Bibliometric Analysis: Trends in Innovative Government Research

Author:
Dini Adhania[1], Ismail Nurdin[2]

Affiiation:

Institut Pemerintahan Dalam Negeri, Jl. Raya Bandung-Sumedang KM. 20 Jatinangor 45363, **Indonesia** [1]

Institut Pemerintahan Dalam Negeri, Jl. Raya Bandung-Sumedang KM. 20 Jatinangor 45363, **Indonesia** [2]

e-Mail:

diniadhania@praja.ipdn.ac.id[1], ismailnurdin@ipdn.ac.id [2]

*Corresponding author
Ismail Nurdin
Institut Pemerintahan Dalam Negeri (IPDN)
Email: ismailnurdin@ipdn.ac.id

Abstract

This research presents the results of a bibliometric analysis of research trends related to innovative government from the Scopus database from 2018 to 2022. The literature study employed Publish or Perish by Harzing for citations in metric form, Microsoft Office for data frequency analysis, and Vosviewer for visualizing data. The results showed that the innovative research publications of the government have increased from 2018 to 2021, although there was a non-significant decrease in 2019. These occurred due to advances in information technology that accompany government administration, which have become a significant topic in research. Furthermore, between January and October 2022, there have been no publications regarding innovative government, but it is expected that more studies will be published in 2022. From the 25 types *of documents found, 21 articles were the most widely published. The most popular keywords include innovation, collaboration, government support, and innovative work behavior.*
Keywords: *Innovative Government; Bibliometric Analysis; Scopus; Research Trend*

Abstrak

Penelitian ini menyajikan hasil analisis bibliometrik terhadap tren penelitian terkait *innovative government* dari *database Scopus* dalam rentang tahun 2018 – 2022. Penelitian ini menggunakan metode penelitian melalui *Publish or Perish by Harzing* terhadap kutipan dalam bentuk metrik, *Microsoft Office* untuk analisis frekuensi data dan *Vosviewer* untuk visualisasi data. Temuan: Berdasarkan hasil penelitian, publikasi penelitian *innovative government* sejak tahun 2018 mengalami kenaikan hingga tahun 2021 meskipun terjadi penurunan yang tidak signifikan pada tahun 2019. Hal ini terjadi karena kemajuan teknologi informasi yang membarengi penyelenggaraan pemerintah semakin menjadi perhatian dan diminati oleh

peneliti. Hingga Oktober tahun 2022 belum ada ditemukan publikasi mengenai *innovative government.* Penulis meyakini ada penelitian mendatang yang akan dipublikasi pada tahun 2022. Dari 25 literatur *innovative government* yang ditemukan, jenis dokumen yang paling banyak dipublikasi adalah artikel berjumlah 21 artikel. Kata kunci yang paling populer antara lain *innovation, collaboration, government support,* dan *innovative work behavior.* Hal ini berarti yang paling menjadi perhatian dalam pembaruan dalam penyelenggaraan pemerintahan adalah inovasi, kolaboriasi, dukungan pemerintah dan perilaku kerja yang inovatif.

Kata kunci: *Innovative Government*, Analisis Bibliometrik; *Scopus*; Tren Penelitian

INTRODUCTION

Autonomy is an opportunity for regions to mature themselves and advance their households, while independently carrying out the duties and obligations of the regional government. Based on Law Number 23 of 2014, regional government affairs are divided into congruent affairs which form the basis of autonomy with the aim of protection, service, empowerment, and community welfare. Furthermore, the regional government has the right to determine policies related to government affairs while being guided by the decisions of the central government.

Government Regulation Number 38 of 2017 stated that Regional Innovation encompasses all forms of reforms in the administration of Regional Government. Therefore, the local government has the right to carry out reforms and innovations, such as development, public services, and other regional innovations in line with government affairs.

Innovations by the government are often supported by advances in information technology. (Lubis, 2022) stated that the success of Cimahi City in managing Innovative and Collaborative Regional Governance during the Covid-19 pandemic was marked by the introduction of a *smart city* application. In this era of advancement in information technology, it is necessary for the government to update its implementation patterns.

