

## Analysis of the Synergy of the Penta Helix Model in Handling COVID-19 at the Pekanbaru City Level

**Ardiansyah<sup>1\*</sup>, Suparto<sup>2</sup>, Wira Atma Hajri<sup>3</sup>, M. Rafi<sup>4</sup>, Pahmi Amri<sup>5</sup>**

<sup>1</sup> Department of Law Science, Universitas Islam Riau, Indonesia

<sup>2</sup> Department of Law Science, Universitas Islam Riau, Indonesia

<sup>3</sup> Department of Law Science, Universitas Islam Riau, Indonesia

<sup>4</sup> Master of Government Affairs and Administration, Universitas Muhammadiyah Yogyakarta, Indonesia

<sup>5</sup> Department of Government Studies, Universitas Islam Riau, Indonesia

\*Corresponding Author Email: [ardiansyah@law.uir.ac.id](mailto:ardiansyah@law.uir.ac.id)

Received: 18 December 2022; Revised: 19 January 2023; Accepted: 20 January 2023

### Abstract

*The government has a crucial role in the management of COVID-19 since it is a leader. However, to speed up breaking the chain of transmission of COVID-19, the government needs various solutions from various stakeholders, considering that the COVID-19 pandemic is a broad problem and all parties are required to work together to achieve this goal. This study aims to explain the influencing factors and implications of the Penta Helix synergy in handling COVID-19 at the Pekanbaru City Level. This study then used a qualitative analysis method with Nvivo 12 Plus as an analytical tool to help visualise data from online media. The findings of this study indicate that the factors that influence the synergy of the Penta Helix model in handling COVID-19 at the Pekanbaru City Level include the role of government, involvement, and equality between actors, joint decision-making processes, formal organization, consensus, and collaboration factors in problem-solving. Then, the synergy of the Penta Helix model in handling COVID-19 in Pekanbaru City has two impacts, namely, the implications for developing the spirit of cooperation and accelerating the handling of the COVID-19 pandemic in Pekanbaru City. The implications of this research provide a reference for the importance of strengthening actor synergy based on a systematic mapping of the balance of roles of each stakeholder to optimally contribute to handling COVID-19 at the Pekanbaru City Level.*

**Keywords:** COVID-19 Handling; Penta Helix Model; Synergy

Copyright © 2023 by Authors, Published by Pusat Penelitian Ilmu Sosial dan Humaniora Kontemporer, Indonesia. This is an open access article under the CC BY-SA License (<https://creativecommons.org/licenses/by-sa/4.0>).

**How to Cite:** Ardiansyah, A., Suparto, S., Hajri, W. A., Rafi, M., & Amri, P. (2023). Analysis of the Synergy of the Penta Helix Model in Handling COVID-19 at the Pekanbaru City Level. *Journal of Contemporary Governance and Public Policy*, 4(1), 1-22. <https://doi.org/10.46507/jcgpp.v4i1.88>

**Permalink/DOI:** <https://doi.org/10.46507/jcgpp.v4i1.88>

## Introduction

Currently, the Indonesian people are still facing the COVID-19 pandemic, which is capable of giving birth to a governance crisis and policies for handling outbreaks in various regions (Roziqin et al., 2021). Almost all regions face uncertainty and pessimism in dealing with COVID-19 (Agustino, 2021). Then, the government is very aggressive in carrying out various policies to deal with COVID-19 (Dirkareshza et al., 2021). This makes sense since the widespread COVID-19 pandemic has had a big effect on every part of human life (Gryszczyńska, 2021). Not only does it threaten the health sector (Airhihenbuwa et al., 2020), but it paralyses various social aspects (Agostino et al., 2020), the economy (Poudel & Subedi, 2020; Yuniti et al., 2020), and also politics (Mohammed et al., 2021). All parties, starting from the government and non-governmental institutions, both private and public, must work together to deal with the COVID-19 case, where various approaches from various actors are needed to truly provide justice and comfort for each affected community (Djalante et al., 2020; Roziqin et al., 2021; Wiratraman, 2020). In overcoming the COVID-19 problem, the government is an important part because it acts as a leader. However, the government also needs various solutions from various stakeholders because the COVID-19 pandemic is a broad problem and all parties are required to work together to achieve the expected goal, namely the end of the COVID pandemic in Indonesia (Amarullah et al., 2021; Rafi et al., 2022; Subekti et al., 2021; Upe et al., 2021).

