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## A Bibliometric Analysis: Public Health in Germany during COVID-19

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### ABSTRACT

*This study aims to find out how the German state policy strategy in dealing with COVID-19. COVID-19 is a global problem that is being faced by various countries in the world as well as the biggest health crisis of the 21st century. Throughout 2020 until now the world has been shocked by the emergence of a new virus that is infecting the world today, namely COVID-19. The COVID-19 pandemic has also had a major impact on the country in controlling the spread of COVID-19 effectively. This study is based on a bibliometric review of sustainability studies, related to case studies of handling Covid-19 in Germany. The data obtained and processed are then analyzed using qualitative analysis techniques, namely analyzing to obtain an overview and categories to be patterned. Germany was one of the countries affected by the initial period of the virus emerged in Europe. After realizing the fatal consequences, the German Government carried out an integrative national policy to overcome it, until Germany slowly emerged from the crisis.*

**Key word:** COVID-19, Bibliometric Analysis, Germany Strategy

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## **1. Introduction**

The spread of the COVID-19 virus, which was initially considered a crisis involving only public health, has gradually developed into a very complex issue and affects dynamics at the local, regional and international levels. Not only causing a high death rate, the emergence of the COVID-19 pandemic as a global issue also contributed to worsening the condition of the country in various fields, such as creating a situation of political instability, causing an economic recession, increasing unemployment, to the threat of a food crisis (Moodley et al., 2021; Wang et al., 2022).

The inter-sectoral interrelationship conditions further widen the gaps that occur within and between countries, and have implications for decreasing the level of fulfillment of community welfare; especially for the elderly, indigenous peoples, people with disabilities, the poor, and other marginalized groups of people who are most vulnerable to COVID-19 and the secondary impact of the government's efforts to deal with the pandemic (DESA, 2020).

The magnitude of the multidimensional impact caused by this pandemic has finally tested the leadership and communication skills of political leaders in dealing with the COVID-19 pandemic. This is reflected in the skills of each leader in planning, coordinating, and communicating policies to all levels of society (Colleges, n.d.; McGuire, 2020). In this case, the quality of good leadership is reflected in the implementation of strategic, inclusive, and proactive policies, which are supported by an empathetic communication style by the leader, in order to instill collective awareness in all levels of society regarding the existence of the COVID-19 pandemic as a serious threat (Khan, 2020; Menezes et al., 2022). Judging from this condition, it appears that the presence of strong political leadership elements at all levels of government in controlling the COVID-19 curve and communicating health measures to the public, especially those carried out by heads of state, is one of the main keys to success in handling the pandemic in each country (Gaiduk et al., 2021; Hanifa et al., 2022).

The Covid-19 pandemic is the most serious public health disaster of the twenty-first century, and it began with the introduction of a new, lethal flu virus in Wuhan, China, in December 2019. The virus then spread over the world, to the point that the World Health Organization (WHO) reported more than 10 million infections in 216 nations or territories on July 4, 2020, with a death toll of more than half a million people (WHO 2020). Covid-19 has had a negative impact on the sovereignty and stability of nations all over the world, particularly in the areas of military and security. This was also experienced by Germany, which, along with Italy, Spain, and France, had a substantial number of transmission cases and fatalities in the European Union (EU) during the early stages of the virus's transmission in the early days of its transmission. During the early stages of the crisis in Germany, the government did not take any meaningful steps to address the situation, instead concentrating on halting the spread of the problem by testing its citizenry. As a result, the number of illnesses and fatalities in Germany during the first two months of the year was extremely high. Cases in Germany reached a zenith in April 2020, which also happened to be the country's most important time period.

## **2. Method**

This study is based on a bibliometric analysis of sustainability studies pertaining to case studies of COVID-19 management in Germany. A systematic review of the literature in the health sector is suggested to follow three stages: planning, doing the review, and reporting or socializing the results. Analytical review was conducted using this technique in this study. The bibliometric review approach is critical because it gives a classified perspective of the papers produced in each study topic, based on objective criteria for assessing and classifying articles according to

keywords. The usage of the VOSviewer program, on the other hand, enables the data to be shown graphically via a category map. Additionally, in keeping with the study's objective of analyzing the involvement of the German government in resolving COVID-19 cases, this study employed a qualitative methodology. This approach focuses on in-depth comprehension of a phenomena, is conducted in a realistic research context, and typically results in a descriptive account of the item under study's behavior.