Information technology offers convenience in the provision of public services, which is the most visible benchmark of government performance (Kurniawan, 2017). (Novita Sari et al., 2020) discovered that the Smart Netizen application-based public service in Buyut Udik Village in the provision of population administration services can reduce manual procedures from 15 working days to 2 or 3 days. Moreover, the application helps to cut service costs that should not be incurred by the community.

Services that are limited by space and time are no longer relevant, although several types of business cannot be carried out in the network. For example, the implementation of the Sidoarjo People's Service System (SIPRAJA) showed that only 16 types of services in the SIPRAJA application can be accessed. The application does not process all letters, such as divorce, household letters, and documents that require manual processing (Aditama Azmy Musaddad, W.K. Faizin Ahzani, 2015). However, this progress indicates a willingness toward reform.

The *traditional government* which is synonymous with *paper-based administration* is starting to be abandoned (Etin Indrayani, 2011). Life on the Internet never dies, therefore, the provision of public service through electronic media can be the right solution for improving government performance and the administration of an electronic-based government system.

The concept of transformation is the main aspect to be implemented, not only the application of technology but use that supports the policy-making system and public services (Etin Indrayani, 2011). The use of technology aims to improve access to services for all levels of society. Furthermore, the implementation of an electronic-based government expands the range of services to anywhere and anytime. Services can be carried out both directly on the spot and in the network. Based on a news article on the website of the Director General of Village Government Development at the Ministry of Home Affairs, from April 1, 2016, people can make electronic KTPs (e-KTP) outside their domicile. This is an example of the development of public services, and this service can be provided easily because the e-KTP data which includes fingerprints and irises have been recorded in a population database system. Therefore, when arranging an e-KTP, it is not necessary to execute it at an individual's domicile, and is not time-consuming.

The use of internet technology helps to accelerate information exchange and provide service facilities, and transactional activities between citizens (G2C), business people (G2B), and the government (G2G) (Etin Indrayani, 2011). This development enables these services and activities to become more advanced, and quickly penetrate space and time. Moreover, it enhances the development of service patterns into *non-stop service*.

(Setiawan, 2017) stated that the application of information technology in government administration by the Balikpapan City Government affects the quality of public services. This effort, although considered new, indicates that the Balikpapan City Government aims on improving the ease of information and services needed by the community. The challenges of implementing regional innovations that utilize information technology, among others, can be seen from the desire of the apparatus to learn and adapt to advances in information technology needed for the successful implementation of regional innovation. Furthermore, a government apparatus cannot be anti-change as reforms may not be implemented properly if the officials are reluctant. According to (Buchari, 2016), the obstacles that arise in the implementation of the E-Village in Cibangkong Village are technical, namely the unavailability of professional operators in their fields. Therefore, the program has not been implemented effectively and efficiently.

(Buchari, 2016) observed that in Batununggual Village, facilities and infrastructure were already available, including computers and other devices. The process of *updating* residents online regarding the E-Service would have been carried out effectively and

efficiently. However, due to the unavailability of professional operators, this facility has not been fully utilized. Research on the LAPOR! application by (Rahmi et al., 2020) showed that the collective use of this application in the city of Mataram is still very low, due to the government's lack of incessantness in introducing it to the whole community. However, this was caused by a reduced budget given to implement the program, which required the distribution of brochures.

The phenomena and challenges shown above are significant to ascertain research trends on *innovative governments* using bibliometric analysis. This form of analysis helps to evaluate publications and productivity in a particular research area (Moed, H. & Luwel, M., 2022). Similar research has never been carried out on this subject, therefore this research aims to find trends in *innovative governance* study literature using the *Publish or Perish by Harzing* method from the Scopus database. Data were processed using *Microsoft Excel* and *Vosviewer* to produce frequency analysis and data visualization. Therefore, this research was titled "**THE RESEARCH TRENDS OF INNOVATIVE GOVERNMENT**" with a bibliometric analytical design.