The existence of the COVID-19 virus that has spread throughout the world is classified as occurring at an alarming rate, infecting millions of people and causing economic problems in various countries, including Indonesia, on a scale that has never been seen before (Aristovnik et al., 2020; Roziqin et al., 2021). In overcoming the COVID-19 problem, the government is an important part because it plays a role as a leader in handling COVID-19 (OECD, 2020; UNICEF, 2021). Initially, the Indonesian government's strategy to stop the COVID-19 pandemic was to implement social or physical distancing that had been implemented by the central government on March 15, 2020. All of this was done to stop the COVID-19 virus from spreading. However, in reality, the policy has not been able to stop the spread of COVID-19, so on March 31, 2020, the government imposed large-scale social restrictions, which is one of the next steps to stop the spread of the COVID-19 virus (Roziqin et al., 2021; Sagala et al., 2021). The government has also implemented various policies, such as preventive, promotive, and social safety net policies, to stop the spread of COVID-19 (Agustino, 2021; Qodir et al., 2020). Not only that, but the government has also developed a "new normal" policy, which is an adaptation procedure for the public to follow during the COVID-19 epidemic and is outlined in government rules (Roziqin et al., 2021). Then, local governments have also used many different ways to carry out communication strategies with people in their areas. Among them are coercive, informative, canalizing, educative, persuasive, and redundancy techniques in packaging messages in the form of instructions and appeals to the public to stop the spread of COVID-19 in their respective regions (Djalante et al., 2020; Roziqin et al., 2021).

In general, in dealing with COVID-19, the efficiency of response and responsiveness is an important step for the government to strengthen public health conditions (Djalante et al., 2020). In addition, the weather component in the process will also be significantly correlated with the COVID-19 pandemic, so this is an input for the government to reduce the number of COVID-19 events by analysing the weather conditions being experienced (Tosepu et al., 2020). The government has done a lot to combat COVID-19 in its implementation. Using the Indonesia Endowment Fund for Education, the Indonesian Ministry of Research and Technology/National Research and Innovation Agency and the Ministry of Finance have worked together to promote research and innovation related to the COVID-19 response to manage the pandemic and end this disaster as quickly and effectively as possible. However, even so, there is still much that needs to be improved, so that scientists, teachers, lecturers, and researchers also play a very important role in fighting COVID-19 (Susanna, 2020). Therefore, the implementation of the policies set to combat the COVID-19 pandemic is something that needs to be emphasized, where at the implementation level, of course, the government is expected not to ignore several community rights such as the right to get basic health services based on medical needs, food needs for small communities, and basic needs of life without exception (Lancaster, 2020).

As of Wednesday, November 30, 2022, the total number of positive cases of COVID-19 in the world has reached 646,874,295 people, with a total death rate of 6,638,544 and 625,298.794 people who have been declared cured. Based on the number of Covid-19 in the World, the United States at the end of November 2022 was still in the first place, with the overall total being the highest in the world, with a total of 100,532,711 cases. The US is also the country with the most deaths due to COVID-19 in the world, with a total of 1,105,049; this death rate is twice that of the countries that were severely affected below (Pikiran-rakyat.com, 2022). On the other hand, the COVID situation in China as of November 30, 2022, has a total of 4,288 confirmed cases and 33,540 asymptomatic cases. In the process, China simplified the risk management system for areas with positive cases of COVID-19 from three categories of high, medium, and low risk to only two categories, namely high and low risk (China-briefing.com, 2023). Several countries that experienced a significant increase at the end of November 2022 show the relevance of threats to similar events in Indonesia, where positive daily cases of COVID-19 in the country are still occurring (Alam et al., 2022). In Indonesia, those who were reported to have confirmed COVID-19 increased by 5,609 on November 30, 2022. So that the total number of positive confirmed cases of the Coronavirus in Indonesia from March 2020 to the end of November 2022 became 6,664,844 people (Liputan6.com, 2022).

Then, various forms of synergy can be used as an acceleration model in handling the Covid-19 pandemic, such as the triple helix model, quadruple helix model, and Penta Helix model. The Penta Helix synergy model is thought to be the best way to deal with the COVID-19 pandemic out of the three that were mentioned (Caraka et al., 2021). This was reinforced by the statement of Doni Monardo as the Head of the COVID-19 Task Force, who explained that the synergy of the Penta Helix model based on regional values or local wisdom can be used as an alternative to reduce the spread of the COVID-19 virus

(Liputan6.com, 2020). In handling COVID-19, the Penta Helix framework is one of the strategies for handling the COVID-19 pandemic, which is quite effective (Upe et al., 2021). This is because, with the synergy of the Penta Helix, the industrial sector, government, academia, media, and the small and medium business community will be able to survive the COVID-19 pandemic while increasing the quality of their products and sales (Asriati et al., 2022). In addition, the regional Penta Helix model of collaboration requires local governments to be ready to be at the forefront of tackling the COVID-19 outbreak in their respective regions. Fundamentally, according to research by Upe et al. (2021), it is explained that the Penta Helix is a collaboration of several entities such as government, industry, academia, society, and the media. This method seeks to maximise the utilisation of all resources and local wisdom. And strive to increase awareness among all partners in encouraging long-term synergy (Ahmad & Arundina, 2020; Humaedi et al., 2021; Purnamawati et al., 2021). What can be gained from each region's management of COVID-19 is to make full use of every stakeholder's and community's involvement and to establish a synergy that always strives to build a deeper partnership (Amin et al., 2021). Today, the government has attempted to manage the pandemic through various regulations and has opened up space for the general public, academia, communities, the commercial sector, and the media to play a role through the idea of the Penta Helix collaboration (Purnamawati et al., 2021). The Penta Helix synergy is expected to be carried out optimally, and a community structure that is not only healthy and protected from COVID-19 but also logically tough, human resources tough, information tough, security and orderly tough, culturally tough, and psychologically tough is expected (Yunas, 2021).

