NEW TRENDS OF IDEAL TYPE: ADDRESSING WICKED PROBLEMS THROUGH COLLABORATIVE GOVERNANCE

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Abstract. Arising across borders and jurisdictions, and spanning multiple dimensions across sectors, collaborative governance has matured into an ideal type of complex problem solving. However, challenges regarding collaborative governance's reliability in responding to rapidly changing global issues exist. This study conducts a systematic bibliometric evaluation of collaborative governance literature from 2019 to April 12, 2024. The methodology for the identification of emerging themes and trends is based on a review of 478 Scopus documents and visualization of the data in Microsoft Excel. These papers suggest a trend toward widespread collaborative governance for addressing global crises, especially climate change, disaster management, and public health. Two new development trends were found: one confirms the effectiveness of collaborative governance as an efficient problem-solving approach, and the other critically analyzes the scalability, efficiency, and adaptability hampers of collaborative governance to fit in a fast-changing global environment. Both trends represent important inputs and fresh perspectives on the future direction of research in

collaborative governance, with additional opportunities for research and timely publication.

Keywords: *collaborative governance, bibliometric analysis, Scopus, Microsoft Excel, ideal type.*

Reikšminiai žodžiai: *Bendradarbiavimo valdymas, bibliometrinė analizė, „Scopus", „Microsoft Excel", idealus tipas.*

1. Introduction

In many cases, traditional governance approaches have failed to solve increasingly complex global problems. These problems are known as "wicked problems" (Emerson and Nabatchi 2015), marked by the nature of unpredictability (Alford and Head 2017), ambiguity (Schwab and Diaz 2023), lack of consensus on solutions, and complex interdependencies (Veríssimo 2023). These problems are difficult for traditional governance to address. Such failures make collaborative governance, which involves various actors from the public sector, private organizations, and civil society in the decision-making process, a promising alternative solution (Avoyan 2023). The engagement of these actors extends to collective decision-making and action.

Applications of collaborative governance have been made in the last decade with regard to environmental sustainability (Yu et al. 2024; Wang et al. 2023), disaster management (De Sisto et al. 2024; Lee 2020), and public health (Emerson 2018; Grootjans et al. 2022). These applications show a lot of interest in collaborative governance. Some of them are interested in increasing participation, engagement, and coordination between actors to achieve common goals and ensure the sustainability of collaborative networks (Yahia et al. 2021), strengthening public participation, improving accountability, and making decisions that are more responsive to public needs (Sitienei, Manderson, and Nangami 2021). In contrast, other studies point to its limitations, such as the difficulty of aligning efficiency and inclusiveness, the emergence of power imbalances between stakeholders, and challenges in scaling up collaborative initiatives to address larger and more complex problems (Hansen, Triantafillou, and Christensen 2022; Qi and Ran 2023).

The counter-trend in collaborative governance development underlies this study to explain it through a comprehensive bibliometric analysis of the collaborative governance literature from 2019 to April 12, 2024. The selected period of focus was to expand upon the work of previous studies, one of which was performed by Bartz et al. (2021), which offered a review of collaborative governance up to 2018.

This study aims to answer three key questions:
1. What are the trends in collaborative governance literature from 2019 to 2024?
2. What are the varied geographical and thematic applications of collaborative governance?

3.　What are the key contributions and critiques in the literature?

The answers to these three questions yield a systematic and current overview of collaborative governance, including its major challenges, achievements, and the direction of future research.

2. Materials and methods

2.1. Research design

The trend analysis in this study was conducted using bibliometric methods to contribute to collaborative governance from 2019 to April 12, 2024. Bibliometrics in this study is used for data processing from various previous studies on collaborative governance to evaluate the development of literature in today's rapid progress. This evaluation was done to provide recommendations for further research on this topic.

2.2. Data collection

The literature search and data collection were conducted using the keyword "collaborative governance" in the article title in the Scopus database. The first search yielded 790 documents consisting of articles, book chapters, conference papers, reviews, books, errata, notes, retracts, editorials, and letters, from 1990 to 2024.

To ensure consistency and relevance, the following inclusion criteria were employed:

- Publication: No other documents prior to 2019 until 12 April 2024 were listed. This time frame was selected to include the most up-to-date efforts in collaborative governance, and it was guided by past bibliometric reviews, e.g., (Bartz et al. 2021).
- Document type: This includes journal articles, book chapters, and conference papers, as these are the most widely recognized and shared forms of academic research.
- Language: Only documents published in English were chosen to standardize the dataset and to be able to compare it with other studies.
- Total Documents: The initial search yielded 790 documents, and subsequent application of the inclusion criteria retained 478 documents for final analysis.