METHODS

This research uses a quantitative approach with the application of bibliometric analysis, which evaluates publications and productivity in a particular study area (Moed, H. & Luwel, M., 2022). This analysis provides an opportunity for writers to evaluate blank points in between research on

innovative government from various types of writing including articles, journals, books, conference papers, and others. The research was carried out because nothing similar has been performed within the specified time range.
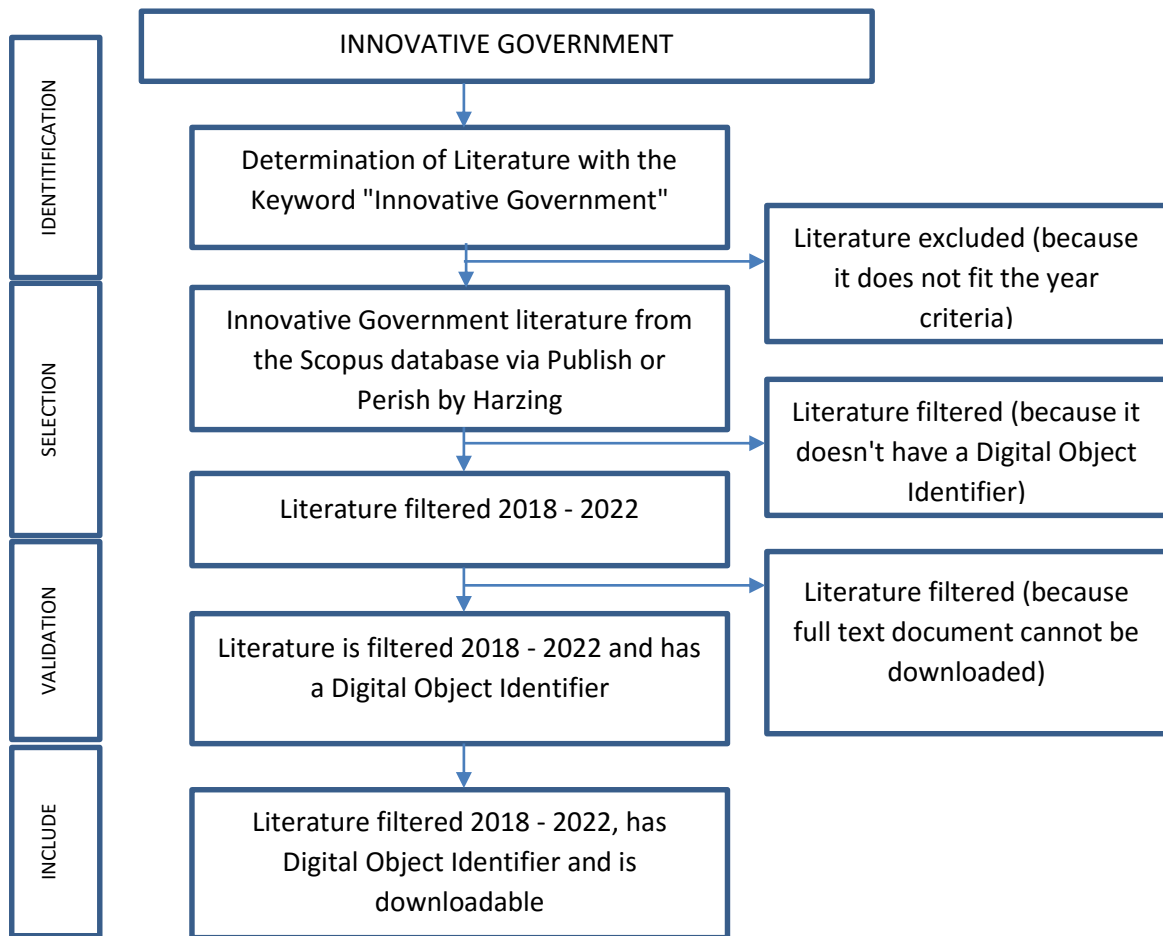
The data source for this research is all literature worldwide related to innovative government. The literature was sourced from various types of documents found in the Scopus database using *Publish or Perish by Harzing* between 2018 and October 2022. The literature selected were documents that contain the keyword "*Innovative Government*" in the title. Furthermore, *Scopus* was selected because it is a popular research database. (Ahmi, A. & Mohamad, 2019) described it as one of the most comprehensive databases containing various documents for academic research. Literature documents obtained from the *Scopus database* were stored in *RIS* format.