According to Setianingsih et al., (2022), the Penta Helix model's synergy has produced informational goods such as stickers, banners, t-shirts, and masks that influence people's habits in a way that promotes healthy living. Thus, it can be seen that local governments can be an effective channel for communicating components of central government activities in the regions (Chamidah et al., 2021; Humaedi et al., 2021). Therefore, research by Caraka et al. (2021) states that the Penta Helix concept is seen as able to minimise the tendency of people who are too dependent on the government to solve problems in their environment. Furthermore, there are several parties involved in the application of the Penta Helix concept in handling COVID-19. Each element has actors from several circles, such as elements of the government, where the actors can be from the bureaucracy, executive, legislative, judicial, or judicial institutions. Business elements can be from the industrial, banking, or consumer sectors. Elements of academia can be found among teachers, lecturers, students, and researchers. Community elements can also come from pressure groups or community organizations. Then, the media elements can come from print media or digital media that are not affiliated with the government (Kurniasih et al., 2022; Kurniawan et al., 2023; Sari et al., 2022). However, in implementing the synergy of the Penta Helix model, the problem of dominance and structural dynamics in the partnership or collaboration that is built requires a comprehensive solution so that each party can have a balanced role to create ideal conditions in the new order in the new normal era. Covid-19's synergy with the Penta

Helix model is affected by several aspects, including the role of government, equality amongst actors, cooperative decision-making processes, formal structure, consensus, and collaborative problem-solving (Amin et al., 2021). It is also imperative that post-COVID-19 industries receive strategic strategies through impact studies and more comprehensive rehabilitation plans (Amin et al., 2022; Kurniasih et al., 2022). Research into the synergy of the Penta Helix model between government and non-government entities, as evidenced in several of the literature studies above, is crucial since it can provide the foundation for any government-run COVID-19 management programme (Caraka et al., 2021; Kurniawan et al., 2023; Sari et al., 2022).

In the synergy of the Penta Helix model, five elements must exist: government, business, academia, community, and media. The synergy of the Penta Helix model is believed to be able to realise community independence more quickly so that they are not too dependent on the government during or after a disaster (Kurniawan et al., 2023; Sari et al., 2022; Yunas, 2021). In the process, local governments have used the synergy of the Penta Helix model to deal with COVID-19. For example, the Pekanbaru City Government has tried to work with non-government organisations to deal with COVID-19 in Pekanbaru City, Riau Province. Several actors identified as being involved in overcoming the COVID-19 issue in Pekanbaru City are the Pekanbaru City Government and Local Government Agencies (government), the Pekanbaru City Young Entrepreneurs Association, and PT. Angkasa Pura II (businessmen), the University of Riau, the Islamic University of Riau, and Caltex Riau Polytechnic (academics), the Forum for Religious Harmony (FKUB) in Pekanbaru City, and the Young Volunteers for Non-Natural Disasters (community), as well as the involvement of various mass media groups in the city (Amin et al., 2021). In more detail, the synergy in dealing with COVID-19 at the Pekanbaru City Level is shown in Figure 1.

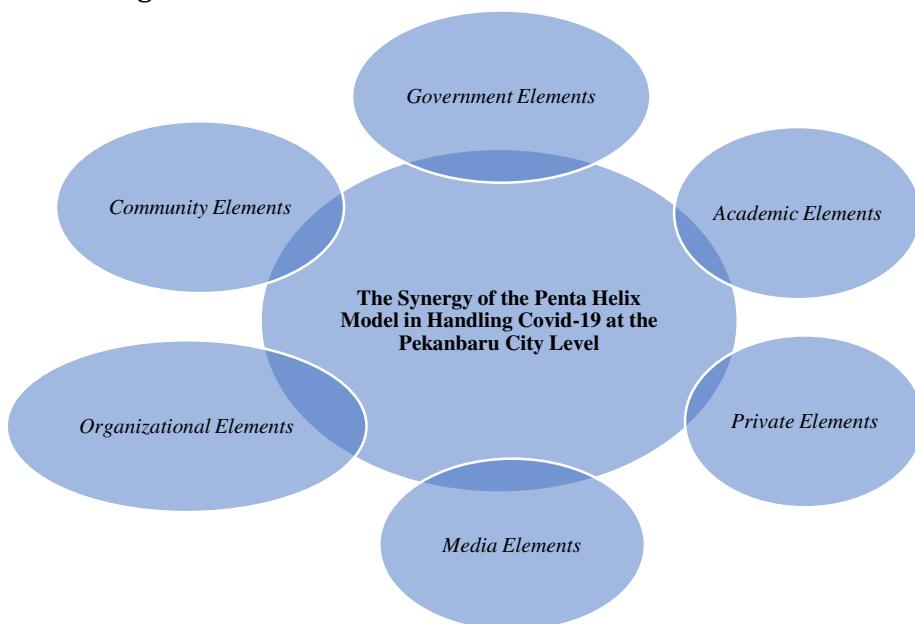


Figure 1. Synergy in Handling COVID-19 at the City Level in Pekanbaru, Indonesia

Source: Processed by Authors (2022)

