, sustainability, and emerging technologies—without a comprehensive mapping of the intellectual structure and thematic evolution of the field at the global level (Omar et al., 2020). Furthermore, the conceptual evolution from e-government to digital governance has rarely been systematically examined from a longitudinal perspective that captures shifts in research focus over time.

These limitations highlight the need for bibliometric studies that systematically map the development of knowledge, identify major themes, examine relationships among topics, and determine future research directions in the field of digital governance. Bibliometric analysis enables researchers to understand the structure of scientific networks, research trends, and the emergence of new topics that represent the research frontier (Pérez et al., 2020).

Based on this background, this study aims to: (1) analyze publication growth trends and the distribution of research in the fields of e-government and digital governance; (2) identify key contributors based on authors, institutions, and countries; (3) map the thematic structure and conceptual relationships using bibliometric analysis and VOSviewer visualization; and (4) identify shifts in research focus and emerging themes as future research agendas in public sector digital transformation.

Overall, this study is expected to provide a comprehensive mapping of the evolution of literature from e-government to digital governance and to strengthen

the conceptual foundation for the development of more strategic, inclusive, and sustainable research and policy in government digital transformation.

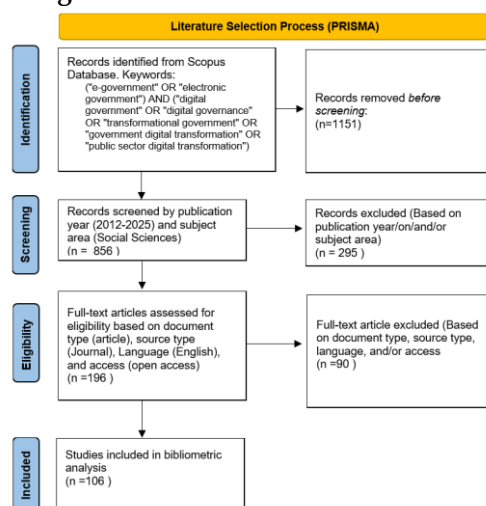
## Method

This study employs a bibliometric approach to analyze the development and knowledge structure of the transformation from e-government to digital governance. The bibliometric method was selected because it enables the systematic and quantitative identification of publication patterns, research trends, and conceptual relationships among research topics. To ensure transparency and a structured literature selection process, this study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Furthermore, data mapping and visualization were conducted using VOSviewer software.

The data were obtained from the Scopus database, which is widely recognized for its extensive coverage of high-quality international scientific literature. The search was conducted using the advanced search feature with a combination of keywords representing the evolution of concepts from e-government to digital governance, namely: ("e-government" OR "electronic government") AND ("digital government" OR "digital governance" OR "transformational government" OR "government digital transformation" OR "public sector digital transformation"). The initial search yielded 1,151 documents.

To ensure the relevance and quality of the dataset, a filtering process was conducted based on specific inclusion criteria. The selected articles were limited to publications within the period 2012–2025 in order to capture recent developments in public sector digital transformation. In addition, only documents within the Social Sciences subject area were considered, as this study focuses on governance and public administration perspectives. Additional criteria included document type (article), source type (journal), language (English), and open access status. After applying all selection criteria, a total of 106 articles met the requirements and were included in the final analysis.

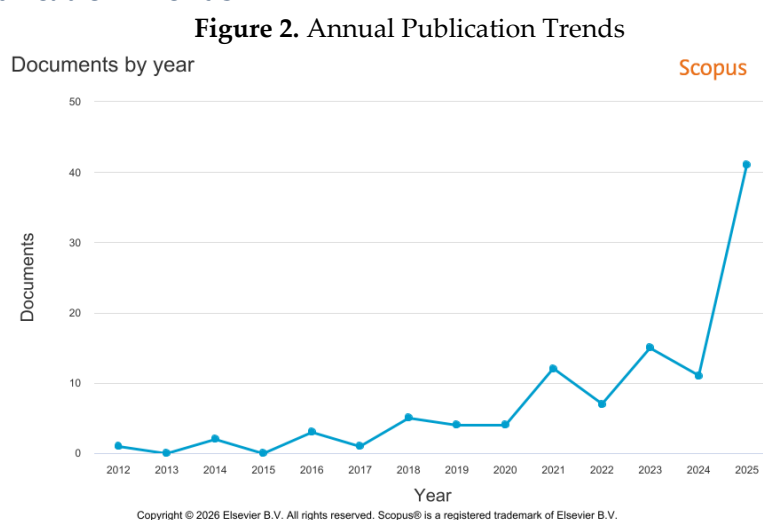
**Figure 1.** Literature Selection Process



The literature selection process was conducted in stages following the PRISMA flow, which consists of four main phases. In the identification stage, the initial search in the Scopus database produced 1,151 documents. During the screening stage, documents were filtered based on publication year and subject area. The eligibility stage involved selecting journal articles written in English and classified as open access. After completing all stages, 106 articles were deemed eligible and included in the final dataset.