The files were inputted and managed with the *Mendeley* software and prepared for analysis through *Microsoft Excel* to determine data frequencies.Moreover, *Vosviewer* was used to carry out data analysis in visual form including preparing abstracts, author keywords, and full-text documents from all literature. This was an integral part of the process of identifying, screening, and testing the feasibility of research data.

The bibliometric method comprised several stages such as determining keywords, searching, selecting articles, validating, and analyzing data which was used to carry out this research

(Pambayun, 2021). The stages include determining keywords, literature search, literature selection, validation and feasibility, and data analysis.
These stages are further described below:

Figure 1. The Stages of Data Collection

Source: Processed Data, 2022

RESULT AND DISCUSSION

Innovative government literature documents were obtained from the *Scopus* database through *Publish or Perish by Harzing* from 2018 to 2022. The data collected was sourced from 2018 publications until this research was conducted in October 2022. This process derived 25 types of literature that were suitable for analysis.

In the first stage, *Innovative Government* keywords were found in a total of 157 types literature. Furthermore, in the second, the author carried out a screening to obtain only the literature that was published from 2018 to October 2022. This produced a total of 56 types.

In the third stage, it was observed that only 47 types with *Digital Object Identifiers (DOI)* were available. In the fourth, 22 types of literature could not be downloaded because the DOI could not be accessed. Therefore, only 25 types were considered worthy of research, as listed below.

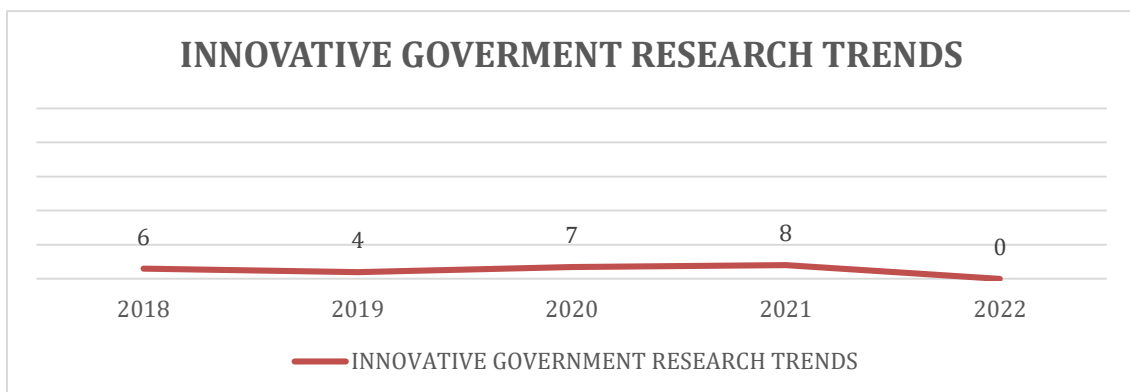| AUTHOR	TITLE
A. Gandjour	*Underuse of innovative medicines in Germany: A justification for government intervention?*
E. Ganguly	*Increasing full child immunization rates by the government using an innovative computerized immunization due list in rural India*
M. Jaradat	*Exploring perceived risk, perceived trust, perceived quality, and the innovative characteristics in the adoption of smart government services in Jordan*
H. Yoon	*A cross-national study of knowledge, government intervention, and innovative nascent entrepreneurship*
S. Park	*The impact of proactivity, leader-member exchange, and climate for innovation on innovative behavior in the Korean government sector*
D. Jugend	*Relationships among open innovation, innovative performance, government support, and firm size: Comparing Brazilian firms embracing different levels of radicalism in innovation*
Y. Liu	*Government Subsidy Strategy for Innovative Drug RD Based on the Inter-Firm Spillovers*
A.A. Grabar	*The innovative mechanism of government support for the investment activities of digital*