In Figure 1, it can be seen that the synergy in handling COVID-19 in Pekanbaru City, Riau Province, has been followed by various stakeholders, including government elements, academic elements, private elements, media elements, organisational elements, and other elements of the local community. Of course, the synergy of the Penta Helix model is expected to be able to overcome the problem of the COVID-19 pandemic in Pekanbaru City. Then, in dealing with COVID-19, the optimal involvement of each element will certainly encourage the strengthening of the handling of COVID-19 in each region. However, the lack of time and the fact that mapping and evaluating actors aren't always done in the best way can hurt the Penta Helix model's synergy and make it less likely to last. Where the participation of each element is shown in Figure 1, this does not mean that there is a good partnership and implementation because there are still problems related to the structural dominance of formal power, namely the local government itself, and social dynamics related to the ambiguity and complexity of membership, which still show that there are government institutions that dominate (Amin et al., 2021, 2022). In line with this, according to research by Caraka et al. (2021), the handling of COVID-19 in various countries cannot be carried out individually but must be carried out through the synergy of all national stakeholders, including academics, the business world, the government, and the community, commonly known as the Penta Helix. Therefore, this research is very important because the synergy of the Penta Helix model is an effort that has been made by the local government in overcoming the COVID-19 problem at the Pekanbaru City level with several collaborating stakeholders, such as the government, business actors, academics, communities, organizations, and also the elements of the media. Thus, in contrast to previous research that described the Penta Helix approach in general, this research will focus on strengthening synergies between actors based on systematic mapping based on the balance of the roles of each stakeholder to contribute optimally to handling COVID-19. The important reason for choosing Pekanbaru City as a research location is that this city is the capital city of Riau Province, which is the centre of community activities and the regional economy in Riau Province. When the handling of COVID-19 at the Pekanbaru City level is not carried out optimally, of course, it will affect all activities and the community's economy significantly. Thus, this research is believed to be crucial to being able to answer all problems and provide recommendations for handling COVID-19 at the Pekanbaru City level. Thus, an important objective of this research is to explore the factors that influence the synergy of the Penta Helix model and the implications of the synergy of the Penta Helix model in handling COVID-19 at the Pekanbaru City Level.

## Research Methods

This study uses a qualitative approach as contextual research to systematically visualise certain phenomena (Busetto et al., 2020; Monique et al., 2020). The data in this study were sourced from secondary data obtained from various journals, proceedings, government websites, books, and some local online news media content (Tribunpekanbaru.com, Halloriau.com, and Lamanriau.com). The important reason for

choosing the local online media listed above as a source of research data is related to the administrative and factual verification of the news by the Indonesian Press Council. Then, by using the Nvivo 12 Plus Ncapture feature, this research data collection method focuses on news related to the synergy of the Penta Helix model in handling COVID-19 at the Pekanbaru City Level. Where the total news captured is 30 news and the total news used is from 2020 to 2022.

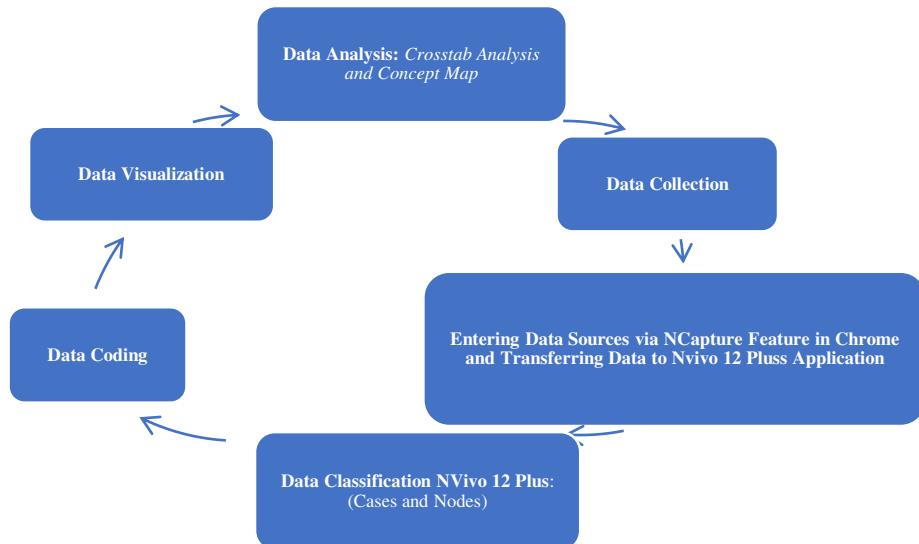


Figure 2. Research Data Analysis Process

Source: Processed by Authors (2022)

Furthermore, this research data analysis technique uses the Nvivo 12 Plus application through the Concept Map analysis feature and Crosstab Query to be able to visualise and find the percentage of concepts (nodes) used and explain research variables that affect the object and focus of research (Woods et al., 2015; Woolf & Silver, 2018). As a result, the purpose of this article is to describe how the Penta Helix model works in conjunction with COVID-19. The following is a schematic of the research data analysis process as shown in Figure 2.