The collected and processed data are next evaluated utilizing qualitative analysis methodologies, specifically examining to create an overview and patterning categories. The identified patterns are then interpreted using the research analysis model. The NVivo plus 12 program is designed to process and evaluate case studies on the German government's response to Covid-19. The data analysis step involves data reduction, which is the process of selecting and organizing data according to certain patterns, categories, and topics. Second, data visualization, which uses drawings, synopses, and matrices to convey data. Thirdly, there is the stage of conclusion. ( TITLE-ABS-KEY ( *covid-19* ) AND TITLE-ABSKEY ( *public* AND *health* ) AND TITLE-ABSKEY ( *germany* ) ) AND ( LIMITTO ( OA , "all" ) ) AND ( LIMITTO ( PUBYEAR,2021 ) OR LIMITTO ( PUBYEAR , 2020 ) ) AND ( LIMITTO ( DOCTYPE , "ar" ) ) AND ( LIMITTO ( EXACTKEYWORD , "COVID19" ) OR LIMITTO ( EXACTKEYWORD , "Germany" ) OR LIMITTO ( EXACTKEYWORD , "Pandemic" ) OR LIMIT-TO ( EXACTKEYWORD , "Coronavirus-Disease-2019" ) OR LIMIT-TO ( EXACTKEYWORD , "SARSCoV2" ) OR LIMITTO ( EXACTKEYWORD , "PublicHealth" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) OR LIMIT-TO ( LANGUAGE , "German" ) )

### **3. Findings and Discussion**

This country can reduce the death rate by only 4 percent. The country with the capital city in Berlin has implemented a policy of strengthening infrastructure in the health sector to regional quarantine (lockdown). When the first case occurred on January 27, 2020 in Germany, this country immediately formed a corona crisis team. This means that this country does not underestimate Covid-19, unlike other countries which consider this to be just a common cold and do not feel worried even though the number of infections is more than 100 thousand (Assembly, 2015). Then, Germany also quickly made a lockdown policy. Two weeks after the lockdown, the number of German citizens infected with the corona virus reached 100,000. But on April 28, the number decreased by 50 people per 100,000 and the Bundesliga in Germany has been running since May 16, 2020. This is an achievement and has received a positive view from the international community. Germany is firm, starting from making policies to implementing them on the ground. In addition, the German government's policies are clear, do not use complicated language, are easy to understand, and can be applied directly by the public. This makes community discipline to be higher.

