Bibliometric Analysis in the Development of Public Sector Digitalization

Windhi Gita Prabawa [1*], Dyah Mutiarin [2], Eko Priyo Purnomo [3], Sataporn Roengtam [4]

[1,2,3] Department of Government Affairs and Administration, Universitas Muhammadiyah Yogyakarta, Indonesia
[4] Department of Public Administration, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand
Corresponding Author: windhi.gita.psc22@mail.umy.ac.id

Abstract: Public sector modernization has long been on the political agenda of governments around the world. This study aims to provide an overview of the development of scientific research with the theme of public sector digitalization in the last ten years, from 2014 to 2023. The researcher used the qualitative method with a literature approach. The data source was obtained by accessing journals in the Scopus database with high citation counts. The data obtained was then analyzed using VOSviewer. The results showed that 417 journals studied public sector digitalization from 2014 to 2023. It is widely assumed that the United Kingdom and the United States are the most influential countries in digitalization research in the public sector. The results showed a significant difference in research topics between the UK and the US. Even though this study provides information about public sector digitalization, it has its limitations. The main limitation is that the articles only come from the Scopus database, with no other comparative data. Future research should continue to use data from other databases to contribute more comprehensive knowledge.

Keywords: Bibliometric Analysis; Public Sector; Digitalization

INTRODUCTION

Nowadays, globalization, demography, and technological advancements, particularly the Internet, significantly influence societal behavior and government conduct in policy-making processes. Social policy and welfare state researchers have also been interested in digital government, particularly in recent years, as the effects of the so-called fourth industrial revolution have become more apparent (Vujković et al., 2022). Governments and societies are constantly facing new challenges in the 21st century. As a result, countries all over the world are looking for effective and efficient ways to deal with modern challenges (MasterClass, 2022). For example, one of today's most important challenges relates to the growing needs and expectations of citizens. Their expectations are strongly shaped by the use of new digital technologies and a desire to increase collaboration between citizens and other stakeholders (Lee-Geiller & Lee, 2019).

The government is expected to respond quickly to economic and social pressures and to be proactive in providing community services. Public services must be made digitally to improve service quality and diversity (Lapuente, 2020). This situation has led to digitalization in the public sector, commonly known as "digital government" (Irawan, 2020). The concept of digital government has been intensively studied in recent years and has many definitions. The use of the

Internet and technology to provide information and services to the people of a country (Rooks et al., 2017). The term "digital" can refer to the digitalization of government and the public sector. Another definition states that "Digital" refers to two aspects, namely digital tools and digital mindset. In terms of digital transformation, the government can use a variety of applications (digital tools) to provide government services, from planning to evaluation (Hening & Kumara, 2019).

Digital tools are an important improvement for public sector organizations to become more effective and efficient in their inputs and outputs. With the advent of new technologies that make it possible to process data in large volumes, variations, and speeds, governments have new instruments for formulating their policies and meeting the needs of their citizens (Erkut, 2020). However, it is important not only to focus on the technological advances available but also on how governments think about and deal with digital mindsets (Andriansyah et al., 2022; Said Saggaf, 2018). The digital mindset not only knows the use of digital tools but can think about stakeholder relationships and organizational culture to adapt these things to digital developments (Hikmah et al., 2022).

According to the Organization for Economic Co-operation and Development (OECD), the primary goal of digitalization in the public sector is to create public value by leveraging information and communication technology (ICT) (Hjaltalin & Sigurdarson, 2024). This involves using digital tools and platforms to enhance government operations, improve service delivery, and increase transparency and citizen engagement (Wahfianka & Mada, 2022). Governments globally are recognizing the need to adapt and expand their digital services. Thus, there has been considerable public investment in improving e-government over the past ten years (Pérez-Morote et al., 2020). The move towards digitalization is driven by the desire to make public services more accessible, efficient, and responsive to the needs of the populace, thereby fostering a more inclusive and participatory governance model (Yang & Gu, 2021).

Therefore, several studies in the public sector in the digital age have been carried out globally (Faro & Kozanoglu, 2019; Lindquist, 2022; Meijer et al., 2018). Public Sector Transformation in Indonesia (Tasyah et al., 2021). Even though there is much literature on public sector digitalization, research has shown inequalities in conceptual and operational definitions that have impacted theoretical and empirical advances. To the best of my observation and knowledge, no research conducts bibliometric analysis related to the public sector in the digital age. Specifically referencing the United States and the United Kingdom.

The novelty of this study lies in applying a bibliometric analysis method to measure the development of international journals specifically focused on public sector digitalization within the Scopus database. While bibliometric analysis, or scientometric analysis, is a well-established field for examining current research trends, our application is unique in its focus on the evolution of scholarly publications in this emerging field (Nurdin et al., 2022). Topics in bibliometrics can be explained both qualitatively and quantitatively. Apart from the renewal of analytical methods, this research is important because digital developments in the public sector are rather diverse, thus this analysis will examine how the development of public sector digitalization in countries that have the highest focus is related to research themes.

The structure of the article is as follows: The next section shows the methods used to gather the sample of records, along with an overview of them. The key findings from explanatory studies on the digitalization of the public sector are presented in the Results and Discussion section. The final section offers conclusions and recommendations for future study directions.