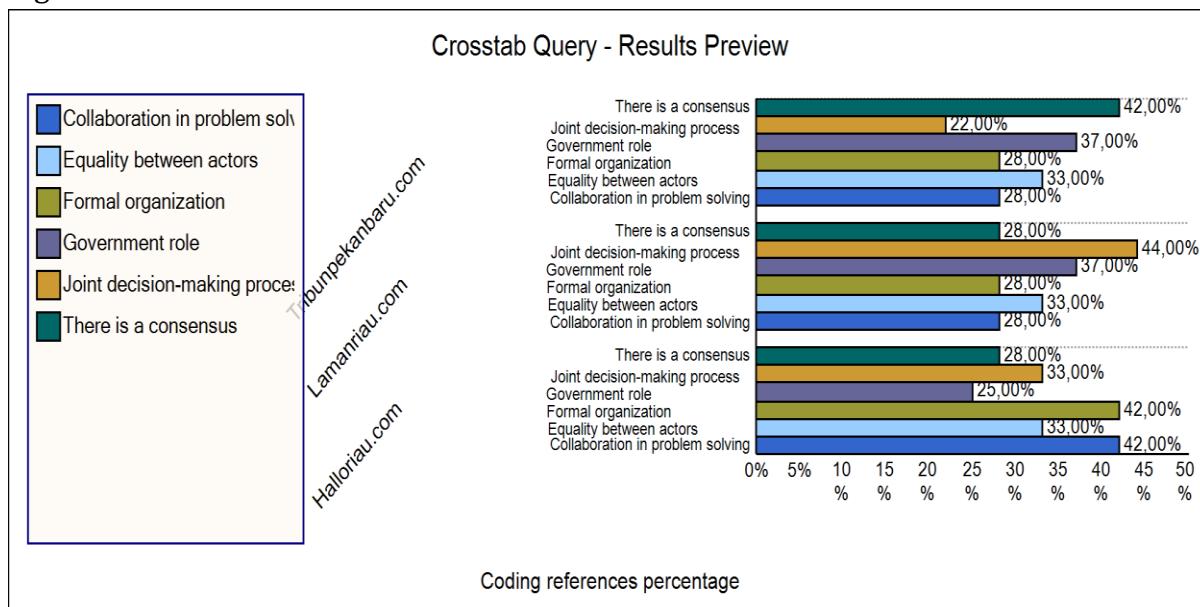
## Results and Discussion

The COVID-19 pandemic is a health problem that has a real impact on many aspects of social life, including health, psychology, and the economy (Lancaster, 2020; Rothan & Byrareddy, 2020). People in Indonesia feel many of the same things that people in other parts of the world feel because of the COVID-19 pandemic (Alam et al., 2022). In many countries, this situation has caused social shocks and disturbed many people (Olivia et al., 2020; Oosterhout, 2021). To overcome this phenomenon, it is important to build social capital by realising the synergy of the Penta Helix model because it will increase social awareness, sense of responsibility, and cooperation (Caraka et al., 2021). To better understand how the Penta Helix model works in conjunction with COVID-19 at the

Pekanbaru City Level, we'll look at the aspects that influence and impact the model's synergy.

### Factors Affecting the Synergy of the Penta Helix Model in Handling COVID-19 at the Pekanbaru City Level

Penta Helix synergy is fundamentally influenced by numerous aspects, including the role played by the state and actors' participation and equality as well as shared decision-making, formal organization, consensus, and collaborative problem-solving (Caraka et al., 2021; Mukhlis et al., 2018; Sari et al., 2022). The Nvivo 12 Plus software has been used to code data from many online media sources, and the visualisation results are given in Figure 3.



**Figure 3. Factors Affecting the Synergy of the Penta Helix Model in Handling COVID-19 at the Pekanbaru City Level**

Source: Analysis Using Nvivo12 Plus (2022)

Figure 3 demonstrates that various online media have divergent tendencies in emphasising the aspects that influence the synergy of the Penta Helix model in addressing COVID-19 at the Pekanbaru City Level. First, in the aspect of the government's role, the most dominant online media are Tribunpekanbaru.com and Lamanriau.com, which both have a percentage of 37.5%, followed by Halloriau.com (25.0%). If components of the government's participation in handling COVID-19 in Pekanbaru City, Riau Province, are investigated further, they relate to the significance of developing effective policies to combat the COVID-19 pandemic and the significance of transformational leadership in Pekanbaru City, Riau Province (Lamanriau.com, 2021). Policies like the progressive adoption of Pekanbaru City's Large-Scale Social Restrictions (PSBB) show how the Pekanbaru City government is dealing with COVID-19. This policy was based on the fact that the number of COVID-19 cases in Pekanbaru City had initially grown and spread rapidly. In the process, the mechanism for submitting a large-scale social restriction