2.3 Data analysis

Microsoft Excel was used for data organization and visualization. Microsoft Excel was selected, as it offers versatility in managing large sets of data as well as producing detailed graphs and tables.

3. Results

3.1. Publication and citation trends

The number of publications and means of citations in the literature analysis of collaborative governance showed a sharp increase after 2019 till April 12, 2024. A total of 478 documents were published during this period, with an average of 90 publications per year. Similarly, Figure 1 shows that the upward movement in publications continues, suggesting that the use of collaborative governance as a first-order governance architecture continues to grow. A total of 3,406 citations of the selected documents were evaluated using a co-citation citation analysis.

The publication trend is analyzed according to the number of documents published per year. As we can see in Figure 1, collaborative governance is still a hotly debated, highly cited topic. The yearly citation trend reflects the total number of documents published in a year. A citation for the article is recorded in Scopus when the authors who cited the article also post their articles on Scopus.

The top-cited article on environmental governance in 2019 was written by Sullivan et al. (2019) regarding the drought contingency planning process in the Lower Colorado River Basin. The most-cited article in 2020 was Yan et al. (2020), based on lessons drawn from China's experience with emission trading systems and their effects on air pollution.
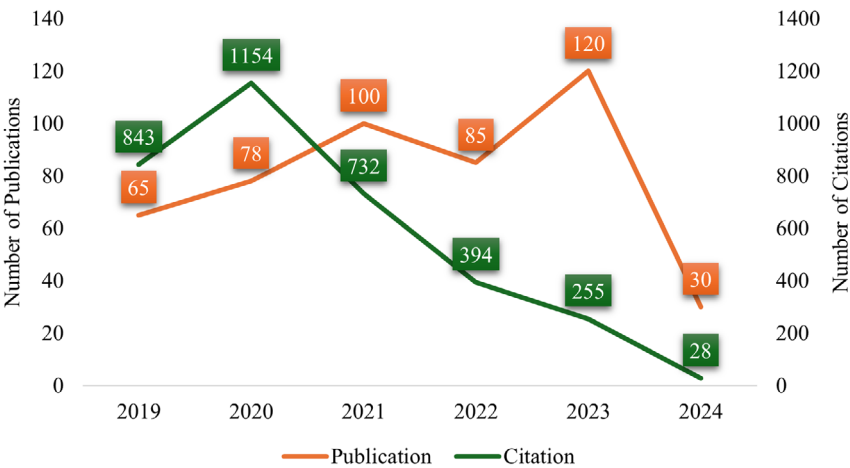

Figure 1. Number of publications and citations in 2019–2024

Unlike previous years, emphasizing empirical case studies, Bianchi et al. (2021) published a topic issue about collaborative governance implementation, and this article, in

2021, is the most cited article. Jones and White (2022) published the most cited article in 2022, on barriers to collaborative governance in the food-energy-water nexus. The most-cited article in 2023 was Wang and Ran's (2021) contrast between network and collaborative governance.

3.2. Country of study location

There is a significant share of publications on studies of collaborative governance from Asian and European countries, as indicated in Table 1, and the three leading countries responsible for generating knowledge were China (21.5%), the United States (12.8%), and Indonesia (10%). Research conducted in China focused on environment and natural resources (42%), sustainable development (27%), government and public policy (16%), health and disaster (10%), economy and business (4%), social and education (1%), and technology and innovation (1%). The United States relates to government and public policy (49.2%), environment and natural resources (34.4%), health and disasters (11.5%), economy and development (3.3%), education and research (1.6%), and technology and innovation (1.6%).

As a developing country, Indonesia generated abundant studies on collaborative governance with a discourse ranging from issues related to governance and public policy (35.4%), environment and natural resources (25%), sustainable development (20.8%), health and disaster (10.4%), economy and business (6.3%), social and education (2.1%), technology and innovation (1%), infrastructure (1%), and security and law (1%).

