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ANALYZING THE EVOLUTION OF DIGITALIZED GOVERNANCE RESEARCH: INSIGHTFUL PUBLICATION TRENDS AND GAPS

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Abstract: *The paper attempts to throw light on the publication trends of digitalized governance by using a more inclusive approach of using keywords such as "e-governance", "digital governance" and "smart governance". By searching and extracting the relevant records from the Web of Science (WOS) Core Collection, the paper conducted bibliometric analysis on 1154 selected records that met the selection criteria. The analysis revealed that the number of publications is increasing on yearly basis in the past 5 years. This could be attributed to growing interest of researchers in this subject as well as an escalating concern among the scholars regarding increasing social issues and public awareness towards them. Similarly, most of the paper were published in China, the United State of America and India, with a substantial contribution from the Western and Central regions of Europe. Therefore, the paper emphasizes on disparities in the literature of this field and based on an in-depth analysis, concludes that future scholars should focus more on the collaboration of multiple stakeholders while studying digitalized governance.*

Keywords: *Smart governance, digital governance, e-governance, bibliometric analysis, smart cities*

1 Introduction

In the present-day context, cities are facing major environmental as well as social issues (Bolívar & Meijer, 2016) that are impacting the standard of living and overall life quality of the cities' residents. For securing and maintaining a better living standard, governments are trying several methods, one of which is famous for its innovation-oriented approach, namely Smart Governance. However, the term "governance" which is generic is often misunderstood and as per the existing literature, there is no consensus among scholars regarding its definition. On the other hand, the term "smart governance" is often associated with "digital governance" and "e-governance". While some authors argue that they are different sides of the same coin, others claim that they have different meanings and implications. Nevertheless, there is no doubt regarding the fact that in the past decade, with the rising population of city and increasingly growing issues in city, the interest of academics and scholars is escalating in smart governance.

Therefore, in order to fill the literature gap, the present paper attempts to showcase the publication trends of smart governance in the past decade (more precisely, papers from 2015 to 2025 were considered). The main objective of this research is to emphasize what research areas are more focused by the scholars when studying this topic and since the terms "digital governance" and "e-governance" are often used interchangeably, these were also included in

the research query. So, the paper covers a broader literature landscape and provides a more nuanced depiction of scholarly discourse in the field of digitalized governance.

Similarly, the current study aims to answer the following Research Questions (RQs) for guiding the author in achieving the objective of this paper and providing a road-map:

RQ 1: How did the number of publications concerning digitalized governance evolved from the year 2015 to 2025?

RQ 2: What are the most predominant research areas in the digitalized governance literature?

RQ 3: Which are the countries/regions that focused more on researching digitalized governance?

RQ 4: Which are the most dominating Sustainable Development Goals in the publications focusing digitalized governance?

RQ 5: What are the research areas in digitalized governance literature that should be more studied in the upcoming years?

By answering the above RQs, future directions for researchers can be recommended by emphasizing which research areas did not receive enough attention from the scholars despite an increased relevance and practical implications. In this way, the paper attempts to provide direction to the future researchers by filling a literature gap.

2 Methodology

The main purpose of the paper was to throw light on the publication trends of digitalized governance (*Digital Governance*, *Smart Governance* and *E-governance*). For this purpose, a wide range of relevant papers were selected and extracted from the Web of Science. Since we conducted a quantitative examination of the literature on Smart Governance, Digital governance and E-governance, bibliometric analysis was used as a method for answering the research questions proposed earlier in this paper. Sidor et al. (2025) claim that this is a well-known research methodology, which permits researchers to objectively examine the scientific literature of a research domain for revealing its trends.

The keywords used for building a query and finding relevant papers were: *"Smart Governance" OR "Digital Governance" OR "E-governance".* This resulted in a substantial number of records, which were then filtered to limit the number of publication years from 2015 to 2025 and then later on, the research areas that predominantly focused on Economics and Social Science-related fields, excluding the ones that majorly concentrated on medical and technology-related fields. Besides, a filter on language allowed us to select only records that are published in English.

After going through the screening process, 1154 records were obtained that respected the selection criteria and were deemed relevant for this research paper.

3 Literature Review

Governance is explained by Pereira et al. (2018) as *"interaction and collaboration of different stakeholders in decision-making processes"*. Similarly, Offe (2009) and Fukuyama (2016) claims that there is no consensus of the definition of this term. For the most of the 20th century, corporate governance had a well-established meaning in business and legal circles.

Nevertheless, it wasn't until the early 1990s that the adjective-less term "governance," which was purposefully employed in opposition to the more conventional word "government," became widely utilised. These days, the term "governance" is applied promiscuously to a wide range of activities that share the function of directing or controlling social behaviour.

