

GLOBAL RESEARCH ON SMART LOCAL GOVERNANCE: A BIBLIOMETRIC REVIEW

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ABSTRACT

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This study examines the global development of smart local governance research through a bibliometric review of publications indexed in the Scopus database between 2015 and 2025. The analysis aims to identify publication trends, document characteristics, major contributors, and future research opportunities. Bibliographic data were retrieved using a predefined Boolean search strategy, resulting in 134 publications. The dataset was analyzed using the Scopus Analyze Search Results feature, focusing on publication trends, subject areas, document types, authors, institutional affiliations, countries, and funding sponsors. The findings reveal a significant increase in publications after 2020, indicating growing scholarly interest in smart local governance driven by digital transformation and governance innovation. Research is predominantly multidisciplinary, with Social Sciences and Computer Science representing the largest subject areas, while journal articles constitute the dominant publication type. Scientific contributions are widely distributed across authors, institutions, and countries, with Indonesia emerging as the leading contributor and the European Commission as the primary funding sponsor. Overall, the publication patterns demonstrate that smart local governance has evolved into an internationally recognized and interdisciplinary research field integrating public administration, digital technologies, and sustainable development. Future research should strengthen interdisciplinary collaboration and focus on governance capacity, digital inclusion, artificial intelligence, and evidence-based policymaking to support more adaptive, resilient, and citizen-centered local governance systems.



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INTRODUCTION

The rapid advancement of digital technologies has fundamentally reshaped the governance landscape, transforming how governments formulate policies, deliver public services, and engage with citizens. Technologies such as artificial intelligence (AI), big data analytics, cloud computing, blockchain, and the Internet of Things (IoT) have accelerated the transition from traditional bureaucratic administration toward more adaptive, data-driven, and citizen-centered governance systems. These technological developments have created new opportunities for governments to improve transparency, accountability, efficiency, and public participation while simultaneously responding to increasingly complex societal challenges. Consequently, the concept of smart local governance has gained significant attention as an approach that combines digital innovation with institutional capacity, collaborative governance, and evidence-based decision-making to enhance the effectiveness and sustainability of local government administration (Nam & Pardo, 2011; Gil-Garcia et al., 2016; Scholl & AlAwadhi, 2016). Rather than viewing technology merely as a tool for

digitizing public services, smart local governance emphasizes the integration of governance processes, organizational innovation, and stakeholder collaboration to create public value and improve local governance outcomes.

The increasing relevance of smart local governance is closely associated with global trends in decentralization, urbanization, and sustainable development. As the level of government closest to citizens, local governments are expected to provide responsive, transparent, and inclusive public services while addressing increasingly diverse economic, environmental, and social challenges. These expectations have encouraged municipalities worldwide to adopt smart governance strategies that integrate digital technologies with participatory governance, institutional innovation, and collaborative policymaking. Consequently, smart governance has become one of the core dimensions of smart city development, enabling local governments to improve decision-making, optimize resource allocation, strengthen institutional accountability, and promote sustainable development through digital transformation (Anthopoulos, 2017; Bolívar & Meijer, 2016). Moreover, international agendas such as the Sustainable Development Goals (SDGs) further reinforce the importance of governance innovation by encouraging governments to build resilient institutions, promote inclusive public participation, and strengthen evidence-based policymaking in achieving sustainable development objectives (United Nations, 2015).

The growing implementation of smart local governance has stimulated rapid scholarly attention across multiple academic disciplines. During the past decade, research has expanded from discussions on electronic government toward broader themes such as digital governance, smart cities, governance networks, citizen participation, artificial intelligence, open government, data governance, cybersecurity, and environmental sustainability. This expansion reflects the increasingly interdisciplinary nature of smart local governance, drawing contributions from public administration, political science, information systems, computer science, engineering, environmental science, economics, and urban planning. While this diversity has enriched theoretical understanding and practical applications, it has also fragmented the literature, making it difficult to identify the overall development of the field, major contributors, and emerging research priorities (Janssen & Estevez, 2013; Meijer & Bolívar, 2016). A comprehensive understanding of publication patterns is therefore essential for identifying research trajectories, recognizing knowledge gaps, and supporting stronger interdisciplinary collaboration in future governance research.