## Result and Discussion

### 1. Annual Publication Trends



The analysis of 106 articles indicates that research on the transformation from e-government to digital governance has increased significantly in recent years. During the early period (2012–2017), the number of publications remained relatively low and fluctuating, with an average of fewer than five articles per year. A gradual increase began to emerge between 2018 and 2020, with annual publications ranging from four to five articles.

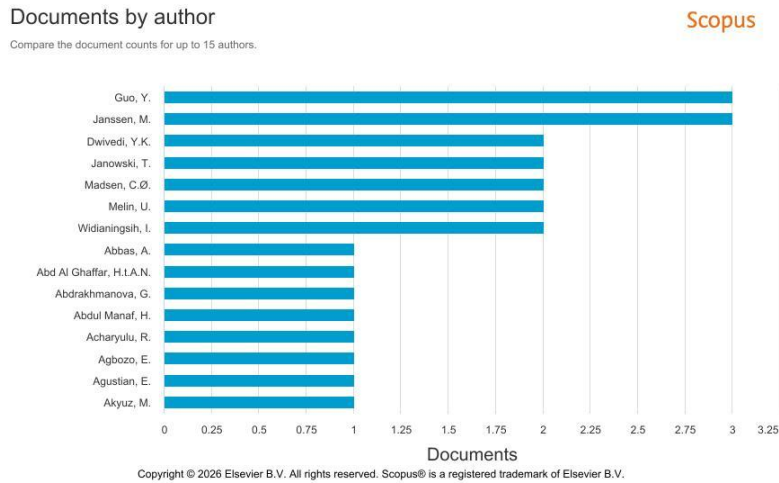
A more substantial growth occurred after 2021, when the number of publications rose to approximately 12 articles in 2021. This was followed by a fluctuation in 2022 (7 articles) and a further increase in 2023 (around 15 articles). In 2024, the number of publications reached approximately 11 articles, and a sharp rise was observed in 2025, with more than 40 articles published. This trend indicates that digital governance has become a rapidly expanding field that is attracting growing academic attention worldwide.

The findings reveal a significant upward trend in publication output, particularly after 2021. The sharp increase in 2025 suggests that digital governance has emerged as a strategic research agenda at the global level. This trend is consistent with the accelerating digital transformation of the public sector, driven by technological advancements, increasing demand for digital public services, and

growing pressure to enhance government effectiveness and responsiveness (Tangi et al., 2021).

## 2. Author Contributions

Figure 2. Author Contributions

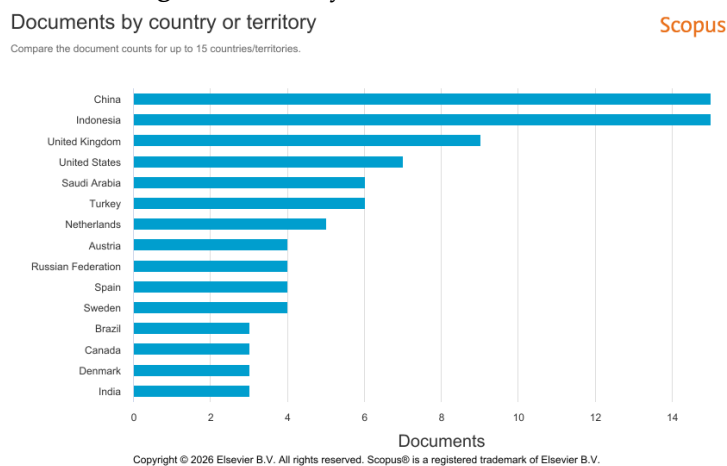


Source : Scopus (2026)

The analysis of author productivity shows that most researchers contributed a relatively limited number of publications, indicating that this field remains multidisciplinary and widely dispersed. The most productive authors are Guo, Y. and Janssen, M., each with three publications. Several other scholars, including Dwivedi, Y.K., Janowski, T., Madsen, C.Ø., Melin, U., and Widianingsih, I., contributed two articles each. These findings suggest that although a number of key researchers are present, the authorship structure in this field remains relatively distributed rather than concentrated.