	universities for the provision of region's investment attractiveness in the conditions of Industry 4.0		*capital fund programs*
		E.F. Rosa	*Does PSM matter among innovative government managers?*
M. Buffart	*Even winners need to learn: How government entrepreneurship programs can support innovative ventures*	A. Gao	*Does an innovative climate help to sustain competitiveness? The moderating effect of government support and market competition*
L. Li	*The certification effect of government R&D subsidies on innovative entrepreneurial firms' access to bank finance: evidence from China*	D. Kim	*The interactive effect of government financial support and firms' innovative efforts on company growth: A focus on climate-tech smes in korea*
X. Cai	*The impact of government subsidy of manufacturing firm innovative decision in the background of low-carbon*	Z. Aisha	*The role of mohammed bin rashid school of government in capacity building towards making Dubai a leading innovative city of the future—case-study*
A.B. Santiago	*Praxis of Organizational Development in the National Government Agencies: Towards a Proposed Innovative Model*	A.N. Seow	*Small and medium-size enterprises' business performance in tourism industry: the mediating role of innovative practice and moderating role of government support*
Y. Alperovych	*Bridging the equity gap for young innovative companies: The design of effective government venture*	N. Park	*Building a culture of innovation: How do*

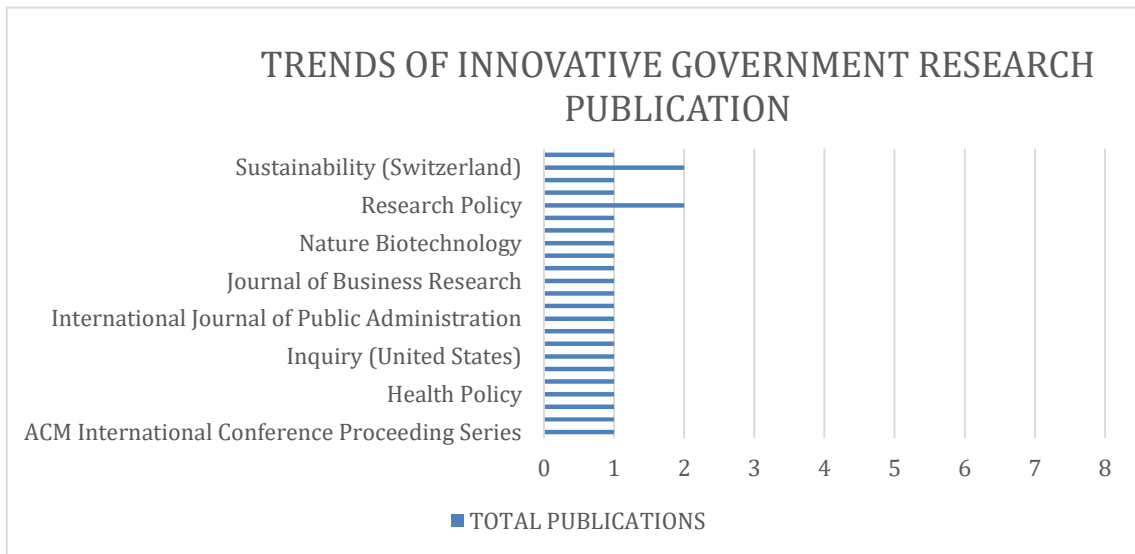|			
	agency leadership and management systems promote innovative activities within the government?	F. Gao	*Performance, Reliability, or Time-to-Market? Innovative Product Development and the Impact of Government Regulation*
D. Yembergenova	*Effects of government regulatory provisions on the innovative behaviour of HEIs and economic advancement: The case of Kazakhstan*	H.L. Tseng	*A Personal Data Innovative Government Digital Service in Taiwan: Study of MyData services: A Personal Data Innovative Government Digital Service in Taiwan*
Z. Zhang	*Examining the external antecedents of innovative work behavior: The role of government support for talent policy*	Z. Sun	*Government targets, end-of-year patenting rush and innovative performance in China*
M.A. Demircioglu	*Innovative work behaviors and networking across government*		