Several previous review studies have examined smart governance from conceptual and theoretical perspectives. Existing reviews primarily discuss governance models, digital transformation strategies, smart city frameworks, citizen participation, or the role of technology in improving governance performance (Meijer & Bolívar, 2016; Pereira et al., 2018). Although these studies provide valuable conceptual insights, they offer limited evidence regarding the evolution of global scientific production, publication characteristics, leading contributors, and institutional support shaping the development of this research field. Furthermore, the rapid expansion of digital governance initiatives following advances in artificial intelligence, data analytics, and post-pandemic public sector transformation suggests that the knowledge landscape has changed considerably in recent years. As a result, a systematic bibliometric assessment is needed to provide a comprehensive overview of publication trends, disciplinary characteristics, and global research dynamics while identifying emerging opportunities for future investigation (Zupic & Čater, 2015; Donthu et

al., 2021).

Bibliometric analysis has become an increasingly important method for evaluating scientific development because it enables researchers to systematically examine publication growth, disciplinary evolution, scientific productivity, and research collaboration within a particular field. Unlike traditional narrative reviews, bibliometric studies provide objective evidence regarding research performance and the structure of scientific knowledge, thereby supporting more informed decisions concerning future research agendas and policy development (Aria & Cuccurullo, 2017; Donthu et al., 2021). In the context of smart local governance, such an approach is particularly relevant because the field continues to evolve rapidly across multiple disciplines and geographical regions, requiring a comprehensive understanding of its current development and future direction.

Despite the increasing number of publications on smart local governance, there remains limited understanding of how the field has evolved globally in terms of publication trends, document characteristics, scientific contributors, and institutional support. Existing studies rarely integrate these dimensions into a comprehensive overview capable of explaining the maturity of the field and identifying future research opportunities. Addressing this gap is important because understanding global publication patterns can facilitate stronger international collaboration, reveal underexplored research areas, and support the development of more evidence-based governance policies. Therefore, this study aims to provide a comprehensive overview of global smart local governance research by examining publication trends and document characteristics, identifying the leading contributors in terms of authors, institutions, countries, and funding organizations, and exploring the current development and future research opportunities in this field. The findings are expected to contribute to the advancement of smart governance literature while providing practical insights for researchers, policymakers, and local governments seeking to strengthen digital governance, governance innovation, and sustainable local development.

METHOD

This study employed a descriptive bibliometric analysis to examine the global development of research on smart local governance. Bibliometric analysis is a quantitative approach that systematically evaluates scientific publications to identify research trends, publication productivity, and the characteristics of scholarly contributions within a specific field (Donthu dkk., 2021; Zupic & Čater, 2015). The bibliographic data were retrieved exclusively from the Scopus database due to its extensive coverage of high-quality peer-reviewed literature across various disciplines. Data collection was conducted using the following search query: **TITLE-ABS-KEY**((*"smart governance"* OR *"smart local governance"* OR *"smart city governance"*) AND (*"local government"* OR *"local governance"* OR *"municipal government"* OR *"municipality"* OR *"regional government"*)). The search was limited to publications published between 2015 and 2025, resulting in 134 documents, which constituted the dataset for this study.

The collected publications were analyzed using the Analyze Search Results feature provided by Scopus, which enables descriptive bibliometric analysis through statistical visualization of publication metadata. The analysis focused on seven indicators: documents per year by source, documents by author, documents by affiliation, documents by country/territory, documents by type, documents by subject area, and documents by funding sponsor. These indicators were analyzed descriptively using frequencies, percentages, and graphical representations generated by Scopus to identify publication trends, leading contributors, disciplinary distributions, and geographical patterns of smart local governance

research. The findings were subsequently interpreted to answer the research questions and to provide insights into the current development and future research opportunities in the field of smart local governance (Aria & Cuccurullo, 2017; Ellegaard & Wallin, 2015).