## 3. Country Distribution of Publications

Figure 3. Country Distribution of Publications



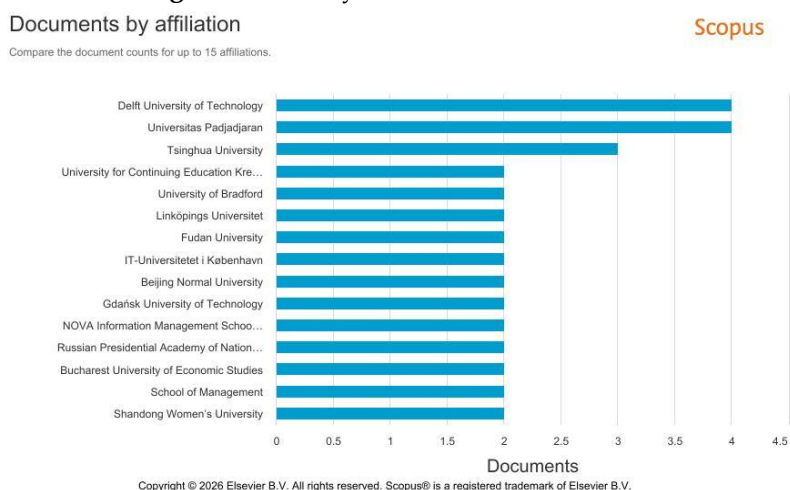
Source : Scopus (2026)

The country-level analysis reveals that research output is dominated by a number of specific countries. China and Indonesia rank highest, each contributing approximately 15 publications. Other countries with significant contributions include the United Kingdom (around 9 publications), the United States

(approximately 7 publications), and Saudi Arabia and Turkey (about 6 publications each). In addition, countries such as the Netherlands, Austria, the Russian Federation, Spain, Sweden, Brazil, Canada, Denmark, and India contribute smaller numbers of publications. This distribution indicates that digital governance research is developing across both developed and developing countries.

#### 4. Institutional Contributions

**Figure 3.** Country Distribution of Publications



Source : Scopus (2026)

Based on institutional affiliations, several universities demonstrate relatively strong research output. Delft University of Technology and Universitas Padjadjaran each produced approximately four publications. Tsinghua University follows with three publications. Other institutions, including the University for Continuing Education Krems, the University of Bradford, Linköping University, the IT University of Copenhagen, Beijing Normal University, and several others, contributed two publications each. These findings indicate a broad institutional distribution in digital governance research.

#### 5. Keyword Co-occurrence Analysis

The co-occurrence analysis conducted using VOSviewer identified four main clusters representing the thematic structure of the research field.

Cluster 1 focuses on the core themes of government digital transformation, including keywords such as *e-government*, *digital government*, *digital transformation*, *government*, *public services*, and *technology adoption*. This cluster reflects the primary research focus on technology adoption and the transformation of public service delivery.

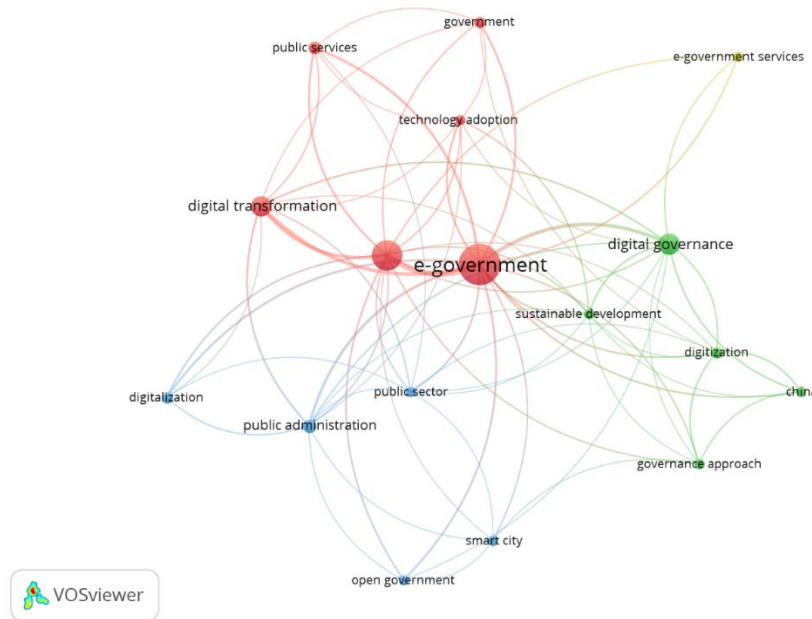
Cluster 2 relates to a broader governance perspective, incorporating keywords such as *digital governance*, *digitization*, *governance approach*, *sustainable development*, and geographic contexts such as *China*. This cluster emphasizes the relationship between digitalization and sustainable development agendas.