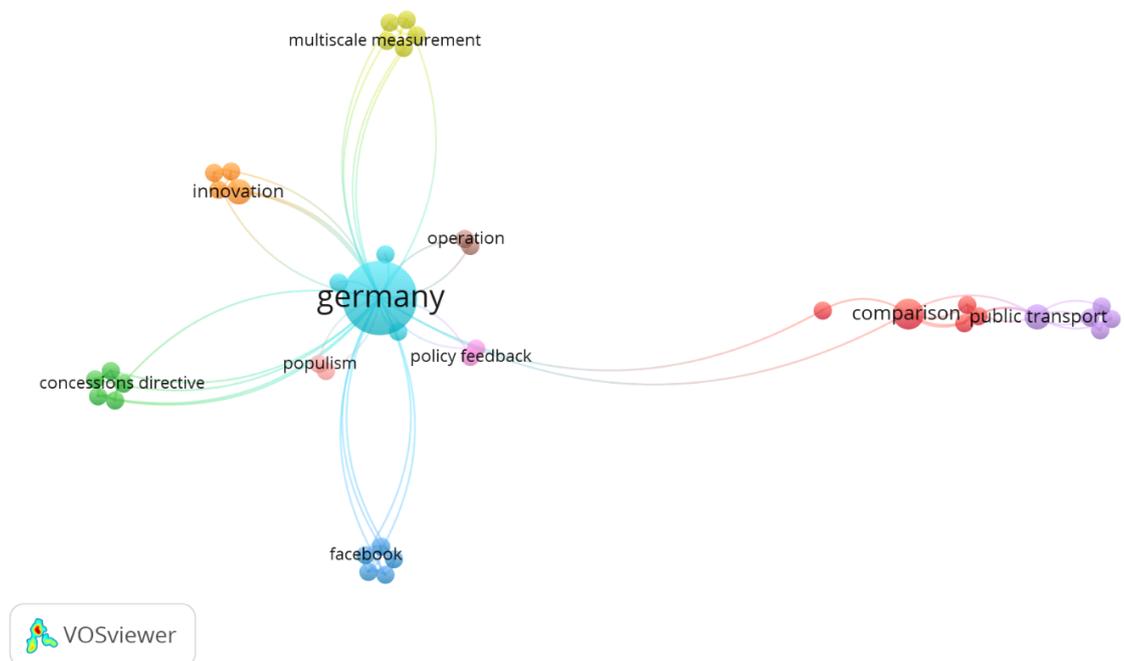
According to (Clay et al., 2022; Stelzenmuller, 2020), (Angela) Merkel has the ability to combine leadership and politics, so that she is successful as a fast-responsive and accurate leader (decisive leadership) in overcoming crises, for example when Germany decided to conduct TTT through detect and prevention. Although initially this method was widely criticized by the public, the facts show that prevention and detection strategies are the key reduction in Covid-19 cases in Germany (O.E.C.D., 2020). The TTT strategy is considered logical to be carried out at the beginning of the case, because it is impossible to stop the virus from spreading directly, which can only be overcome with vaccines. Meanwhile, the vaccine discovery process takes years of research. This method is increasingly positive for Germany because Germany is one of the countries with the

largest number of laboratories in the world, which is capable of carrying out Covid-19 tests of 1 million people/day (Haroon & Thaver, 2022; Spahn, 2020).

Germany as a federal state has a hierarchical mandate from the center to the regions. This means that government policies in the regions and the central government are equally high. However, the coordination between the central and regional governments is considered very running. They have an evaluation mechanism every two weeks. After the review there was an announcement made by the government and it was open and clear to show what steps would be taken in the future. So, there is commonality and consistency in Berlin's central government and the states. Equally important is the readiness of health infrastructure. In Germany there are about 2,000 hospitals, besides that this country has 28,000 intensive care units (ICUs) and 35,000 ventilators. The amount of health infrastructure is said to be very high compared to other countries in Europe. Germany has also been criticized for having a lot of hospitals, but this large number has been very helpful during this pandemic. The health infrastructure factor in Germany is indeed very good. Germany is now even helping patients from neighboring countries such as Italy and France. In fact, Germany also has a policy of having vaccine research funds. The fund reached 3.5 billion Euros.

This policy is a very valuable lesson for Indonesia or other countries around the world. The state can invest in health infrastructure, develop vaccine technology, and also invest in other fields in the event of a virus pandemic. Hopefully the policies of the German government can be a reference for handling the corona virus in Indonesia.