RESEARCH METHOD

This research used a qualitative method with study literature. Study literature is conducted to gain a better understanding of various problems or phenomena that were previously overlooked as potential topics for future research (Snyder, 2019). The first step in this process is to collect data from journals in the Scopus database using the keyword "Public Sector Digitalization" for the last ten years, from 2014–2023. Four hundred seventeen (417) articles were found using this search, then reviewed in three stages: finding articles, importing them into the software applications, and identifying discussion themes. The researcher used the Vos viewer application to analyze data and to display bibliometric maps related to public sector

digitalization. Vosviewer is used because its features are useful for displaying bibliometric maps in an easily interpretable way (Van Eck & Waltman, 2010).
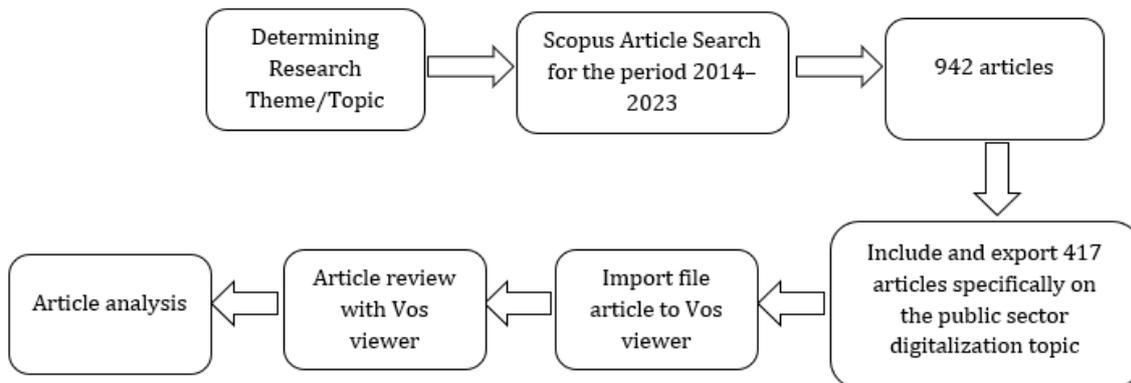

Figure 1. Illustrating the stages of the research method

Using the following approach, researchers obtained numerous articles with substantial correlations using the following procedure as shown in Figure 1. First, only articles related to the "public sector digitization" were used to identify, ranging from 2014 to 2023. Based on the search results, 942 articles about the topic were found. The second stage required validating the numerous articles discovered to see if they were truly needed and were linked. The subcategories used to identify the research are (TITLE-ABS-KEY (Public Sector Digitalization) AND PUBYEAR > 2014 AND (LIMIT-TO (2023) AND (LIMIT-TO) (SUB-AREA," SOCI)) AND (LIMIT-TO (LANGUAGE," English")). The screening method identified 417 relevant articles/journals, which served as a resource for "public sector digitalization."

RESULTS AND DISCUSSION

The results of public sector digitalization research have produced various data. The results showed that 417 articles related to public sector digitalization were published on the Scopus website. Limits of article documents and social science areas in the last ten years, from 2014 to 2023. As in Figure 2.

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
5	10	16	32	31	47	63	92	114	7
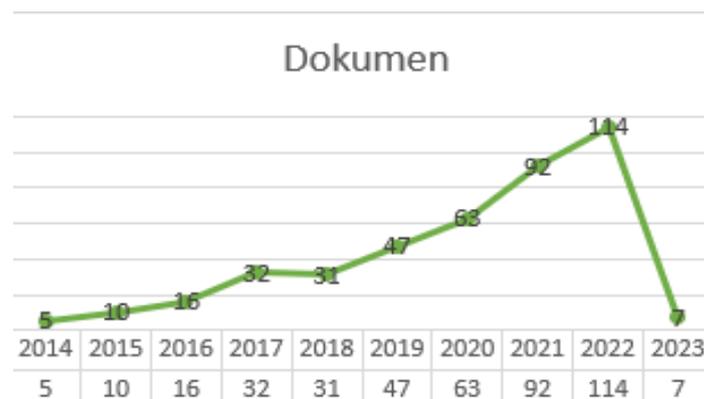
Figure 2. Documents per year
Source: Scopus Data Analysis

Figure 2 shows an increase in the number of documents from 2014 to 2022. The lowest publication in 2014 was 5 articles, and the highest increase occurred in 2022, with as many as 144 articles. This situation shows that research on public sector digitalization is a topic of frequent discussion every year. However, in 2023, only seven related articles. Based on the previous analysis, publications, and citations will continue to grow as journals related to public sector digitalization have the potential to reach a wider audience around the world in the future.

The authors that published the most articles about the digitalization of the public sector between 2014 and 2023 are also shown in Table 1. Williamson, B. has the most articles published (three articles) in 2014, 2016, and 2019. Aitken, M. totaled 2 articles published in 2020 and 2021; Devlin, C. totaled 2 articles published in 2020 and 2023; and Farrand, B. totaled 2 articles published in 2018 and 2022.

Table 1. The Most author's publications on public sector digitalization

Author Name	Published article
Williamson, B.	3
Aitken, M.	2
Devlin, C.	2
Farrand, B.	2

Source: Scopus Data

The data obtained puts the two countries in the highest position in the development of public sector digitalization. As seen in table 2

Table 2. Highest country

Country	Number of Documents
United Kingdom	101
United States	28

Source: Scopus Data

According to Table 2, the United Kingdom is the most influential country in terms of research on this topic, as it produces the most articles, a total of 101, followed by the United States with 28 articles. In the discussion below, the author will conduct a further analysis of the network of topics that have been obtained from the Scopus database with the keyword public sector digitalization in the United Kingdom and the United States. The analysis is performed by creating a network analysis, and overlay analysis on Vosviewer.