Cluster 3 represents the public administration and public sector innovation dimension, including *public administration*, *public sector*, *open government*, *smart city*,

and *digitalization*. This cluster indicates the integration of digital governance with administrative reform and urban innovation.

Cluster 4 is a specialized cluster consisting solely of *e-government services*, highlighting a specific research focus on the development and delivery of digital public services.

**Figure 4.** Network Visualization



Source : VOSviewer (2026)

**Table 1.** Thematic Clusters of E-Government and Digital Governance Research Based on Keyword Co-occurrence Analysis

Cluster	Thematic Focus	Keywords
Cluster 1	Digital Transformation and Technology Implementation in Government	digital government; digital transformation; e-government; government; public services; technology adoption
Cluster 2	Digital Governance and Sustainable Development	China; digital governance; digitization; governance approach; sustainable development
Cluster 3	Public Administration Reform and Governance Innovation	digitalization; open government; public administration; public sector; smart city
Cluster 4	Development and Delivery of Government Digital Services	e-government services

The network visualization shows that *e-government* functions as the main hub connecting multiple research themes. It has strong linkages with *digital transformation*, *technology adoption*, and *public services*, while also connecting to emerging themes such as *digital governance* and *sustainable development*. This network structure illustrates the conceptual evolution from e-government toward the broader digital governance paradigm.

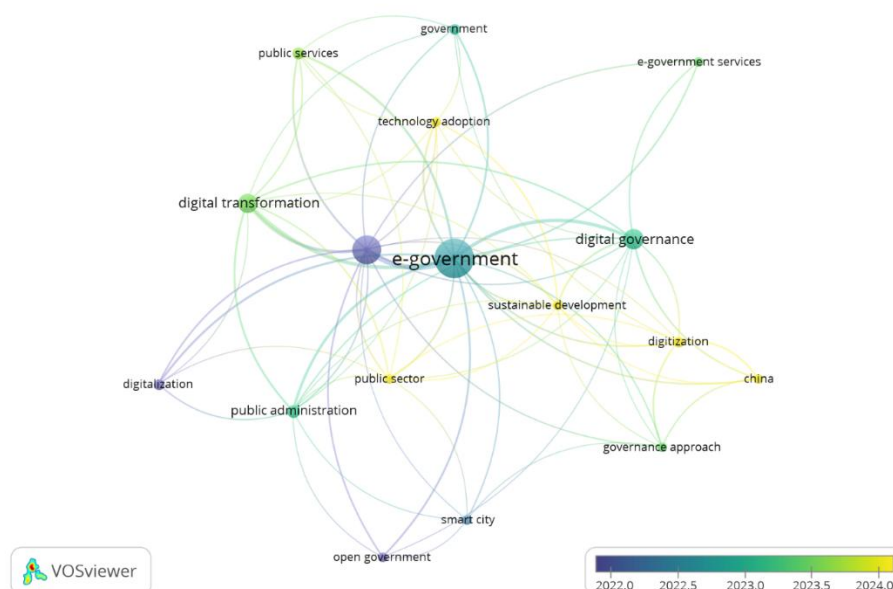
The increasing academic attention also reflects a paradigm shift from administrative digitalization toward broader governance transformation. Digital government is no longer understood merely as technological modernization, but as a structural change that affects organizational processes, bureaucratic culture, and the relationship between governments and citizens (Castelnovo & Sorrentino, 2018; Lindgren et al., 2019).

The network analysis further indicates that *e-government* remains the central concept in the literature, despite the growing prominence of newer terms such as *digital governance* and *digital transformation*. This finding suggests that the development of the field is evolutionary in nature, with digital governance emerging as a conceptual extension of e-government rather than a completely separate paradigm.