Table 1. Countries and the number of publications

Continent	Country and number of publications	Percentage (%)
Asia	China (103); Indonesia (48); Israel (10); South Korea (9); Malaysia (5); India (5); Nepal (3); Bangladesh (1); Philippines (1); Hong Kong (1); Japan (1); Myanmar (1); Pakistan (1); Taiwan (1); Thailand (1); multi-countries (4)	40.79
Europe	Italy (13); Sweden (12); Netherlands (9); Spain (7); France (5); Norway (5); United Kingdom (4); Finland (4); Portugal (3); Belgium (2); Austria (1); Estonia (1); Multi-country (25); Ireland (1); Germany (1); Latvia (1); multi-countries (1); Romania (1); Russia (1); Switzerland (1); Turkey (1); Greece (1)	20.92
America	United States (61); Canada (9); Brazil (3); Argentina (3); Ecuador (2); Bolivia (1); Chile (1); Colombia (1); Honduras (1); Peru (1); Suriname (1); multi-country (2)	17.99

Africa	South Africa (4); Ghana (3); Uganda (2); Cabo Verde (1); Ethiopia (1); Kenya (1); Malawi (1); Nigeria (1); Tanzania (1); multi-countries (1)	3.35
Australia	Australia (6); New Zealand (4)	2.09
Multi-continent	Multi-countries (26)	5.44
Not available		9.41

3.3. Most cited articles

Yan et al. (2020) is the most cited in 478 selected documents. The study highlights the system's ability to reduce pollution levels by developing green technologies and phasing out highly polluting industries by developing innovative governance models that combine aspects of environmental governance and carbon trading schemes. Another salient piece is Huang (2020) who analyzes Taiwan's success in responding to COVID-19, with community participation through task forces and the private sector volunteering to ease the blow during the pandemic.

Ansell et al. (2020) provide an impactful paper on inclusive governance, specifying categories such as trust, incentives, and interdependent stakeholders. Bianchi et al. (2021) propose a novel framework, communicating service policies and institutional dynamics and tackling the challenges of complex governance. Finally, Sullivan et al. (2019) investigate collaborative governance approaches to combat climate change-exacerbated water scarcity, while noting the challenge of stakeholder consensus. The top five cited articles are shown in Table 2.

Table 2. Five most cited articles

Authors	Year	Issue	Source	Total citations	Type of study
Yan, Y.; Zhang, X.; Zhang, J.; Li, K.;	2020	Air pollution	Energy Policy	152	Case/ Empirical
Huang, I. Y.-F.	2020	Fighting COVID-19	Public Administration Review	95	Case/ Empirical
Ansell, C.; Doberstein, C.; Henderson, H.; Siddiki, S.; 't Hart, P.	2020	Inclusion management	Policy and Society	73	Case/ Empirical

| Bianchi, C.; Nasi, G.; Rivenbark, W.C. | 2021 | Implementation | Public Management Review | 70 | Theoretical |
| Sullivan A.; White D. D.; Hanemann M. | 2019 | Environmental governance | Environmental Science & Policy | 62 | Case/ Empirical |

4. Discussion

This study confirms the importance of collaborative governance to address such complex challenges, which require the involvement of multiple actors from different sectors and across borders and jurisdictions. The exponential increase in publications and citations over the past five years shows that collaborative governance has become standard practice in complex problem solving while also gaining strong traction among academics as a viable governance framework. This further strengthens collaborative governance as an ideal type in solving wicked problems.

Among the findings of this study is the growing diversity of research on collaborative governance geographically, with China and the United States leading the way, followed by Indonesia. These countries have applied collaborative governance frameworks to a range of different issues, illustrating their adaptability across contexts. In China, the emphasis is on environmental governance, with collaborative governance as an important approach to address unique environmental and resource crises, namely air pollution, climate change, water management, and certification. The United States has used collaborative governance to address governance and public policy issues related to governance, public services, and social and health policy. Indonesia highlights governance and public policy issues such as environmental, health, and development policies. The summary of issues addressed through the use of collaborative governance in China, the United States, and Indonesia tentatively shows a different focus of interest between developed and developing countries. The former focuses more on policy and service maximization, while the latter focuses more on development, especially environmental and local. Furthermore, the complexity and interdependence of issues requiring multi-sectoral cooperation point to the need for collaborative governance to promote context-sensitive development in different countries.

Along with the widespread adoption of shared governance, this study also witnessed challenges emerging. As asserted by Hansen et al. (2022), while collaboration leads to inclusiveness (by its very nature), it hinders well-informed efficiency and even integrated decision-making. The involvement of multiple stakeholders with varying interests and priorities can also make the negotiation and implementation process protracted. Qi and Ran (2023) also explored paradoxes in collaborative governance, particularly regarding the challenges of overcoming power imbalances in stakeholder dynamics and achieving

equitable engagement. These challenges signal a demand for more relevant collaborative governance models that balance inclusion and operational efficiency. Collaborative governance has increasingly been seen as an effective mechanism to address global and local challenges across multiple sectors (e.g., climate change, disaster management, public health crises) that require the coordination and cooperation of multiple actors.