Network Analysis Public Sector Digitalization in the UK and the US

The Purpose of this analysis is to identify issues related to public sector digitalization in two cases: the United Kingdom and the United States. In addition, this analysis also compares previous research themes in the United Kingdom and the United States. The analysis is in the figures and tables below.
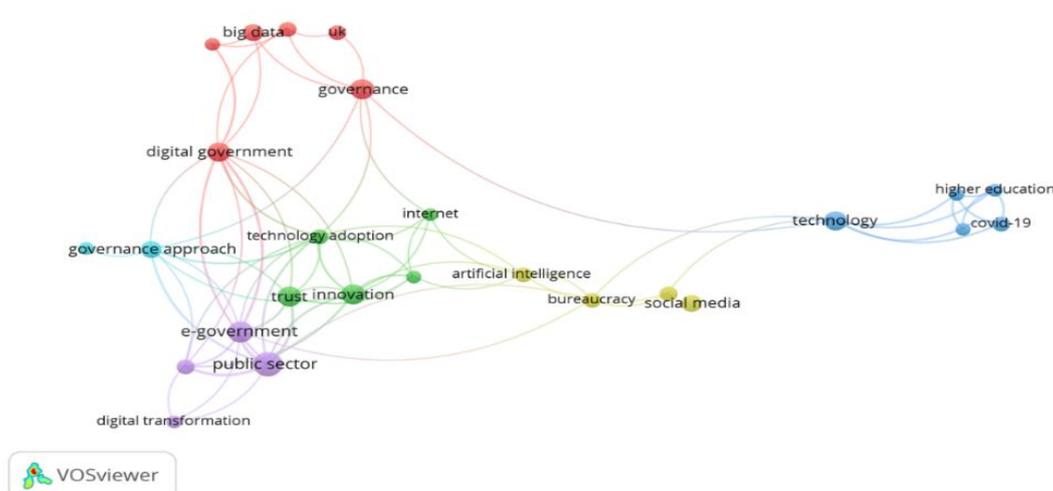
Figure 3. Network Analysis of Public Sector Digitalization in the UK
Source: Scopus Data Analysis

Table 3. Network Analysis of Public Sector Digitalization in the UK

Keywords	Cluster
Big Data, Bureaucracy, Digital Governance, Digital Governance Platform, Smart Cities, UK	1
Ethics, Innovation, Internet Technology Adoption, Trust	2
Covid-19, Higher Education, Pandemic, Public Health, Technology	3
Artificial Intelligence, Bureaucracy, Digital, social media	4
Digital Transformation, E-Government, Public Administration, Public Sector	5
Governance Approach, Regulation	6

Source: Scopus Data

Figure 3 shows how the topics are classified and focuses on themes that correlate with the public sector. Network analysis shows that for the United Kingdom (UK), public sector digitalization is focused on the use of digital tools, which is shown in clusters 1, 2, 3, and 4. There is a clear emphasis on utilizing digital tools for public sector digitalization. Clusters of activities or initiatives support this emphasis. The clusters mentioned in the sentence represent different areas where digital tools are employed to improve government functioning and the delivery of public services. In the United Kingdom, digital tools in the government context include online portals, data analytics tools, and applications that allow users to access government services.

The United Kingdom has a proud history of digital innovation, with successive governments ensuring that the country remains at the forefront of adopting and implementing digitalization across its public sector (Omar et al., 2017). The history of digital transformation within the UK's public sector has undergone substantial changes in recent decades. During the 1990s, the UK government made information and certain services accessible online. In the 2000s, there was a heightened emphasis on delivering services digitally, with a concerted effort to create a user-friendly and centralized platform for accessing government services and information (Vogl et al., 2020). The UK government launched "Digital by Default" in 2012 to deliver services primarily through digital channels to improve efficiency and minimize costs. The COVID-19 pandemic played a pivotal role in expediting digitization efforts in the public sector (Alderwick, 2022). As a means of boosting healthcare accessibility, the UK government adopted a 'digital first' strategy. As a result, digital technologies have been integrated into many parts of national and regional public health policies. Particularly focused on essential health information distribution, disease surveillance, and digital contact tracing (Sounderajah et al., 2021).

In more recent years, the UK has embarked on a comprehensive digital transformation journey to establish itself as a global leader in digital government services. From the creation of the World Wide Web to giant leaps in artificial intelligence, some of the biggest technological breakthroughs have come from this country (GOV.UK, 2022). The development of digitalization is closely related to the use of artificial intelligence (AI). AI is defined as a computer system's ability to exhibit human-like intelligence characterized by key competencies such as viewpoint, knowing, action, and learning. When applied to the public sector, AI allows for the transfer of complex interactions performed by humans to automated machines or systems (Terlizzi, 2021). AI can process big data and screen detailed information to predict personal preferences. Activated AI applications can generate benefits for public services in many government domains (Kankanhalli et al., 2019).

Domestic policy has been to position the UK "On the frontlines of the AI and data revolutions". To "Invest in and prepare for the future needs of the AI ecosystem" and "help the transition to an AI-enabled economy" (Alderwick, 2022). A new National AI Strategy was launched in September 2021. But a major issue must also be addressed by this new approach. Despite believing that its goals "would be best realized through wide public trust and support," there is a lack of public trust. A decline in confidence in the technology industry, or "techlash," has been noted on a global scale (Drake et al., 2022). In the United Kingdom, the already low perception of AI appears to have deteriorated significantly. Surveys show that only about 32% of people in the United Kingdom trust the AI sector of the tech industry (Keller & Drake, 2021). AI technologies present significant challenges, which include financial viability, a high enough level of expertise, security, protection, and machine learning compatibility.