RESULT AND DISCUSSION

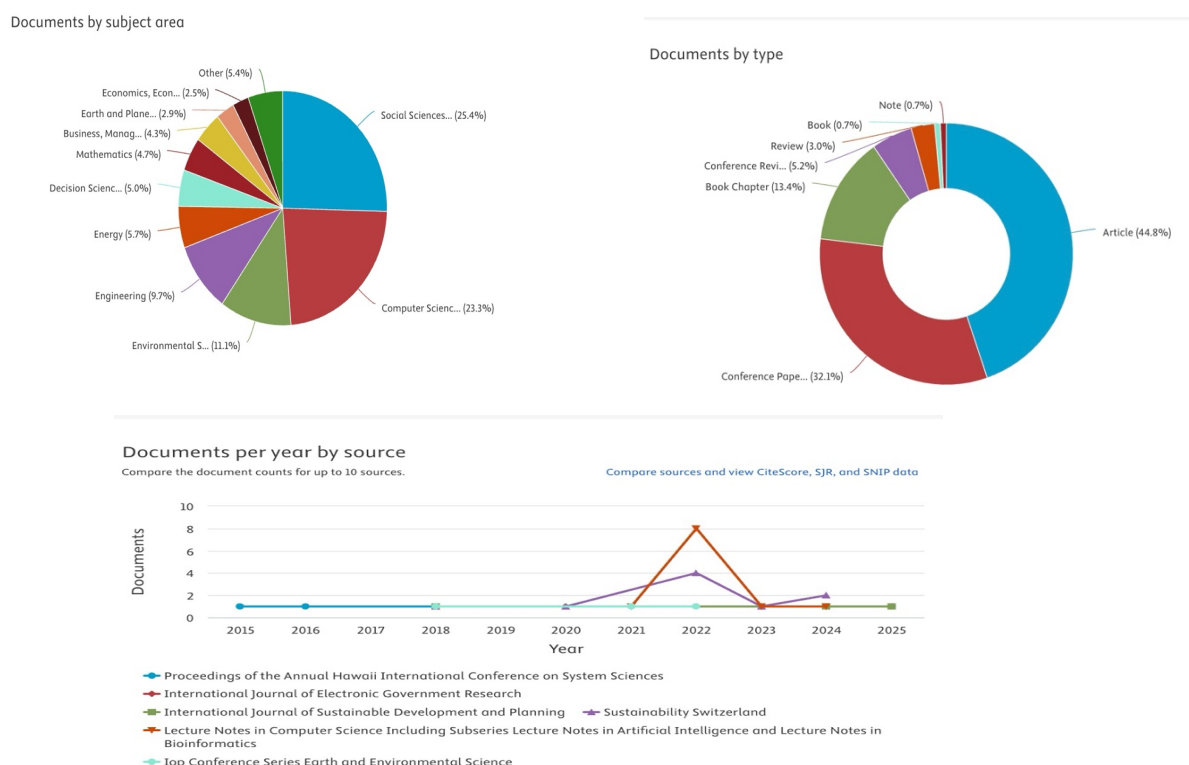
This section presents and discusses the findings of the bibliometric analysis based on 134 publications indexed in the Scopus database between 2015 and 2025. The discussion is organized according to the three research questions formulated in this study. First, the analysis examines the evolution of global research on smart local governance by exploring publication trends and document characteristics. Second, it identifies the leading contributors in terms of authors, institutions, countries, and funding organizations. Finally, the findings are synthesized to reveal the current state of smart local governance research and to identify potential directions for future research. Through this structure, the bibliometric evidence provides a comprehensive overview of how the field has evolved over the past decade and highlights emerging opportunities for advancing research on smart local governance.

How has global research on smart local governance evolved in terms of publication trends and document characteristics during 2015–2025?

To answer the first research question, the bibliometric analysis examines publication trends and document characteristics of smart local governance research from 2015 to 2025. The discussion focuses on subject areas, document types, and annual publication trends by source to illustrate the evolution and development of this research field.

Figure 1.

Publication Trends and Document Characteristics of Smart Local Governance Research



Source: Scopus database, 2026

Figure Documents by Subject Area shows that research on smart local governance is predominantly multidisciplinary, with Social Sciences contributing the largest share (25.4%), followed by Computer Science (23.3%) and Environmental Science (11.1%). Additional contributions from Engineering (9.7%), Energy (5.7%), Decision Sciences (5.4%), Mathematics (4.7%), Business, Management and Accounting (4.3%), Earth and Planetary Sciences (2.9%), and Economics, Econometrics and Finance (2.5%) indicate that smart local governance extends beyond public administration into technology, sustainability, and data-driven decision-making. This distribution confirms that contemporary smart governance increasingly integrates governance innovation with digital technologies and sustainable development to improve local government performance and public service delivery, consistent with previous studies emphasizing the interdisciplinary nature of smart governance (Nam & Pardo, 2011; Gil-Garcia et al., 2016; Meijer & Bolívar, 2016; Pereira et al., 2018).