Conceptually, e-government focuses on electronic service delivery and administrative efficiency, whereas digital governance emphasizes cross-sector integration, collaboration, citizen participation, and public value creation (Dobrolyubova, 2021; Janssen et al., 2018). The strong linkage between *e-government* and *digital transformation* in the network map indicates that public sector digital transformation continues to build upon the foundations of previously established electronic service systems.

## 6. Analysis of Research Trend Evolution (Overlay Visualization)

Figure 5. Overlay visualization



Source : VOSviewer (2026)

The overlay visualization indicates a shift in research focus in recent years. Earlier themes (around 2022) were primarily related to *public administration*, *digitalization*, and *open government*. In contrast, more recent themes (2023–2024) show increasing attention to *digital governance*, *sustainable development*, *digitization*, and

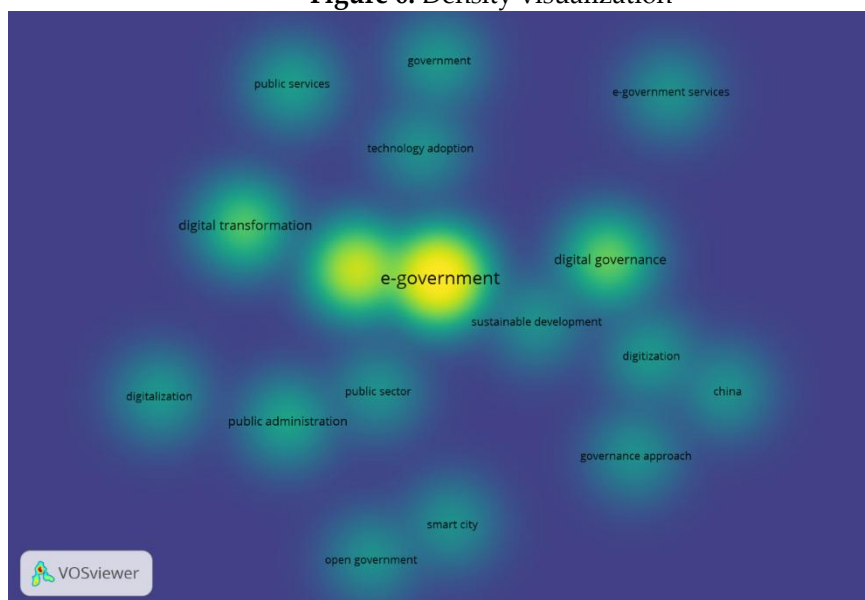
governance-oriented approaches. These findings suggest a transition from an operational focus toward a more strategic and sustainability-oriented perspective.

The results of the overlay visualization further confirm that recent literature increasingly emphasizes *digital governance*, *sustainable development*, and governance approaches. This trend reflects a shift in research attention from operational and technical aspects toward long-term strategic orientation and broader societal impacts.

Recent studies highlight that digital government is expected to contribute to sustainable development by enhancing policy coordination capacity, enabling data-driven decision-making, and improving the quality of public services (Durkiewicz & Janowski, 2021; Marcovecchio et al., 2019). However, some research also indicates that progress in digitalization is not always accompanied by improvements in governance quality or democratic performance, suggesting the need for more contextual approaches that prioritize public value (Nicholls, 2019).

## 7. Density Analysis

Figure 6. Density visualization



Source : VOSviewer (2026)

The density visualization analysis shows that *e-government* has the highest level of density and serves as the central concept within the research network. This finding confirms that e-government remains the conceptual foundation of public sector digital transformation studies, which historically focused on service digitalization and administrative efficiency (Janssen et al., 2018; Lindgren et al., 2019).

Surrounding this core concept, keywords with moderate density—such as *digital transformation*, *digital governance*, *technology adoption*, and *public services*—indicate a shift in research focus toward broader organizational and governance transformation. This reflects the evolution from an electronic service-oriented approach toward a digital governance paradigm that emphasizes system

integration, collaboration, and public value creation (Atobishi & Mansur, 2025; Castelnovo & Sorrentino, 2018; Tangi et al., 2021).