Cluster 5 relates to the implementation of public sector digitalization within government frameworks in specific practical and specific areas. Government capabilities are aimed at city administrators to manage global services and development (Barrutia et al., 2022). As this article highlights, a government's new tool in the digital world provides significant opportunities. Digital governance offers benefits but requires effective conditions. There is significant evidence of partial or complete failure of digital government initiatives, the function of human agency, or other (contextual) aspects that need to be considered while learning the utilization of new technologies in the public sector (Andriansyah et al., 2022; Terlizzi, 2021).

Meanwhile, cluster 6 presents a theme of the government's approach and regulations in implementing public sector digitalization. At the same time, the United Kingdom has a strong rule of law. Data security is being developed to promote and protect the general public's interest. The United Kingdom also published a Digital Regulation Plan, which lays out a revolutionary approach to how technology is organized in its country (GOV.UK, 2022). The regulation demonstrates how the United Kingdom will promote a proportionate regulatory approach and eliminate unnecessary burdens. It brings together all the work done across governments under one coherent vision.

Network Analysis of Public Sector Digitalization in the US
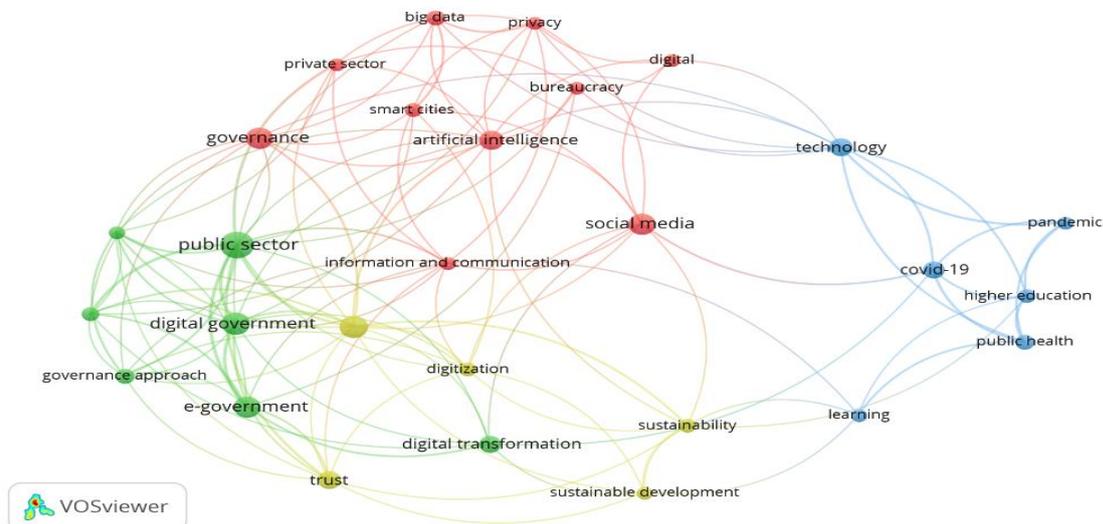
Figure 4. Network Analysis of Public Sector Digitalization in the US
Source: Scopus Data Analysis

Table 4. Network Analysis of Public Sector Digitalization in the US

Keywords	Cluster
Artificial Intelligence, Big Data, Bureaucracy, Digital Governance, Information and Communication, Privacy, Private Sector, Smart Cities, social media	1
Digital Movement, Digital Transformation, e-government, governance approach, public administration, public sector, technology adoption	2
Covid-19, Higher Education, Learning, Pandemic, Public Health, Technology	3
Digitalization, Innovation, Sustainability, Sustainable Development, Trust	4

Source: Scopus Data

For the United States, previous research has focused on public sector digitalization as it relates to implementing a range of e-governments; this can be proven in clusters 1, 2, and 3 (as shown in Fig and Table 4). ICT adoption allowed the public and private sectors to restructure how public services were delivered to serve their citizens and clients more effectively and efficiently (Prabawa et al., 2023). Digital government is the intentional influence of social processes via virtual means. Unlike traditional offline government, citizens can choose when and where they want to access government services through digital government (Pérez-Morote et al., 2020). In

terms of examining trends in digital government, the majority of this literature focuses on state and federal governments in the United States. The United States is one of the first countries in the world to adopt and apply information technology in service delivery and e-government practices (Epstein, 2022). There is no denying that digital technology can be a way to develop e-government (Manoharan et al., 2021).

To address economic issues, the Great Depression and the New Deal era in the 1930s resulted in considerable administrative reforms and the development of public services (Dunleavy et al., 2006). In the latter part of the 20th century, the United States adopted digital technologies, with government agencies initially utilizing computers primarily for administrative purposes. However, the primary focus at that time was on internal operations rather than improving the delivery of public services. It was in the 1990s and 2000s that the U.S. government began giving greater importance to e-government initiatives (Hu & Zheng, 2021).