Figure Documents by Type indicates that journal articles dominate the dataset (44.8%), followed by conference papers (32.1%), book chapters (13.4%), and review articles (6.0%), while other document types account for only a small proportion. The predominance of peer-reviewed journal articles suggests that smart local governance has developed into a more mature research field, whereas the substantial number of conference papers reflects the continuous emergence of technological innovations and digital governance concepts before their consolidation in journal publications. This publication pattern demonstrates a balance between theoretical development and technological advancement, which characterizes the evolution of smart governance research (Scholl & AlAwadhi, 2016; Anthopoulos, 2017; Pereira et al., 2018).

Figure Documents per Year by Source demonstrates that publications on smart local governance have increased considerably since 2015, with rapid growth after 2020 and a publication peak in 2022, particularly in sources such as Lecture Notes in Computer Science and Sustainability. Although publication output slightly declined after 2022, research activity remained stable through 2025, indicating sustained international interest in this topic. The dominance of sustainability- and technology-oriented publication sources suggests that smart local governance is increasingly positioned at the intersection of digital transformation, smart city development, and sustainable governance, reinforcing previous findings that technological innovation and evidence-based governance have become central elements in modern local government administration (Gil-Garcia et al., 2016; Meijer & Bolívar, 2016; Pereira et al., 2018; Anthopoulos, 2017).

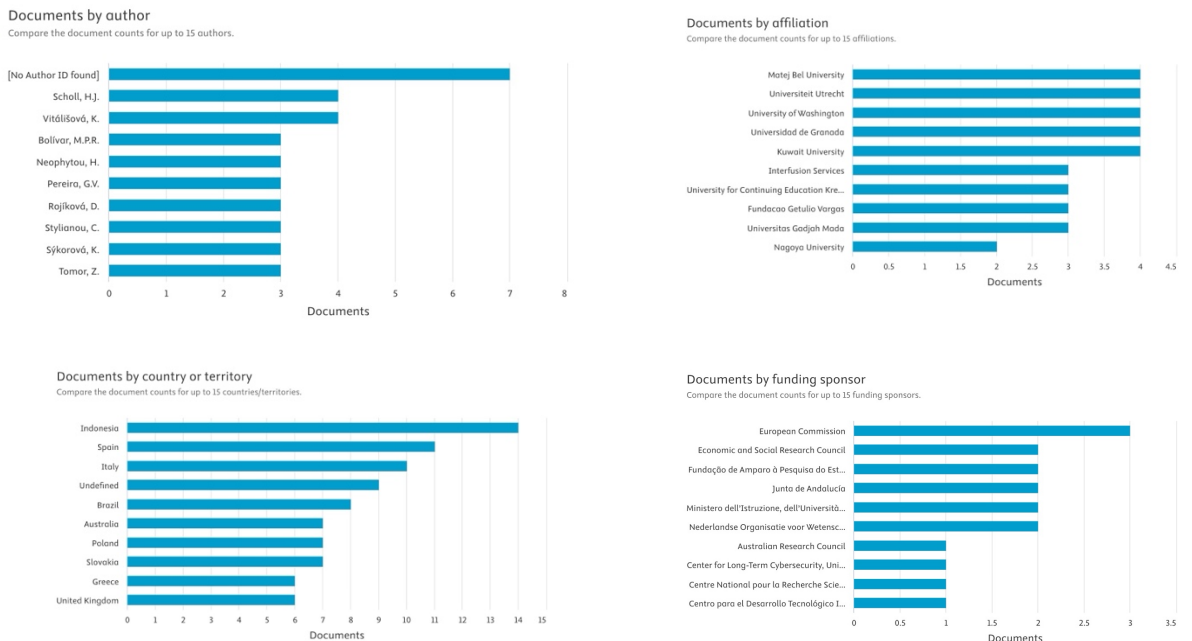
Overall, the findings indicate that global research on smart local governance has experienced steady growth and developed into an increasingly interdisciplinary field characterized by the integration of governance studies, digital technologies, and sustainability. The dominance of Social Sciences and Computer Science, together with the prevalence of journal articles and the significant increase in publications after 2020, demonstrates that smart local governance has become an important research domain responding to digital transformation, public sector innovation, and sustainable local development. These trends confirm that future research will likely continue to strengthen interdisciplinary collaboration and evidence-based approaches to address increasingly complex governance challenges (Gil-Garcia et al., 2016; Meijer & Bolívar, 2016; Pereira et al., 2018).