Meanwhile, keywords such as *sustainable development*, *open government*, and *smart city* appear with lower density, suggesting that these topics are still emerging as more specialized research areas. Overall, the findings indicate a gradual transition from a technology implementation focus toward a strategic approach that positions digitalization as an instrument for improving governance quality and supporting sustainable development (Agustian et al., 2025; García et al., 2025; Dobrolyubova, 2021).

## 8. Digital Governance as a Public Administration Transformation

The cluster related to *public administration*, *public sector*, *open government*, and *smart city* indicates that digital governance is not solely concerned with technology, but also with broader public administration reform. Digital transformation reshapes the patterns of interaction between governments and citizens, including how services are delivered, how decisions are made, and the role of citizens in governance processes (Lindgren et al., 2019).

Furthermore, the integration with the concepts of *open government* and *smart city* suggests that digital governance is increasingly oriented toward collaborative and data-driven governance models. These models emphasize transparency, participation, and innovation as key elements for improving the quality of governance (Anthopoulos et al., 2021).

The main cluster that includes *technology adoption* and *public services* highlights that the success of digital governance remains strongly influenced by organizational capacity to adopt and implement technology. However, previous studies indicate that institutional factors—such as leadership, organizational culture, inter-agency coordination, and human resource capacity—are equally as important as technological factors (Aldhi et al., 2025; Chung et al., 2022; Makki & Alqahtani, 2022).

Public sector digital transformation also involves a wide range of non-technical stakeholders, meaning that successful implementation depends heavily on political support and policy continuity (Nielsen & Madsen, 2022).

The distribution of publications shows the dominance of several countries, such as China and Indonesia, indicating growing attention to digital transformation in developing countries. This pattern suggests that digital governance is no longer an exclusive agenda of developed nations, but has become a global priority in public sector reform.

However, previous research also shows that the success of digital government is highly influenced by each country's social, economic, and institutional context (Zhou, 2025; Castelnovo & Sorrentino, 2018). Therefore, context-sensitive approaches are essential for understanding variations in digital governance implementation across different regions.

Overall, the findings indicate that the field of digital governance is shifting toward a more comprehensive paradigm that encompasses organizational transformation, public value creation, sustainability, and collaborative governance. The identified thematic structure suggests that future research will increasingly focus on the integration of emerging technologies, the measurement of social impacts, and the evaluation of digital government's contribution to sustainable development.

Moreover, the growing attention to the concept of digital governance highlights the need for more integrative theoretical frameworks to explain the relationships among technology, institutions, and public value in the context of public sector digital transformation (Omar et al., 2020).

## Conclusion

This study provides a comprehensive overview of the development and knowledge structure in the fields of e-government and digital governance during the period 2012–2025. The findings reveal a significant increase in publication output, particularly in recent years, reflecting growing academic attention to public sector digital transformation as a strategic global agenda.

The bibliometric results indicate that *e-government* remains the foundational concept in the literature; however, the research focus has shifted toward broader paradigms, namely *digital governance* and *digital transformation*. This shift reflects a transition from administrative service digitalization toward governance transformation that emphasizes system integration, cross-sector collaboration, public value creation, and contributions to sustainable development.

The co-occurrence analysis identified four major thematic clusters: (1) digital transformation and technology adoption in public services; (2) digital governance within the context of sustainability and strategic governance approaches; (3) public administration transformation through open government and smart city initiatives; and (4) the development of e-government services. This thematic structure indicates that digital governance has evolved into a multidisciplinary domain that connects technology, public policy, and administrative reform.

In addition, the country-level distribution of publications shows increasing contributions from developing countries, suggesting that public sector digital transformation has become a global agenda. However, variations in institutional contexts and digital capacities highlight the need for more contextual and comparative research approaches.

From a theoretical perspective, this study confirms that digital governance should not be understood merely as a technological innovation, but as a complex socio-institutional transformation. From a practical standpoint, the findings provide a foundation for policymakers to guide government digital strategies toward approaches that prioritize public value, inclusiveness, and sustainability.

Future research should examine more deeply the impact of digital governance on governance quality, public trust, and the achievement of sustainable development goals. Furthermore, exploring emerging issues such as artificial intelligence, data governance, and digital public infrastructure represents an important agenda for advancing both the literature and practice of digital governance.