The E-Government Act of 2002 was a significant milestone, as it encouraged the use of technology to enhance citizen access to government information and services. As technology changes and citizens' expectations of government services alter, the digital government ecosystem in the United States continues to develop and mature. The United States has robust digital government strategies in place at multiple levels to guide whole-of-government efforts (Epstein, 2022; Raji et al., 2024). The government made an effort to fully utilize the nation's technological potential in this regard, which major American national and multinational corporations had previously developed. It was a logical approach that later proved to be extremely cost-effective and reinvigorating for both federal and local governments (KASSEN, 2015). To this day, the U.S. government remains committed to modernization efforts aimed at enhancing digital service delivery, bolstering cybersecurity measures, and streamlining administrative processes. US initiatives emphasized the improvement of public services to attract businesses and the use of a collaborative approach to building digital infrastructure (Li & Ding, 2020).

Meanwhile, cluster 4 refers to the implementation of sustainable development. The growth of e-government is crucial for streamlining government operations and accelerating national progress (Wahfianka & Mada, 2022). It also affects sustainable development in terms of its effects on the economic, social, and environmental spheres (Chukwudi et al., 2023). ICTs give governments an extraordinary chance to realize sustainable development, increase the well-being of their citizens, and change how things are done today. Digital transformation uses computational techniques to analyze the collected information and transform it into actionable information about human behavior, environment, and experience (ElMassah & Mohieldin, 2020). Policymakers can use this data to develop appropriate development programs, monitor progress, and make dynamic improvements. Through comprehensive data collection, digital transformation aids government efforts to build sustainable and resilient societies (Castro & Lopes, 2022).

E-government could also support social and environmental aspects of sustainability. It can support the provision of fundamental services like social assistance, health care, employment, and education and encourage greater access to these services on an equitable footing (Chukwudi et al., 2023). Governments can inform and assist communities about the need to strike a balance between consuming natural resources and preserving their quality and availability through sharing information, specifically through Open Government Data (Castro & Lopes, 2022). Both e-government and big data emphasize five key dimensions of sustainable development: effectiveness, inclusiveness, openness, trust, and accountability (Sachs et al., 2019). The results thus show that e-government (including the terms digital government and e-government) has well-developed internal and external interdependencies with the topic of 'sustainability.'
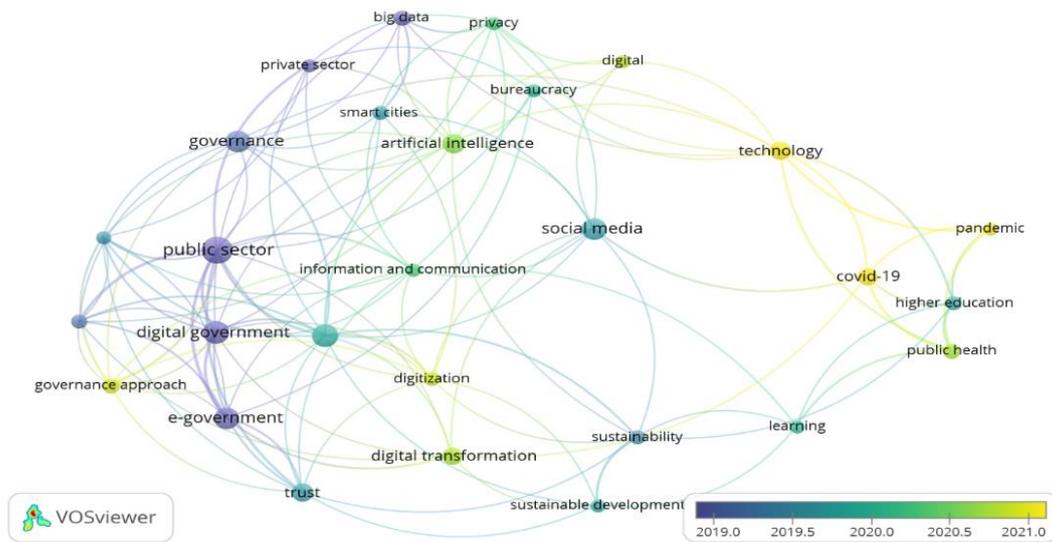
Overlay Analysis Public Sector Digitalization in the UK and US

Overlay analysis is concerned with the period between the publication of articles in the study of public sector digitalization. Overlay analysis is performed using thickness or color dominance. The node color can indicate the year of the article containing the keyword. In this context, the keyword is public sector digitalization." The darker the color of the node, the longer the topic has been discussed in the research, and vice versa; lighter nodes indicate current research topics (Waltman, 2020). Overlay visualizations on the Public Sector Digitalization in the

United Kingdom & and the United States in the scope of the past year are shown in Figures 5 and 6.
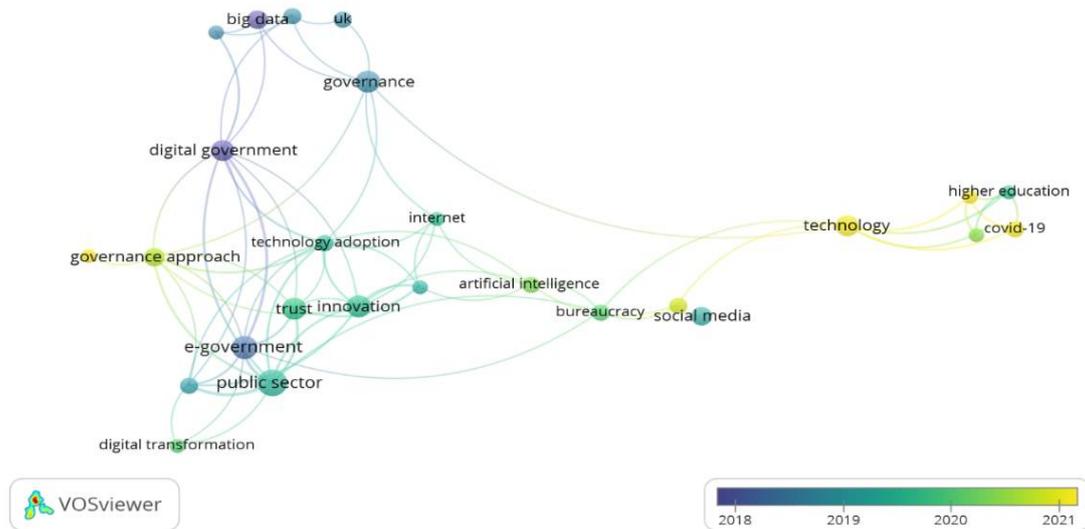
Figure 5. Overlay Analysis of Public Sector Digitalization in the UK
Source: Scopus data