Source: Processed Data, 2022

Figure 2. Research Trends

Source: Processed Data, 2022
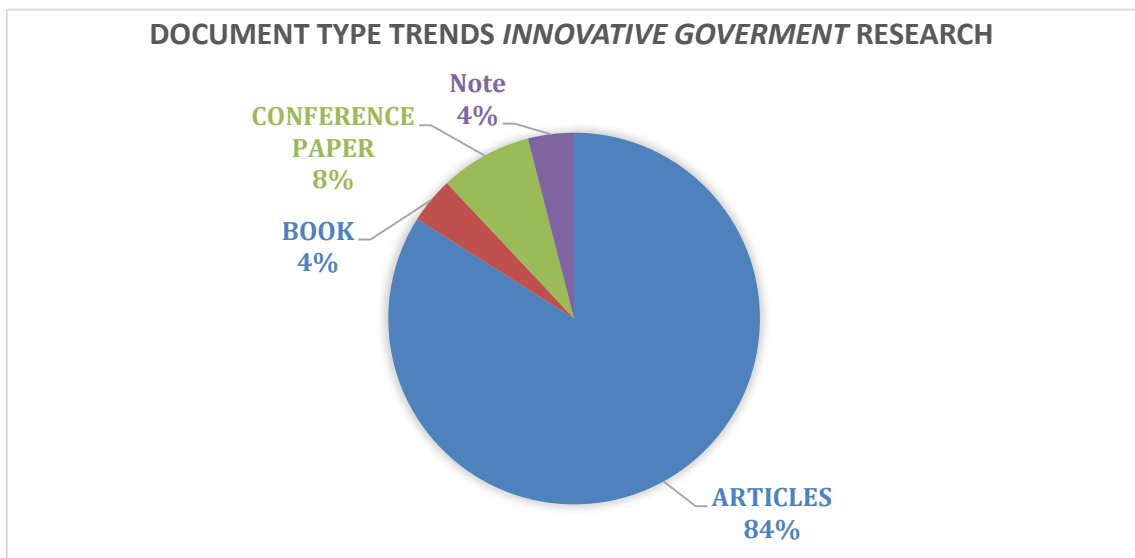
Figure 3. Publication Trends

Source: Processed Data, 2022

The *innovative government* trend examined in this research started in 2018 and has increased as shown in Figure 2. The analysis showed that in 2018, a total of 6 types of literature documents were found, namely 24%. Meanwhile, in 2019 there was a decrease to 16%, namely 4 types of literature documents, and in 2021 it increased.
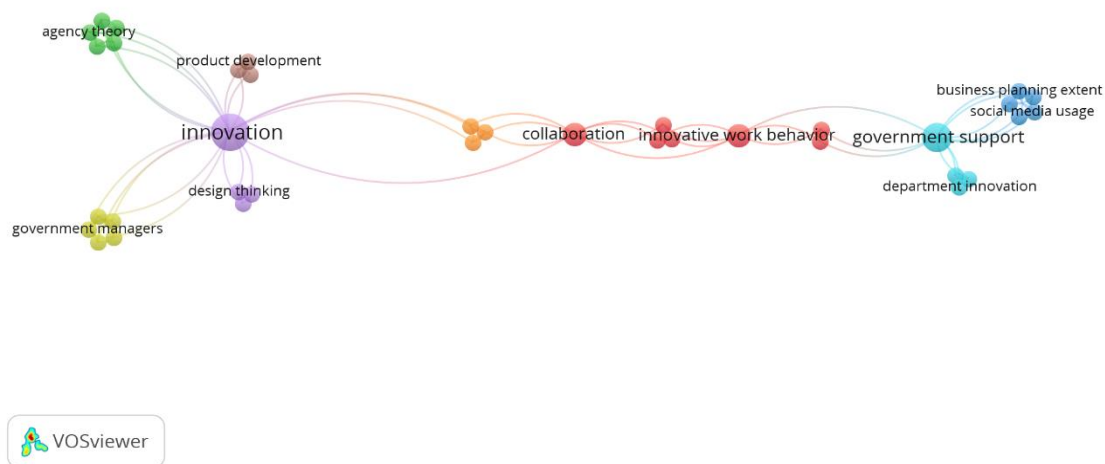
Figure 4. Document Type Trends