Who are the leading contributors to global research on smart local governance in terms of authors, institutions, countries, and funding organizations?

To address the first research question, the analysis focuses on the publication characteristics of smart local governance research, including documents by subject area, document type, and publication trends by source. These indicators provide an overview of the disciplinary distribution, publication formats, and growth trajectory of the field, enabling an assessment of how smart local governance has developed over the past decade.

Figure 2.

Global research on smart local governance in terms of authors, institutions, countries, and funding organizations



Source: Scopus database, 2026

Figure Documents by Author shows that Scholl, H.J. and Vitiálšová, K. are the most productive authors, each contributing four publications, followed by Bollor, M.P.R., Neophytou, H., Pereira, G.V., Rajković, D., Stylianou, C., Sýkorová, K., and Tomcz, Z., with three publications each. Seven publications were categorized as "No Author ID Found", reflecting incomplete author metadata in Scopus. The relatively balanced productivity among authors indicates that smart local governance remains an evolving and interdisciplinary research field rather than one dominated by a few leading scholars. This pattern reflects the convergence of public administration, digital government, urban governance, and information systems, where knowledge production is distributed across multiple international research communities (Gil-Garcia et al., 2016; Meijer & Bolívar, 2016; Pereira et al., 2018; Scholl & AlAwadhi, 2016). Such diversity also suggests that the field is expanding, providing opportunities for new scholars to contribute to theoretical and practical developments in smart governance (Janssen & Estevez, 2013).

Figure Documents by Affiliation indicates that Matej Bel University, Universiteit Utrecht, University of Washington, Universidad de Granada, Kuwait University, and Interfusion Services are the leading institutional contributors, each producing four publications. They are followed by University for Continuing Education Krems, Pontifícia Universidade Católica de Goiás, and Universitas Gadjah Mada, with three publications each. The wide geographical distribution of these institutions demonstrates that smart local governance has become an internationally recognized research agenda supported by universities and research organizations across Europe, Asia, North America, and the Middle East. The absence of a dominant institution further suggests that scientific advances are driven by collaborative and decentralized research networks, consistent with the collaborative nature of smart governance that integrates digital innovation, governance reform, and citizen participation (Nam & Pardo, 2011; Meijer & Bolívar, 2016; Pereira et al., 2018). The presence of Universitas Gadjah Mada also reflects Indonesia's increasing contribution to global smart governance scholarship.

Figure Documents by Country/Territory reveals that Indonesia contributed the highest number of publications (14), followed by Spain (11), Italy (10), Brazil (8), Australia (7), Poland (6), Slovakia (6), Greece (5), and the United Kingdom (5). This distribution indicates that smart local governance has become a global research topic extending beyond traditional centers of public administration research. Indonesia's leading position reflects growing national attention toward digital transformation, smart city initiatives, and local government innovation, while the strong contribution of European countries is consistent with their long-standing commitment to digital government, sustainable urban development, and public sector modernization (European Commission, 2020; Gil-Garcia et al., 2016; Meijer & Bolívar, 2016). Overall, the findings confirm that smart local governance research is increasingly shaped by global challenges related to digitalization, sustainability, collaborative governance, and evidence-based policymaking (Pereira et al., 2018; Anthopoulos, 2017).

Figure Documents by Funding Sponsor shows that the European Commission is the leading funding sponsor, followed by the Economic and Social Research Council, Fundação de Amparo à Pesquisa do Estado, Junta de Andalucía, Ministero dell'Istruzione, dell'Università e della Ricerca, Nederlandse Organisatie voor Wetenschappelijk Onderzoek, and the Austrian Research Council. The dominance of governmental funding agencies demonstrates that smart local governance is increasingly regarded as a strategic policy priority for promoting digital transformation, sustainable development, and innovation in public administration. This finding aligns with international initiatives encouraging governments to strengthen digital public services, institutional capacity, and citizen-centered governance through technological innovation (European Commission, 2020; Meijer & Bolívar, 2016; Gil-Garcia et al., 2016). Furthermore, the diversity of funding organizations highlights the multidisciplinary nature of smart local governance and underscores the importance of cross-national collaboration in generating innovative governance models and accelerating knowledge transfer across different administrative contexts (Pereira et al., 2018; Scholl & AlAwadhi, 2016).