Figure 6. Overlay Analysis of Public Sector Digitalization in the US
Source: Scopus data

Overlay's analysis shows significant differences related to the theme of studies in the United Kingdom and the United States related to the public sector in the digital era in the period 2018–2020. For the United Kingdom, 2018 focused on big data, digital government, and e-government, while 2019 focused on the public sector, digital transformation, and government. In 2020, research is expanding into a variety of studies, including artificial intelligence, technology adoption, and the Internet, and in 2021, the United Kingdom will focus on COVID-19. In the United States, the first half of 2019 focused on issues related to the public sector, digital, and public services. The 2020 period focuses on social media, bureaucracy, and smart cities, and the 2021 period focuses on the public sector within the scope of COVID-19, leading to a different focus each year in both the United States and the United Kingdom. Except for 2021, when the government

focused on the scope of COVID-19, the COVID-19 pandemic has caused illness, death, and disruption of daily life around the world and has become a priority for the government (Nikolaidis et al., 2022). Digital transformation due to Covid 19 is gaining increasing attention among researchers on the use of digital technologies in socioeconomic activities and public sector services.

The analysis reveals a robust trajectory in public sector digitalization, with the UK and US leading in research and implementation. The ongoing evolution in digital governance underscores the dynamic nature of this field, driven by rapid technological advancements and changing societal needs. Innovations in AI, big data, and digital platforms continuously reshape how public services are delivered. Both countries are adapting their strategies to incorporate these emerging technologies and address new challenges (Li & Ding, 2020; Drake et al., 2022; GOV.UK, 2022). This dynamic evolution is also influenced by societal expectations for more accessible, efficient, and transparent government services, particularly highlighted during crises like the COVID-19 pandemic (Lee-Geiller & Lee, 2019). Furthermore, both the UK and the US are developing comprehensive regulatory frameworks to support digital transformation while ensuring data security, privacy, and ethical use of technology, illustrating the complex interplay between technology, policy, and societal trust in the digital era.

CONCLUSION

The results of bibliometric analysis show that the number of publications on digitalization concepts in the public sector continues to increase. Based on the results of bibliometric analysis, the two biggest contributors to journal distribution are the United Kingdom (UK) and the United States (US). From the visualization results using network analysis, the public sector digitalization in the United Kingdom (UK) appears to be focused on digital tools, as can be seen from Cluster 1, namely Big Data and Platform.

The results of bibliometric analysis show that the number of publications on digitalization concepts in the public sector continues to increase from year to year. Overall, the results of a descriptive review of the bibliometric analysis showed a total of 417 journals or documents studying the public sector's digitalization in the Scopus database from 2014 to 2023. The lowest publication in 2014 was 5 articles, and the most publication was in 2022, with 114 journals. Williamson, B. has written the most articles about the digitalization of the public sector among authors who did so between 2014 and 2023 (three articles). Based on the results of bibliometric analysis, the two biggest contributors to journal distribution are the United Kingdom (UK) and the United States (US). From the visualization results using network analysis, the public sector digitalization in the United Kingdom (UK) appears to be focused on digital tools, as can be seen from Cluster 1, namely Big Data and Platform.

Cluster 2 has innovation and technology adaptation; Cluster 3 has digital tools for COVID-19, public health, education, and artificial intelligence in Cluster 4. For the United States, previous research on public sector digitalization is relevant to the implementation of e-government. It can be proven in Cluster 1, artificial intelligence, and bureaucracy. Cluster 2 shows digital movements, and Cluster 3, COVID-19. Cluster 4 refers to the implementation of sustainable development. E-government has strong ties to the topic of sustainability because digital transformation has the potential to support sustainable development. In general, the evolution of public management studies and the digitization of public services in both the UK and the US have been marked by a dynamic and continually changing trajectory influenced by historical, political, and technological factors. Both nations remain committed to exploring avenues for utilizing digital technologies to enhance the delivery of public services and the overall governance framework.

The overlay visualization results show that between 2018 and 2020, there are significant differences in research topics between the UK and the US, but with the same focus in 2021, namely the scope of COVID-19. While successful in emphasizing the importance of public sector digitalization, the research is limited in the amount of data it can analyze. The data analyzed was taken exclusively from the Scopus database; no data from other sources, such as the Web of Science, was used. Other studies should be supplemented with Web of Science data, analysis using NVivo 12 plus features, or other features not used in the study. Also, given the enormous changes that have occurred in the modern period, investigations and the publication of papers on public

sector digitization are seen as being of utmost importance. Future studies must be ramped up to offer updates and disseminate the lessons learned about public sector digitization because the public sector in the digital era faces difficulties and flaws in its implementation.