## References

- Agustian, E., Baharuddin, T., & Ibrahim, A. H. H. (2025). Bridging E-Government With Digital Literacy: A Literature Review. *Journal of Governance and Regulation*, 14(1 (special issue)), 361–371. <https://doi.org/10.22495/jgrv14i1siart12>
- Aldhi, I. F., Suhariadi, F., Rahmawati, E., Supriharyanti, E., Hardaningtyas, D., Sugiarti, R., & Abbas, A. (2025). Bridging Digital Gaps in Smart City Governance: The Mediating Role of Managerial Digital Readiness and the Moderating Role of Digital Leadership. *Smart Cities*, 8(4). <https://doi.org/10.3390/smartcities8040117>
- Alexopoulos, C., Charalabidis, Y., Loutsaris, M. A., & Lachana, Z. (2021). How Blockchain Technology Changes Government: A Systematic Analysis of Applications. *International Journal of Public Administration in the Digital Age*, 8(1). <https://doi.org/10.4018/IJPADA.20210101.0a10>
- Alshahrani, A. (2025). Adopting Emerging Technologies in Digital Government: A Multi-Case Analysis of Drivers, Enablers, and Challenges in Saudi Arabia. *Digital Government: Research and Practice*, 6(3). <https://doi.org/10.1145/3719297>
- Anthopoulos, L., Janssen, M., & Weerakkody, V. (2021). A unified smart city model (USCM) for smart city conceptualization and benchmarking. *International Journal of Electronic Government Research*, 17(1), 1–19. <https://doi.org/10.4018/IJEGR.2021010101>
- Atobishi, T., & Mansur, H. (2025). Bridging Digital Divides: Validating Government ICT Investments Accelerating Sustainable Development Goals. *Sustainability (Switzerland)*, 17(5). <https://doi.org/10.3390/su17052191>
- Bokingkito, P., Beloy, J., Ecleo, J. J., Alce, A. R., Borinaga, N., & Galido, A. (2025). Are We Inclusive? Accessibility Challenges in Philippine E-Government Websites. *Informatics*, 12(2). <https://doi.org/10.3390/informatics12020041>
- Castelnovo, W., & Sorrentino, M. (2018). The digital government transformation: Challenges for public administration. *Electronic Government, an International Journal*, 14(3), 206–222. <https://doi.org/10.1504/EG.2018.094077>
- Chung, C. S., Reddick, C. G., & Choi, H. (2022). Digital government transformation and organizational change: A systematic review. *Government Information Quarterly*, 39(2), 101688. <https://doi.org/10.1016/j.giq.2021.101688>
- Chung, C.-S., Choi, H., & Cho, Y. (2022). Analysis of Digital Governance Transition in South Korea: Focusing on the Leadership of the President for Government

- Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(1).  
<https://doi.org/10.3390/joitmc8010002>
- Djatmiko, G. H., Sinaga, O., & Pawirosumarto, S. (2025). Digital Transformation and Social Inclusion in Public Services: A Qualitative Analysis of E-Government Adoption for Marginalized Communities in Sustainable Governance. *Sustainability (Switzerland)*, 17(7). <https://doi.org/10.3390/su17072908>
- Dobrolyubova, E. (2021). Measuring outcomes of digital transformation in the public sector. *Government Information Quarterly*, 38(4), 101600. <https://doi.org/10.1016/j.giq.2021.101600>
- Durkiewicz, J., & Janowski, T. (2021). Digital government evolution: From transformation to governance. *Electronic Government, an International Journal*, 17(2), 123–145. <https://doi.org/10.1504/EG.2021.113969>
- García, M., Segundo, F., Cordova, C., Vértiz, K. V, Rojas, L. A. B., Corcuera, L. D. A., Montalban, C. A. N., Quispe, C. E. Y., & Elí, C. (2025). Adoption of E-Gov as an alternative to improve customer experience in a public bank, Piura 2025: implications for digital literacy and continuing education. *Journal of Educational and Social Research*, 15(6), 502–518. <https://doi.org/10.36941/jesr-2025-0230>
- Guo, Y. (2022). Digital Trust and the Reconstruction of Trust in the Digital Society: An Integrated Model based on Trust Theory and Expectation Confirmation Theory. *Digital Government: Research and Practice*, 3(4). <https://doi.org/10.1145/3543860>
- Janssen, M., Rana, N. P., Slade, E. L., & Dwivedi, Y. K. (2018). Trustworthiness of digital government services: Deriving a comprehensive theory through interpretive structural modelling. *Government Information Quarterly*, 35(4), 592–607. <https://doi.org/10.1016/j.giq.2018.08.001>
- Larsson, K. K. (2021). Digitization or equality: When government automation covers some, but not all citizens. *Government Information Quarterly*, 38(1). <https://doi.org/10.1016/j.giq.2020.101547>
- Lindgren, I., Madsen, C. Ø., Hofmann, S., & Melin, U. (2019). Close encounters of the digital kind: A research agenda for the digitalization of public services. *Government Information Quarterly*, 36(3), 427–436. <https://doi.org/10.1016/j.giq.2019.03.002>
- Lopes, K., Mezzomo Luciano, E., & Wiedenhöft, G. C. (2025). Factors influencing the prioritization of rival public value positions in Brazilian digital government initiatives. *RAUSP Management Journal*, 60(1), 334–349. <https://doi.org/10.1108/RAUSP-11-2023-0225>
- Makki, M., & Alqahtani, A. (2022). Organizational readiness for digital transformation in the public sector. *Information Development*, 38(3), 435–449. <https://doi.org/10.1177/02666669211002465>