Overall, the findings indicate that global research on smart local governance is characterized by distributed and collaborative scholarly contributions rather than being concentrated among a few dominant authors or institutions. The relatively balanced productivity of leading researchers, the wide geographical distribution of productive universities, the active participation of countries across Europe, Asia, Oceania, and South America, and the substantial support from governmental funding agencies—particularly the European Commission—collectively demonstrate that smart local governance has evolved into a globally recognized, interdisciplinary, and policy-driven research field. These patterns suggest that the advancement of smart local governance is increasingly facilitated by international collaboration, cross-institutional partnerships, and public investment in digital transformation and governance innovation. Consequently, the field offers considerable opportunities for expanding comparative and interdisciplinary research aimed at addressing complex local governance challenges through technological innovation, sustainable development, and citizen-centered public administration (Gil-Garcia et al., 2016; Meijer & Bolívar, 2016; Pereira et al., 2018).

What do the publication patterns reveal about the current development of global smart local governance research and its future research opportunities?

The overall publication patterns reveal that smart local governance has evolved into a rapidly growing and increasingly interdisciplinary research field, particularly after 2020, reflecting the accelerating global adoption of digital transformation and smart city initiatives. The dominance of Social Sciences and Computer Science, together with the growing number of publications in sustainability- and technology-oriented journals, indicates that smart local governance has expanded beyond traditional public administration to incorporate digital technologies, artificial intelligence, big data, and sustainable urban development (Gil-Garcia

et al., 2016; Meijer & Bolívar, 2016; Pereira et al., 2018). Furthermore, the relatively balanced distribution of authors, institutions, and countries suggests that knowledge production is globally dispersed and supported by extensive international collaboration rather than concentrated within a few leading research centers. The strong contribution from Indonesia and several European countries also demonstrates that smart local governance has become a strategic research agenda in both developed and developing countries as governments seek to modernize public services and strengthen evidence-based policymaking (Anthopoulos, 2017; European Commission, 2020).

Despite this positive development, the publication patterns also indicate several opportunities for future research. First, future studies should move beyond technological implementation by examining the institutional, organizational, and governance capacities required to sustain digital transformation within local governments. Second, greater attention should be given to comparative studies between developed and developing countries to understand how different political, administrative, and socio-economic contexts influence smart governance implementation. Third, emerging technologies such as artificial intelligence, digital twins, blockchain, big data analytics, and generative AI offer promising avenues for enhancing decision-making, citizen participation, and public service innovation. Finally, interdisciplinary collaboration should continue to be strengthened by integrating public administration, information systems, sustainability science, urban planning, and data analytics to develop more adaptive, inclusive, and resilient local governance models capable of addressing increasingly complex societal challenges (Scholl & AlAwadhi, 2016; Bolivar & Meijer, 2016; Gil-Garcia et al., 2016; Pereira et al., 2018).

CONCLUSION

This bibliometric review demonstrates that global research on smart local governance has experienced significant growth between 2015 and 2025, reflecting the increasing importance of digital transformation, governance innovation, and sustainable local development in contemporary public administration. The findings reveal that the field has evolved into an interdisciplinary domain dominated by Social Sciences and Computer Science, with journal articles serving as the primary medium for scientific dissemination. Moreover, research contributions are broadly distributed across authors, institutions, countries, and funding organizations, indicating that knowledge development is driven by extensive international collaboration rather than a limited number of dominant actors. Indonesia emerged as the most productive country, while the European Commission was identified as the leading funding sponsor, highlighting the global commitment to advancing smart governance research. Overall, the publication patterns suggest that future research should further strengthen interdisciplinary collaboration and expand investigations into governance capacity, digital inclusion, artificial intelligence, data-driven policymaking, and comparative local governance to support more adaptive, resilient, and citizen-centered governance systems. By providing a comprehensive overview of publication trends and major contributors, this study offers valuable evidence for researchers, policymakers, and local governments seeking to advance the theory and practice of smart local governance.

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