(PSBB) policy was then proposed by the Mayor of Pekanbaru to the Minister of Health on a conditional basis. Then, a "New Normal" behaviour was formed, which was intended to help stop COVID-19 by following strict health protocols. In addition, micro-scale social restrictions have been set in Pekanbaru City in certain sub-districts as an effort to stop and control COVID-19. Furthermore, the Micro Community Activity Restriction Policy (PPKM) is carried out in the form of strict supervision of health protocols in activities carried out by the community at the regional level, which includes the village, RW, and RT. Furthermore, the Level 4 Community Activity Restriction Policy (PPKM) was also implemented as a restriction policy to stop the spread of COVID-19. The World Health Organization (WHO) recommends that Level 4 be determined by the level of transmission and the ability of the area to respond (Amin et al., 2021).

Second, on the aspect of engagement and equality between actors, each online media (Tribunpekanbaru.com, Lamanriau.com, and Halloriau.com) has the same percentage (33.33%). This is related to the importance of real action and synergy between all elements of the government and other stakeholders in assisting with the handling of COVID-19, so that the number of COVID-19 cases in the infected community, as well as the number of people who have and have not been vaccinated, can be clearly known and that more effective preventive measures can be taken in the future in handling COVID-19 in Pekanbaru City, Riau Province (Halloriau.com, 2021). In the process, the handling of the COVID-19 pandemic will be more effective if many parties are involved, not only the government but also the academic, business, community, and media sectors (Upe et al., 2021). Everyone concerned should be working toward the same end goal: stopping the spread of the COVID-19 virus and drastically reducing its impact. Non-governmental organizations, as well as members of the community, are all participating in the management of COVID-19 in the Pekanbaru City setting. Figure 4 depicts some people who have been recognised as having a role in the management of COVID-19 in Pekanbaru City.

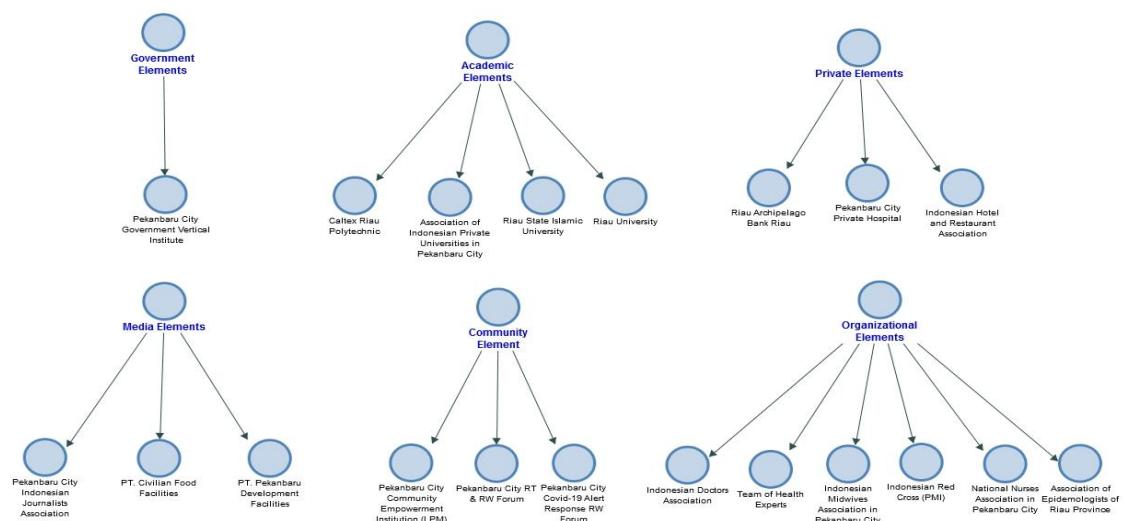


Figure 4. Penta Helix Model Synergy Actors in Handling COVID-19 at the City Level in Pekanbaru, Indonesia

Source: Analysis Using Nvivo12 Plus (2022)

Figure 4 demonstrates that the engagement of actors has been involvement by a variety of elements, including the government, academia, the private sector, the media, the community, and various other organizations. Then, each public and private actor collaborated in various ways and focused on different potentials. To accelerate the handling of COVID-19 in Pekanbaru City, the Task Force for the Acceleration of Handling COVID-19 has classified the types of participation between actors based on their fields and areas of expertise. This is done to mobilise the existing local community resources and potential. This synergy is not optimal because of the structural dominance of formal power, such as the Pekanbaru City Government's dominance of power over roles linked to COVID-19 combat in Pekanbaru. As a result, they (the government) rarely listen to recommendations or discuss them with other stakeholders. In addition, social dynamics relating to the ambiguity and complexity of membership also take place because other parts tend to be unequal and display a wide gap in their duties and responsibilities. In the process, the subject and role of each actor in the Penta Helix synergy in handling COVID-19 in Pekanbaru City can be seen in table 1.