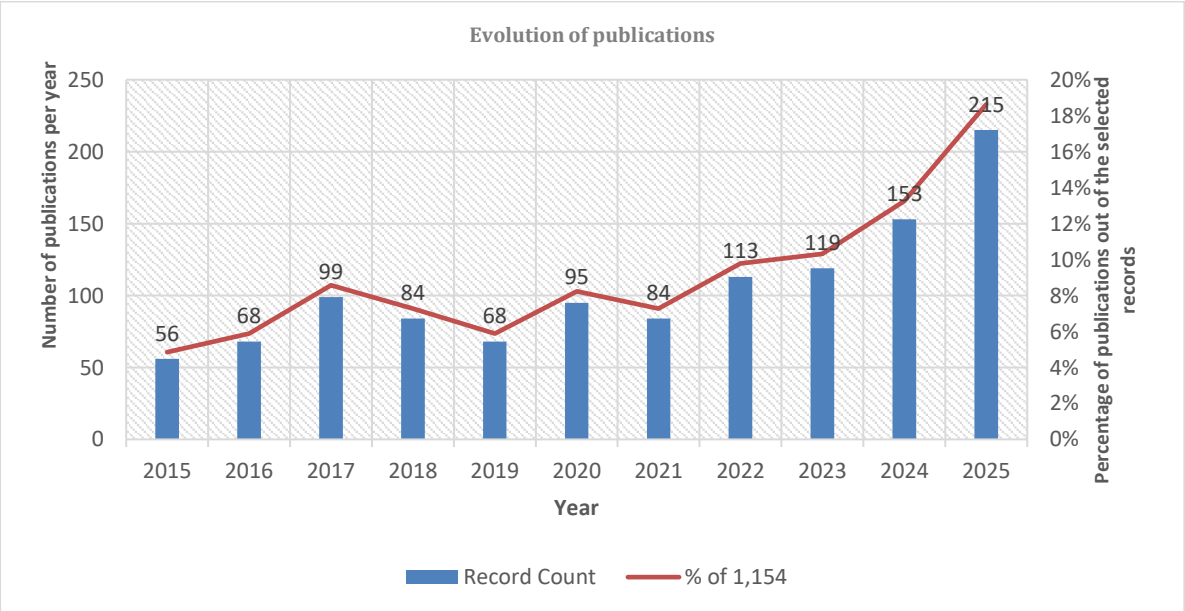
Some scholars (Offe, 2009) claim that the term *governance* has become an "empty signifier" due to its ambiguity and broad usage. Moreover, the term is oftentimes associated with a company's financial performance as corporate governance may impact managerial choices, lower risks, and increase shareholder value through procedures including board monitoring, accountability, and transparency - all of which eventually led to improved financial results (Kaur et al., 2023).

A growing number of literature (Meijer & Bolívar, 2016) today pays attention to smart cities and how they are governed. This is because when it comes to cities, securing a healthy as well as safe living environment is one of the primary concerns due to increasing social and environmental issues (Bușa et al., 2021; Ruijer et al., 2023) such as pollution and population explosion that make it difficult to meet the demands of a city's residents. This is one of the major reasons why, smart city project managers rely a lot more on a collaboration between multiple stakeholders as these partnerships can be challenging. In this context, smart governance is defined by Oprea & Kaur (2025) as a modern approach which utilizes advanced digital technologies for establishing a more people-centred government system.

Based on the above arguments, it is clear that in order to run a smart city, city developers need to apply smart governance to get better results. Similarly, in this context, digital governance represents an effective solution adopted by them to utilize digital technologies in government practices. Therefore, Humayun et al. (2020) claim that these two terms (namely, smart governance and digital governance) are actually two different sides of the same coin.

4 Results and Discussion

Figure 1. *Evolution of the number of records published in digitalized governance literature from 2015-2025*