Source: Processed Data, 2022

The most widely published type of document was in form of articles, namely 84%, with a total of 21 types. From the 25 types of published literature, it was found that 23 were on *innovative government*. Each trend published one except for *Research Policy* and *Sustainability (Switzerland)* which published 2 documents. From 2018 to 2022, 2 conference documents were published. Meanwhile, books and notes had the same figure, namely 4% with 1 document each. The acceptance rate of articles in the two most published journals is an article on innovative government, namely 14% in Sustainability (Switzerland) and 9% in Research Policy.

Figure 5. *Co-occurrence* analysis

Source: Processed Data, 2022

From the analysis at *Vosviewer*, there were 8 identified groups or clusters that produced 36 keywords as the output. Cluster 1 consists of *collaboration, high-performance work system, innovative work behavior, networking, public organization, public sector innovation, and sustainable innovation performance.* Cluster 2 contains *agency theory, economic development, higher education regulation, Kazakhstan, and policy implementation.* Furthermore, Cluster 3 is made up of *business performance, business planning extent, innovative practice, social media usage, and tourism small as well as medium.*

Cluster 4 includes *government managers, psm, public management, public service,* and *public service motivation.* Cluster 5 consists of *design thinking, ideas, innovation,* and students. Cluster 6 contains *department innovation, government support,*

innovative climate, and *market competition.* Cluster 7 comprises an *emerging economy, open innovation, and structural equation modeling.* Finally, Cluster 8 consists of *product development, product reliability, and* time to market.

This research examines trends regarding *innovative government* from 2018 until this research was conducted in October 2022 with a citation matrix. Based on the 25 documents examined, a total of 249 citations were found. The most cited document was written by (Jugend, 2018) with a total of 58 citations.

The results of the *Co-occurrence* analysis generated from the *Vosviewer* application were used to answer questions about common research themes on *innovative government*. The most popular keywords identified include *innovation, collaboration, government support*, and *innovative work behavior*. These results were obtained in response to trending topics on *innovative government*.

The results of this research constitute a source of reference for spreading ideas, strengthening collaboration between authors, institutions, countries, and regions as well as building bridges between academics and practitioners.

This research only focuses on *co-occurrence* aspects and only used documents from the *Scopus database* which considered authenticated publications as the main source. Future research is expected to consider other publication sources to analyze *innovative government*. Furthermore, this research had a limited duration from 2018 to October 2022. This

research recommends that future studies consider documents published since the introduction of the term *innovative government* to obtain a broader picture.

CONCLUSION

Using the Scopus database, this research showed that there was an increase in literature published on *innovative government* trends from 2018 to 2021. However, in 2019, there was a slight decrease due to the advancement of information technology in correlation with government administration, which is increasingly becoming a concern and interest to researchers. From the 25 types of documents found, 21 articles were the most widely published. Furthermore, 36 keywords were found in 8 clusters, and keywords in Cluster 1 were the most popular in *innovative government* research. These results constitute a reference for further research related to government innovation, as well as the formulation and implementation of innovation in Indonesia. Future innovations can be associated with the most popular keywords according to the visualization results from *Vosviewer* namely *innovation, collaboration, government support*, and *innovative work behavior*.

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