- Marcovecchio, I., Janssen, M., & Estevez, E. (2019). Sustainable digital government: A research agenda. *Information Systems Frontiers*, 21(3), 547–563. <https://doi.org/10.1007/s10796-017-9789-6>
- Nicholls, R. (2019). E-government and democracy: A critical perspective. *Public Administration Review*, 79(3), 434–444. <https://doi.org/10.1111/puar.13021>
- Nielsen, P., & Madsen, S. (2022). Institutional factors shaping digital transformation in government. *Electronic Journal of e-Government*, 20(1), 1–15.
- Omar, A., Weerakkody, V., Sivarajah, U., & El-Haddadeh, R. (2020). Digital government transformation: A systematic review and future research agenda. *Government Information Quarterly*, 37(4), 101445. <https://doi.org/10.1016/j.giq.2020.101445>
- Pérez, L. M., Oltra-Badenes, R., Oltra-Gutiérrez, J. V. O., & Gil-Gómez, H. (2020). A bibliometric diagnosis and analysis about smart cities. *Sustainability (Switzerland)*, 12(16). <https://doi.org/10.3390/SU12166357>
- Petrakaki, D. (2018). Re-locating accountability through technology: From bureaucratic to electronic ways of governing public sector work. *International Journal of Public Sector Management*, 31(1), 31–45. <https://doi.org/10.1108/IJPSM-02-2017-0043>
- Sánchez-Torres, J. M., & Miles, I. (2017). The role of future-oriented technology analysis in e-Government: a systematic review. *European Journal of Futures Research*, 5(1). <https://doi.org/10.1007/s40309-017-0131-7>
- Soni, S., & Mitchell, A. M. (2022). Women and digital government in rural India: Extending TAM with user assisted service. *Information Polity*, 27(1), 59–78. <https://doi.org/10.3233/IP-200302>
- Sudirman, F. A., & Saidin, S. (2022). E-Government and Sustainable Development: Systematic Literature Review. *Nakhoda: Jurnal Ilmu Pemerintahan*, 21(1), 44–58. <https://doi.org/10.35967/njip.v21i1.269>
- Tangi, L., Janssen, M., Benedetti, M., & Noci, G. (2021). Digital government transformation: A structural equation modelling analysis. *Government Information Quarterly*, 38(3), 101561. <https://doi.org/10.1016/j.giq.2021.101561>
- Tassabehji, R., Hackney, R., & Popovič, A. (2016). Emergent digital era governance: Enacting the role of the “institutional entrepreneur” in transformational change. *Government Information Quarterly*, 33(2), 223–236. <https://doi.org/10.1016/j.giq.2016.04.003>
- Tutar, H. (2025). Algorithmic Interaction in Public Administration Data-Based Communication and Political Participation in Public Institutions. *Public Governance, Administration and Finances Law Review*, 10(2), 157–184. <https://doi.org/10.53116/pgaflr.8460>
- Younus, M., Mutiarin, D., Nurmandi, A., & Manaf, H. (2025). Understanding smart citizen participation in decision making in Malaysia through integration of the

UMEGA model for E governance. *Discover Sustainability*, 6(1).  
<https://doi.org/10.1007/s43621-025-02354-8>

Zhou, M. (2025). Dancing with anklets: Navigating digital rural governance with big data in China. *Big Data and Society*, 12(4).  
<https://doi.org/10.1177/20539517251396071>