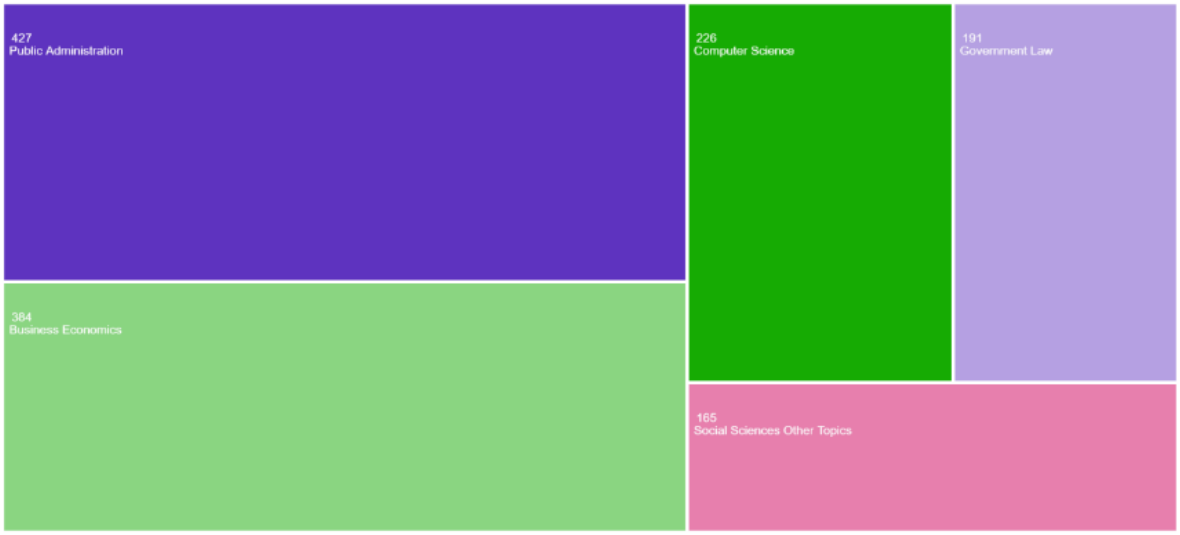
However, Oprea & Kaur (2025) argue that even though these terms are sometimes used interchangeably, but they have slightly different implications. For instance, the aim of smart governance is to enhance decision-making outcomes by using digital tools, whereas digital governance primarily concentrates on digitalization of processes and usage of digital tools. In other words, digital governance is a broader term while smart governance just combines innovative strategies with technology to get the best outcomes (in this case, a more responsive and inclusive governance).

Besides, e-governance is also often confused with digital governance. Although these terms have similarities, but the slight difference is that e-governance focuses more on using advanced digital tools to enhance government services, while digital governance is a broader notion as it aims to use technologies for enhancing all governance processes (Dawes, 2008).

After selecting and extracting the relevant records that meet the criteria (in total 1154 documents), the data was analysed. As shown in the figure above, the number of publications on digitalized governance have been consistently increasing in the past 5 years. This throws light on the fact that in academic discourse, the interest is increasing for this subject. Besides, these numbers could also be attributed to the growing social issues in the recent years, which escalated public awareness.

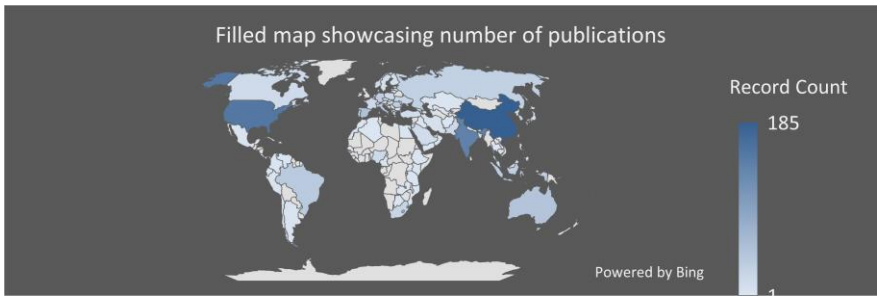
Similarly, the most common research area under which the selected articles were published are: *Public Administration* (427), followed by *Business Economics* (384), *Computer Science* (226), *Government Law* (191) and *Social Sciences Other Topics* (165). Although the social science and economics field have higher number of publication but a part of the reason why *Computer Science* has lower number of records is that during the screening process, more preference was to records focusing on social science field. However, before filtering/excluding the research areas, *Computer Science* initially had 784 records which is much higher than the other categories. Later on, a part of these publications was excluded as they were not deemed relevant for the scope of this paper.

Figure 2. *Most predominant Research Areas of digitalized governance literature indexed in WOS (2015-2025)*



Source: WOS Core Collection

Figure 3. *A filled map showcasing the most predominant geographical regions/nations of digitalized governance literature indexed in WOS (2015-2025)*