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REFERENCES

Alderwick, H. (2022). *Health system review United Kingdom*. *24*(1).

Andriansyah, A., Taufiqurokhman, T., & Wekke, I. S. (2022). *Ilmu Sosial Terapan Pandangan Pemangku Kepentingan*. *August*.

Barrutia, J. M., Echebarria, C., Aguado-Moralejo, I., Apaolaza-Ibáñez, V., & Hartmann, P. (2022). Leading smart city projects: Government dynamic capabilities and public value creation. *Technological Forecasting and Social Change*, *179*(February 2021). https://doi.org/10.1016/j.techfore.2022.121679

Castro, C., & Lopes, C. (2022). Digital Government and Sustainable Development. *Journal of the Knowledge Economy*, *13*(2), 880–903. https://doi.org/10.1007/s13132-021-00749-2

Chukwudi, C. E., Bello, W., & Adesemowo, M. M. (2023). E-Government and Democracy: A Boost to Sustainable Development. *JPPUMA: Jurnal Ilmu Pemerintahan Dan Sosial Politik UMA (Journal of Governance and Political Social UMA)*, *11*(2), 110–118. https://doi.org/10.31289/jppuma.v11i2.10651

Drake, A., Keller, P., Pietropaoli, I., Puri, A., Maniatis, S., Tomlinson, J., Maxwell, J., Fussey, P., Pagliari, C., Smethurst, H., Edwards, L., & Blair, S. W. (2022). Legal contestation of artificial intelligence-related decision-making in the United Kingdom: reflections for policy. *International Review of Law, Computers and Technology*, *36*(2), 251–285. https://doi.org/10.1080/13600869.2021.1999075

Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. (2006). New public management is dead - Long live digital-era governance. *Journal of Public Administration Research and Theory*, *16*(3), 467–494. https://doi.org/10.1093/jopart/mui057

ElMassah, S., & Mohieldin, M. (2020). Digital transformation and localizing the sustainable development goals (SDGs). *Ecological Economics*, *169*, 106490. https://doi.org/10.1016/j.ecolecon.2019.106490

Epstein, B. (2022). Two decades of e-government diffusion among local governments in the United States. *Government Information Quarterly*, *39*(2), 101665. https://doi.org/https://doi.org/10.1016/j.giq.2021.101665

Erkut, B. (2020). From Digital Government to Digital Governance: Are We There Yet?. *Sustainability*, *12*(3), 860. https://doi.org/10.3390/su12030860

Faro, B., Abedin, B., & Kozanoglu, D. C. (2019, January). Continuous transformation of public–sector organisations in the digital era. In *25th Americas Conference on Information Systems,*

AMCIS 2019.

GOV.UK. (2022). *Digital Regulation: Driving growth and unlocking innovation*. https://www.gov.uk/government/publications/digital-regulation-driving-growth-and-unlocking-innovation/digital-regulation-driving-growth-and-unlocking-innovation

Hening, P., & Kumara, G. H. (2019). Public Sector Transformation in the Digital Age: Obstacles and Challenges for the Government of Indonesia. In *Iapa Proceedings Conference*, 75–87. https://doi.org/10.30589/proceedings.2019.223

Hikmah, D. M., Indriyani, S., & Adji, W. H. (2022). Pengaruh Budaya Kerja Melalui Digital Mindset Terhadap Kinerja Pegawai di PT. XYZ. *Publik: Jurnal Manajemen Sumber Daya Manusia, Administrasi dan Pelayanan Publik*, *9*(2), 113–124. https://doi.org/10.37606/publik.v9i2.285

Hjaltalin, I. T., & Sigurdarson, H. T. (2024). The strategic use of AI in the public sector: A public values analysis of national AI strategies. *Government Information Quarterly*, *41*(1), 101914. https://doi.org/10.1016/j.giq.2024.101914

Hu, Q., & Zheng, Y. (2021). Smart city initiatives: A comparative study of American and Chinese cities. *Journal of Urban Affairs*, *43*(4), 504–525. https://doi.org/10.1080/07352166.2019.1694413

Irawan, A. (2020). Quality Of Implementation Of Public Services In The Public Service Mall (Mpp) In Sumedang District. *Journal Sampurasun: Interdisciplinary Studies for Cultural Heritage, 6*(1)*, 21–28.

Kankanhalli, A., Charalabidis, Y., & Mellouli, S. (2019). IoT and AI for smart government: A research agenda. *Government Information Quarterly*, *36*(2) 304–309. https://doi.org/10.1016/j.giq.2019.02.003

KASSEN, M. (2015). *e-Government in the United States*.

Keller, P., & Drake, A. (2021). Exclusivity and paternalism in the public governance of explainable AI. *Computer Law & Security Review*, *40*, 105490. https://doi.org/10.1016/j.clsr.2020.105490

Lapuente, V., & Van de Walle, S. (2020). The effects of new public management on the quality of public services. *Governance*, *33*(3), 461–475. https://doi.org/10.1111/gove.12502

Li, X., & Ding, Y. (2020). Holistic governance for sustainable public services: Reshaping government–enterprise relationships in China's digital government context. *International Journal of Environmental Research and Public Health*, *17*(5), 1778. https://doi.org/10.3390/ijerph17051778

Lindquist, E. A. (2022). The digital era and public sector reforms: Transformation or new tools for competing values?. *Canadian Public Administration*, *65*(3), 547–568. https://doi.org/10.1111/capa.12493

Manoharan, A. P., Ingrams, A., Kang, D., & Zhao, H. (2021). Globalization and worldwide best practices in E-Government. *International Journal of Public Administration*, *44*(6), 465–476. https://doi.org/10.1080/01900692.2020.1729182

MasterClass. (2022). *Public Sector: Definition and Examples*. https://www.masterclass.com/articles/public-sector

Meijer, A. J., Bolívar, M. P. R., & Gil-Garcia, J. R. (2018). From E-Government to Digital Era Governance and Beyond : Lessons from 15 Years of Research into Information and Communications Technology in the Public Sector. *Journal of public administration research and theory*, 1-6.