Moreover, increasing digital transformation, climate change, and geopolitical shifts, all of which threaten the world at a rapid pace, challenge the adaptability of collaborative governance. As collaborative governance faces increasing scrutiny in terms of its relevance to the shifting global terrain, it is necessary to re-examine its relevance to rapidly changing contexts. Alongside its success in various contexts, literature also offers critical perspectives, especially regarding its scalability, efficiency, and adaptability in a rapidly changing global context. Concerns about power imbalances, stakeholder conflicts, and maintaining efficiency direct everyone to call for a critical examination of its use in various contexts.

Future research should also consider ways in which collaborative governance can adapt to new challenges globally, especially issues related to technology, digital governance, and the growing importance of data governance. While staying true to the basic principles of inclusivity and shared decision-making, collaborative governance must also change to meet new technological realities.

In short, collaborative governance is increasingly establishing itself as the ideal type for solving complex problems. However, its current development suggests the emergence of new trends that require future research to seek new ways of creating the type of collaborative governance that can help solve the difficulties of a rapidly changing world. Finally, considering the relationship between collaborative governance and other governance models, including adaptive governance and network governance, may provide insights into how to make collaborative governance more adaptive and responsive.

5. Conclusion

a. This study aims to analyze the trends, geographical and thematic application variations, and main contributions and criticisms of the collaborative governance literature. The results found a significant growth in publications and citations from 2019 to 2024. This analysis also yields two major trends, namely the effectiveness of collaborative governance and the need to reassess its use in various contexts.

b. Collaborative governance research draws on a variety of geographical contexts. In China, it focuses on environmental governance and water resources, while in the United States, it deals with governance and public policy, and in Indonesia, it relates to environmental governance, health, and development.

c. While progress has been made in confirming collaborative governance as the ideal type in solving wicked problems, there are still gaps and challenges in collaborative

governance that require future research. With waves of technological, natural, and geopolitical changes continuing to rock the world, the resilience of collaborative governance frameworks will face the need for strengthening.

d. Future research should examine the application of collaborative governance to address increasing global challenges. Further investigation is needed to create more flexible, scalable, and efficient models that can achieve greater inclusiveness alongside successful operational effectiveness and adaptability in an evolving global landscape.

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NAUJOS IDEALAUS TIPO TENDENCIJOS: SPRENDŽIANT SUDĖTINGAS PROBLEMAS PASITELKIANT BENDRĄ VALDYMĄ

Anotacija. Bendradarbiaujantis valdymas, apimantis įvairius sektorius ir tarpvalstybinius bei jurisdikcinius aspektus, tapo idealiu sudėtingų problemų sprendimo būdu. Tačiau pradėjo kilti iššūkių, susijusių su bendradarbiavimo valdymo patikimumu reaguojant į sparčiai kintančias pasaulines problemas. Šiame tyrime atliekamas sisteminis bibliometrinis bendradarbiaujamojo valdymo literatūros vertinimas nuo 2019 m. iki 2024 m. balandžio 12 d. Kylančių temų ir tendencijų identifikavimo metodika grindžiama 478 „Scopus" dokumentų apžvalga ir duomenų vizualizavimu „Microsoft Excel" programoje. Iš šių dokumentų galima spręsti apie tendenciją plačiai taikyti bendradarbiavimo valdymą sprendžiant pasaulines krizes, ypač klimato kaitos, nelaimių valdymo ir visuomenės sveikatos. Išryškėja dvi naujos raidos tendencijos, t. y. viena iš jų patvirtina bendradarbiavimo valdymo, kaip efektyvaus problemų sprendimo metodo, veiksmingumą, kita kritiškai analizuoja bendradarbiavimo valdymo mastelio, efektyvumo ir pritaikomumo kliūtis, siekiant prisitaikyti prie sparčiai kintančios pasaulinės aplinkos. Abi tendencijos yra svarbus indėlis ir naujos perspektyvos į tolesnę bendradarbiavimo valdymo mokslinių tyrimų kryptį, o tai suteikia papildomų galimybių laiku atlikti mokslinius tyrimus ir paskelbti publikacijas.

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