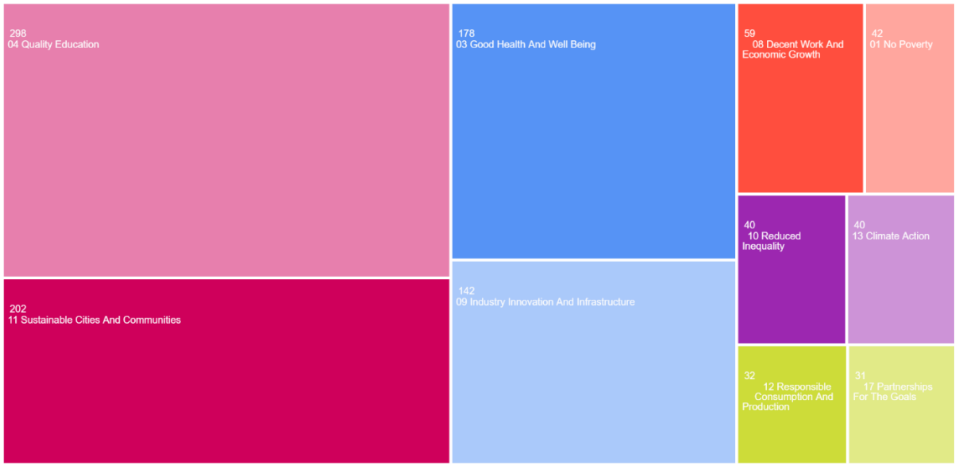


The above filled map showcases the number of records published in different regions. The countries with a darker colour illustrate the higher relative publication number in that area. As shown in Figure 3, both China as well as the United States have the darkest colour which implies that these countries dominate, followed by India, which also has a relatively darker shade in comparison to other nations. Furthermore, while Africa, much of the Middle East, and areas of South America have very low publication counts, Europe exhibits substantial coverage, especially in Western and Central regions. With moderate involvement, Australia along with a few South American nations also stand out.

Overall, the map shows that research output is concentrated in North America, East Asia, and some parts of Europe, while significant regions are still under-represented, indicating possible differences in scholarly endeavours and availability of resources worldwide.

Figure 4 shows the distribution of selected records among SDGs (Sustainability Development Goals) is dominated by the goals that have a direct impact on service quality through digital innovation or transformation such as infrastructure improvement, urban management as well as education. This implies that digitalized governance has a practical relevance and is more associated to public domains rather than economic goals (SDG 1, 8, 9 and 10). This finding is consistent with Figure 2**,** where we observed that *Public Administration* is a more common research area than *Business Economics*, when discussing digitalized governance literature.

Figure 4. *The most predominant SDG focus areas of digitalized governance literature indexed in WOS (2015-2025)*



Source: WOS Core Collection

The dominance of SDG 4 (Quality Education) shows that academics acknowledge the importance of applying digitalized governance in a city for enhancing learning environment. Similarly, higher records attributed to SDG 11 (Sustainable Cities and Communities) reminds us that a growing number of researchers (Kaur et al., 2024) argue that the concept of Smart Governance has also evolved. More precisely, Smart Governance is one of the important pillars of smart cities, which was earlier seen and perceived only as "an expression of adaptability". Nevertheless, with time, it was realized that the concept of sustainability is also evolving (Trindade et al., 2017; Tomar et al., 2019; Toli & Murtagh, 2020; Kaur & Trifan, 2024) and is an integral part of developing a smart city with improved quality of life (Macke et al., 2018). Therefore, the concept of smart sustainable city was developed which also takes into account the adoption of 17 SDGs proposed by the United Nations (UN).

Furthermore, predominance of SDG 3 (Good Health and Well-being) could be explained by the fact that in recent years, AI-driven diagnostics are increasingly gaining attention. In public service domain, health represents one of the most substantial sectors (besides education), which explains that while discussing about Smart Governance, it is impossible to ignore or overlook this goal. Similarly, SDG 9 (Industry Innovation and Infrastructure) emphasized the relationship between advanced technologies and their role in creating innovative and sustainable ecosystems.

However, the most interesting observation is that despite relevance of governance and collaboration with multiple stakeholders, there was a minimal focus on SDG 17 (Partnership for the Goals). This shows a huge literature gap that prevails at present. Likewise, Smart Governance can help in enhancing SDG 16 (Peace, justice and strong institutions) by enhancing accountability (Grossi et al., 2020) and transparency (Jacobs et al., 2020) in institutions as mentioned earlier by Almulhim & Yigitcanlar (2025) and therefore, should not be ignored while researching this topic.

5 Conclusions

Based on this bibliometric analysis, we found out about the major publishing trends in digitalized governance scholarship in the past decade. In this context, one may conclude that the paper fills a major literature gap by emphasizing what the scholars focused on and what they ignored while studying this topic. As per the findings of this paper, the number of publications concerning digitalized governance are gradually increasing on yearly basis since the past 5 years. The growing number of research papers in this field could be attributed to the escalating interest of scholars coupled with increasing awareness of public regarding the social issues in the last decade. Similarly, we observed that China, USA and India are most active publishers, while Europeans from Western and Central regions also have a substantial contribution to the digitalized governance literature. Furthermore, the paper also sheds light on the distribution of digitalized governance publications across the SDGs.

The dominance of certain SDGs which had a greater number of publications associated to them show that some SDGs (especially SDG 17) are not sufficiently researched regardless of their higher relevance to the subject. Likewise, SDGs such as Quality Education related to public sector and services were more predominant in comparison to the ones that were related to economics.

The future studies should focus more on effective collaboration of multiple stakeholders while researching about digitalized governance as this is also a substantial element of creating a sustainable, smart city. Similarly, the role that digitalized governance plays in promoting SDG 16 (Peace, justice and strong institutions) by increasing accountability and transparency in institutions must not be overlooked in academic discourse.

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