Nikolaidis, A., DeRosa, J., Kass, M., Droney, I., Alexander, L., Di Martino, A., ... & Paksarian, D. (2022). Heterogeneity in COVID-19 pandemic-induced lifestyle stressors predicts future mental health in adults and children in the US and UK. *Journal of psychiatric research*, *147*, 291–300. https://doi.org/10.1016/j.jpsychires.2021.12.058

Nurdin, I. N., Hartati, S., & Afriati, A. (2022). Trend On Public Administration Research: A Bibliometric Analysis. *TRANSFORMASI: Jurnal Manajemen Pemerintahan*, 57–66. https://doi.org/10.33701/jtp.v14i1.2530

Omar, A., Weerakkody, V., & Sivarajah, U. (2017). Digitally enabled service transformation in UK public sector: A case analysis of universal credit. *International Journal of Information Management*, *37*(4), 350–356. https://doi.org/10.1016/j.ijinfomgt.2017.04.001

Pérez-Morote, R., Pontones-Rosa, C., & Núñez-Chicharro, M. (2020). The effects of e-government evaluation, trust and the digital divide in the levels of e-government use in European countries. *Technological forecasting and social change*, *154*, 119973. https://doi.org/10.1016/j.techfore.2020.119973

Prabawa, W. G., Nurmandi, A., Misran, & Subekti, D. (2023). Innovation of Government's Policy for Bridging the Digital Divide: (Case Study in Malaysia and India). *Communications in Computer and Information Science*, *1835 CCIS*(July), 246–253. https://doi.org/10.1007/978-3-031-36001-5_32

Raji, M. A., Olodo, H. B., Oke, T. T., Addy, W. A., Ofodile, O. C., & Oyewole, A. T. (2024). The digital transformation of SMES: a comparative review between the USA and Africa. *International Journal of Management & Entrepreneurship Research*, *6*(3), 737–751. https://doi.org/10.51594/ijmer.v6i3.884

Rooks, G., Matzat, U., & Sadowski, B. (2017). An empirical test of stage models of e-government development: Evidence from Dutch municipalities. *The Information Society*, *33*(4), 215–225. https://doi.org/10.1080/01972243.2017.1318194

Sachs, J. D., Schmidt-Traub, G., Mazzucato, M., Messner, D., Nakicenovic, N., & Rockström, J. (2019). Six transformations to achieve the sustainable development goals. *Nature sustainability*, *2*(9), 805–814. https://doi.org/10.1038/s41893-019-0352-9

Said Saggaf, M. M. S. (2018). *Reformasi Pelayanan Publik di Negara Berkembang*.

Lee-Geiller, S., & Lee, T. D. (2019). Using government websites to enhance democratic E-governance: A conceptual model for evaluation. *Government Information Quarterly*, *36*(2), 208–225. https://doi.org/10.1016/j.giq.2019.01.003

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Sounderajah, V., Clarke, J., Yalamanchili, S., Acharya, A., Markar, S. R., Ashrafian, H., & Darzi, A. (2021). A national survey assessing public readiness for digital health strategies against COVID-19 within the United Kingdom. *Scientific Reports*, *11*(1), 1–24. https://doi.org/10.1038/s41598-021-85514-w

Tasyah, A., Lestari, P. A., Syofira, A., Rahmayani, C. A., Cahyani, R. D., & Tresiana, N. (2021). Inovasi Pelayanan Publik Berbasis Digital (E-Government) di Era Pandemi Covid-19. *Jurnal Ilmu Administrasi: Media Pengembangan Ilmu Dan Praktek Administrasi*, *18*(2), 212–224. https://doi.org/10.31113/jia.v18i2.808

Terlizzi, A. (2021). The digitalization of the public sector: A systematic literature review. *Rivista Italiana Di Politiche Pubbliche*, *131*(1), 5–38. https://doi.org/10.1483/100372

Van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Vogl, T. M., Seidelin, C., Ganesh, B., & Bright, J. (2020). Smart Technology and the Emergence of Algorithmic Bureaucracy: Artificial Intelligence in UK Local Authorities. *Public Administration Review*, *80*(6), 946–961. https://doi.org/10.1111/puar.13286

Vujković, P., Ravšelj, D., Umek, L., & Aristovnik, A. (2022). Bibliometric Analysis of Smart Public Governance Research: Smart City and Smart Government in Comparative Perspective. *Social Sciences*, *11*(7). https://doi.org/10.3390/socsci11070293

Wahfianka, E. R., & Mada, U. G. (2022). *Digitalisasi dan Kebijakan : Pemanfaatan Big Data Dalam Pembentukan Kebijakan. June*.

Waltman, N. J. van E. and L. (2020). *VOSviewer Manual*.

Yang, F., & Gu, S. (2021). Industry 4.0, a revolution that requires technology and national strategies. *Complex & Intelligent Systems*, *7*(3), 1311–1325. https://doi.org/10.1007/s40747-020-00267-9