The Penta Helix synergy in handling COVID-19 from each non-state actor is part of an effort to maximise the potential of each actor for the same goal in both the public and private sectors. Penta Helix Synergy emphasises a combined approach that applies to laws and regulations related to public sector regulations (Amin et al., 2021; Upe et al., 2021). Each actor, both government and private, works collectively in a different way and maximises different potentials. Relationships and forms of involvement Non-state actors are involved in the structure of the task force team, which is divided based on their respective fields and expertise to coordinate and mobilise resources in carrying out activities to accelerate the handling of COVID-19, including potential in the community. This is in line with research by Budhi et al. (2022), which explains that the Penta Helix element generally considers strengthening access and strengthening attractions as a long-term priority. Then, each element of the Penta Helix plays an important role in efforts to recover from COVID-19 in the new normal era. The role of each actor is adjusted to the authority and ability where the government, especially in terms of drafting regulations and implementing legislation, the private sector/industry plays a role in providing and innovating in handling Covid-19, then academics play a role in conducting studies for basic policy input and increasing the competence of human resources. In addition, the community also plays an important role in supporting and implementing government policies, as does the role of the media in spreading positive information and promoting things that need to be done for the public in handling COVID-19 (Caraka et al., 2021).

Third, in the aspect of the joint decision-making process, the most dominant online media is Lamanriau.com (44.44%), followed by Halloriau.com (33.33%), and Tribunpekanbaru.com (22.22%). This is related to the readiness of Pekanbaru City to implement a Level 3 Micro Community Activity Restriction (PPKM) policy at the end of 2021, where this restriction policy will be carried out through coordination and synergy with various sectors, including the private sector and the community, to reduce the number of COVID-19 cases in Pekanbaru City (Tribunpekanbaru.com, 2021).

Table 1. Actors and Their Roles in the Penta Helix Synergy in Handling COVID-19

Source: Compiled by Authors from Various Sources (2023)

<b>Actors</b>	<b>The Role of Actors</b>
Government of Pekanbaru City and Government of Riau Province	Local governments at the district, city, and provincial levels have a role in drafting laws and regulations and supervising the handling of COVID-19.
Riau University, Riau Islamic University, and Riau Caltex Polytechnic (PCR)	Actors join the task force team as educators; they are also in charge of data collecting (analysis and research), policy papers, and other preparation. PCR, in particular, collaborates with the Pekanbaru City Government in the publication of information and data related to the handling of COVID-19 in Pekanbaru City, such as data and distribution maps, infographics, referral hospital information, treatment flow, and so on, through the website, as well as the development of an android-based application, "CIK Puan," which features: checking for COVID-19, early warning destinations, education for COVID-19, information on Integrated Service Post and Alert Services, etc.
Indonesian Doctors Association (IDI) Pekanbaru City, Indonesian Midwives Association (IBI) Pekanbaru City, and Indonesian National Nurses Association (PPNI) Pekanbaru City	As representatives of the health sector, actors join the task force team.
Indonesian Ulema Council (MUI) of Pekanbaru City	Organizations and institutions in the health sector provide suggestions and guidance to the government on how to handle COVID-19 and are active in public education and other social activities. The Indonesian Ulema Council of Pekanbaru City served as the deputy daily chairman for the task force team. The Indonesian Ulema Council of Pekanbaru City has followed up on the Fatwa by issuing appeals and suggestions to the government and the community about the implementation of worship and other aspects of religious life.

Forum for Religious Harmony (FKUB) of Pekanbaru City	Actors are engaged in the process of drafting guidelines for the implementation of large-scale social limitations, particularly in connection to the execution of worship and other aspects of religious life.
Islamic Da'wah Council (MDI) of Pekanbaru City	Participate in the process of creating mayoral rules for the implementation of large-scale social limitations, especially those pertaining to da'wah activities, worship organisation, and other aspects of religious life.
Indonesian Young Entrepreneurs Association (HIPMI) of Pekanbaru City	Participating in the process of creating mayoral ordinances on guidelines for imposing large-scale social restrictions, offering suggestions on how to deal with COVID-19, and evaluating the effect on the economy and public places.
Hamlet Alert COVID-19, an Integrated Environmental Security System for COVID-19 Response, an Integrated Service Post for COVID-19 Response, and Young Volunteers for Non-Natural Disaster Response COVID-19, Citizen Food Granary, The Plenary Mosque	The Pekanbaru City Government formed and established a COVID-19 Hamlet Alert in the Pekanbaru City area, with a structure derived from sub-district, neighborhood/hamlet, youth, integrated service centres, representatives of mosque/house of worship administrators, Hamlet security (integrated service system), and cooperatives/community representatives (community food barns), who are responsible for empowering the community to collect data on the poor and affected.
Private Hospital in Pekanbaru City Region	Multiple private hospitals in the city of Pekanbaru are now referred COVID-19 patients.
PT. Angkasa Pura II	Participant in the task force team as a representative of the public transportation and border control sectors, particularly air transportation.
Pekanbaru Port Authority	Involve the task force team as a member of the sector of public transportation and border control, particularly maritime transportation.