**Figure 1.** A Bibliographic Analys of Public Service in Germany

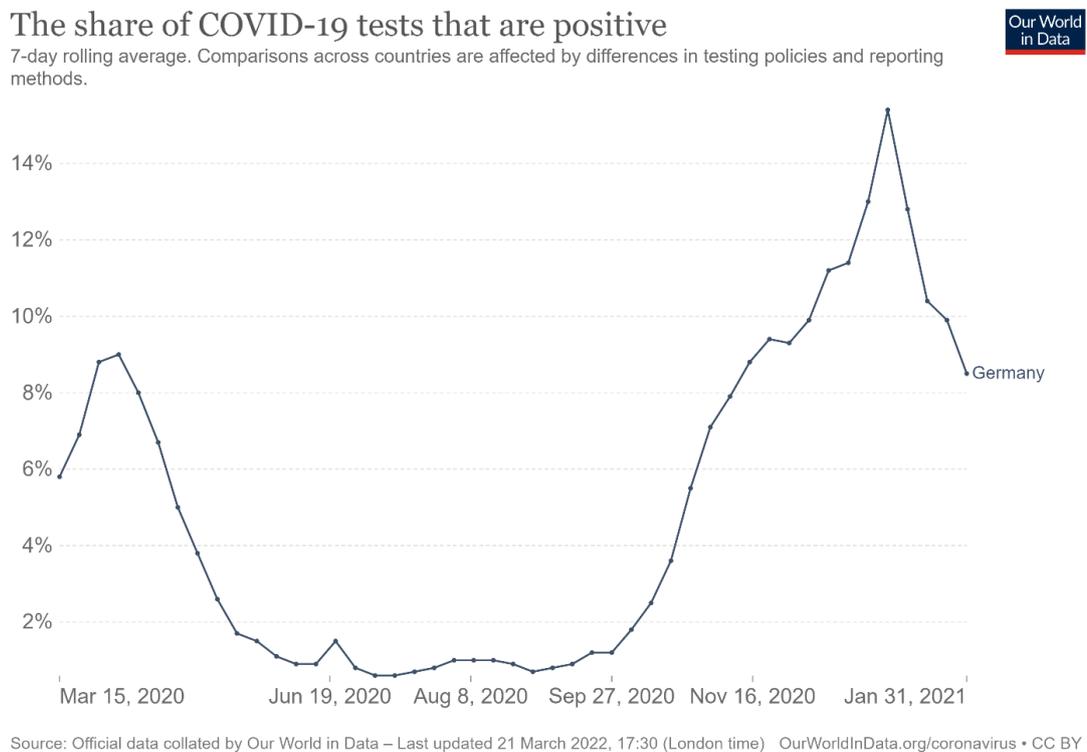


Being some of the central themes on which the new public management (NPM) is based, rational, and public choice theory is often applied in contemporary public administration. As mentioned in figure 1 explaining about the public service in Germany. As mentioned in figure 1, there is an issues is coming from the various public sector such as policy feedback, populism, concessions directive, innovation, operation, Facebook, comparison, and public transport. For

policy feedback, it includes the comparison and public transportation, since trolleybus is the most used public transportation in Germany. There is also Facebook which is useful in public service role. Other than that, the role of the media in disseminating news and information about Covid-19 to the public is certainly very large and useful.

As we can see in the picture, there is a main points that are coming up from the health sector about public services in Germany, such as the policy coordination, policy feedback, etc.

**Figure 2.** The Share of COVID-19 Tests That Are Positive



The wave of the pandemic in Germany occurred 2 times. The first wave of pandemics occurred in 2020 with a percentage of 1 to 8% and the second wave of pandemics occurred in January 2021 with a very significant increase from the previous year. The lowest Covid-19 cases occurred in June 2020, there was a significant decrease in positive cases. The decline in Covid-19 cases at that time occurred due to policies due to supporting programs.

**Table 1.** The Percentage of Public Service Items in German

Cluster	Item	Total
1	Bus Comparison Continuous Increase	16,6
2	Concessions Directive Political Parties	16,6

Cluster	Item	Total
3	Water Services	16,6
	Facebook	
	Journalism	
4	Political News	16,6
	Multiscale Measurement Nature	
	Attractiveness	
5	UNESCO Natural World Heritage	16,6
	Public Transport	
	Spatial Analysis	
6	Urban Fabric	13,3
	Germany	
	Policy Coordination	
7	Policy Feedback	13,3
	Innovation	
	Innovation Policy	
8	Structurally Weak Regions	6,6
	Operation	
	Trolleybus	
9	Policy Feedback	6,6
	Vignette Experiment	
10	Populism	6,6
	Refugees	

The percentage of each cluster are mentioned in table 1. The cluster 1 percentage is 16,6 % are covering about Bus, Comparison, and Continuous Increase. The cluster 2 percentage is also 16,6% are covering about Concessions Directive, Political Parties, and Water Services. The cluster 3 percentage is also 16,6% are covering about Facebook, Journalism, and Political News. The cluster 4 percentage is also 16,6% are covering about Multiscale Measurement, Nature Attractiveness, and UNESCO Natural World Heritage. The cluster 5 percentage is also 16,6% are covering about Public Transport, Spatial Analysis, and Urban Fabric. Meanwhile the cluster 6 percentage is 13,3% are covering about Germany, Policy Coordination, and Policy Feedback. The cluster 7 percentage is 13,3% are covering about Innovation, Innovation Policy, and Structurally Weak Regions. Meanwhile the cluster 8 percentage is 6,6% are covering about Operation and Trolleybus. The cluster 9 percentage is also 6,6% are covering about Policy Feedback and Vignette Experiment. The cluster 10 percentage is also 6,6% are covering about Populism and Refugees.

**Figure 3.** Analysis of Issues in Public Service in Germany in 2017-2022

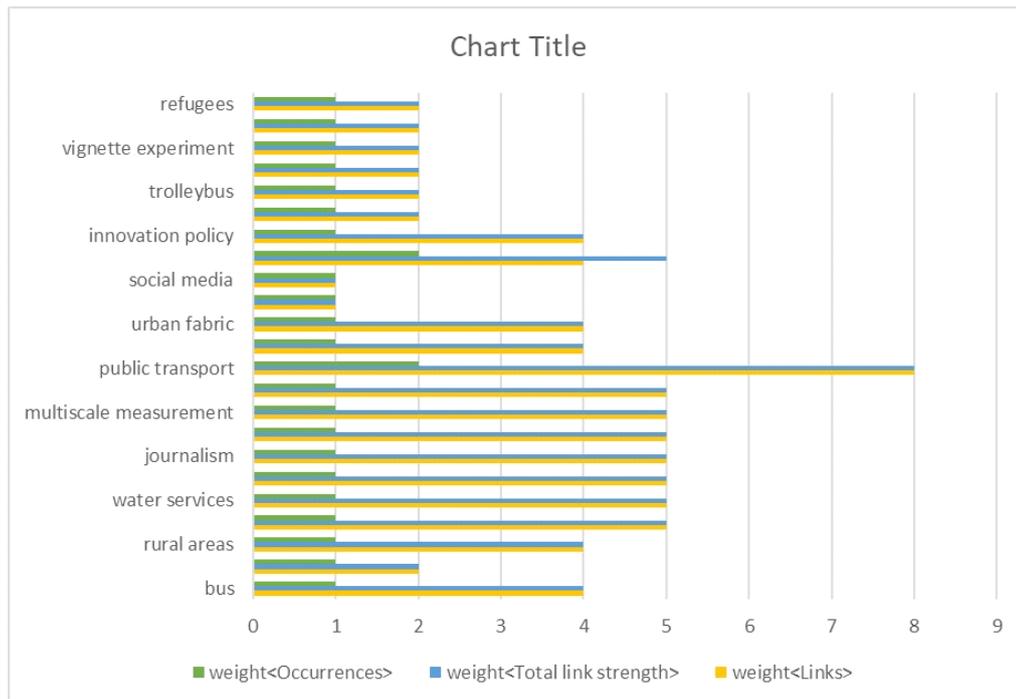


Figure 2 shows that the analysis of issues in public service in Germany from 2017 to 2022 is dominated by studies of public transport, innovation policy, multiscale measurement, journalism, and water service. Of course, the results of this study will show that the opportunity to conduct research on public service issues is still very broad and deep.

#### **4. Conclusion**

The number of German citizens infected with the corona virus reached 100,000. The first case occurred on January 27, 2020 and this country immediately formed a corona crisis team. Two weeks after the lockdown, the number decreased by 50 people per 100,00 and the Bundesliga in Germany has been running since May 16, 2020. This is an achievement and has received a positive view from the international community. The German government can learn a lot about how to deal with a pandemic such as the corona virus in Indonesia.

There are issues coming from the various public sector such as policy feedback, populism, concessions directive, innovation, operation, Facebook, comparison, and public transport. The role of the media in disseminating news and information about Covid-19 to the public is certainly very large and useful.

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