PT Sarana Pangan Madani (PT SPM) through a trading business unit, namely Rumah Pangan Madani

Rumah Pangan Madani is a trade division of P.T. Sarana Pangan Madani (PT SPM), which acts as a food distributor and performs service-related responsibilities, including the distribution of food and relief.

---

As a consequence of the Pekanbaru City Government's strategic approach to implementing central policies, the COVID-19 handling team, which consists of many parties with distinct responsibilities based on their individual areas of competence, has been given the duty immediately. Next, work together to execute the three stages of large-scale social restrictions (PSBB). Consequently, in the implementation of large-scale social restrictions (PSBB) in Pekanbaru City, coordination and layered communication are prioritized. In Phase 1 of Large-Scale Social Restrictions (PSBB), the high number of cases in Pekanbaru City has led the city government to decide to impose Large-Scale Social Restrictions (PSBB) and encourage the government to synergize in the health, social, and security sectors. Then, the second level of social restrictions, known as large-scale social restrictions (PSSB), focuses on collaboration through a variety of means, including restrictions on educational activities, restrictions on business and public places, restrictions on the flow of people and goods, and restrictions on places of worship. However, because of the community's continued lack of discipline and cooperation, the deadline for implementing the PSBB in Pekanbaru City was again extended. Furthermore, the number of COVID-19 instances in Pekanbaru City has decreased as a result of the implementation of Phase 3 large-scale social restrictions (PSBB). However, there are still problems related to people who still violate the Large-Scale Social Restrictions (PSBB), because since the Large-Scale Social Restrictions (PSBB) began, not many people know about these rules and they are not enforced properly. During the early stages of PSBB implementation policy formulation, which is decision-making in action, the government sector is the strongest actor, and other actors are only involved in activities that take advantage of the potential and interests of each actor.

Fourth, in the aspect of formal organization, the most dominant online media is Halloriau.com (42.86%), followed by Tribunpekanbaru.com and Lamanriau.com, which have the same percentage (28.57%). This is related to the structure of the implementing team handling COVID-19 in Pekanbaru City, which follows technical instructions from the central government (Tribunpekanbaru.com, 2020). From the structure produced by involving many players, a formal organisation can be recognized, where stakeholders should be able to maintain a level of control over the organization. The official structure of Pekanbaru City can be seen in the team that the Mayor of Pekanbaru has assembled and is leading throughout the management of COVID-19. The Covid-19 Infection Preparedness Integrated Team, the Task Force for Acceleration of Handling Covid-19, the Large-Scale Social Restrictions Research Team (PSBB), and the Covid-19 Infection Enforcement Integrated Team (PSBB) in Pekanbaru City have been constituted by the Pekanbaru City Government (Amin et al., 2021). To handle COVID-19 and accommodate

possible stakeholders from diverse industries, a formal framework has been established. Despite this, the team formed in the process is still controlled by local government actors. As a result, there will always be a disparity in terms of power and workload, limiting the ability of the entire team to work together effectively. This formal organization's greatest challenge is a dearth of human capital, financial resources, and physical infrastructure.

Fifth, on the aspect of consensus, the most dominant online media is Tribunpekanbaru.com (42.86%), followed by Halloriau.com and Lamanriau.com (28.57%). This is related to the consensus from each stakeholder regarding the acceleration of handling COVID-19 by carrying out rapid tests in Pekanbaru City (Halloriau.com, 2020). Synergy is fundamentally a sign of a method centred on deliberation and consensus. Health care is one area where the Pekanbaru City Government has worked with professional organisations and hospitals (both public and private) to coordinate health care and learn more about the progress of the COVID-19 case. Also in the social sector, the Pekanbaru City Government, the Ministry of Religion, the Indonesian Ulema Council, the Religious Harmony Forum, universities, and the community have worked together to control and monitor social activities and physical distancing in places of worship, entertainment venues, markets, and in government and private offices. To ensure public safety, the Pekanbaru City Government has partnered with the National Police and the Indonesian National Armed Forces (TNI) to set up five monitoring sites, which have been designed to keep an eye on things like business locations, drivers' qualifications, and courts. Pekanbaru City Government, universities, the media, and the general public have worked together on data collection and management, information and communication systems development, public communication strategies development, and media monitoring. Pekanbaru City Government After that, social safety networks distributed social aid to its citizens, including assistance from the Family Hope Program, non-cash food assistance (BPNT), and Covid-19 direct cash assistance (BLT), as well as rice side dishes from the Pekanbaru City Budget for people affected by Covid-19.

Sixth, in the aspect of collaboration in problem-solving, the most dominant online media is Halloriau.com (42.86%), followed by Tribunpekanbaru.com and Lamanriau.com (28.57%). This is related to the number of residents who are still undisciplined in implementing health protocols and the uncooperativeness of the community to undergo the polymerase chain reaction (PCR) test that is available in Pekanbaru City (Halloriau.com, 2021). The dynamics of combating COVID-19 in Pekanbaru City were also caused by the ineffectiveness of the COVID-19 handling team, the lack of socialisation before and after the PSBB policy, and uneven law enforcement, as well as the minimal role of institutions and actors in socialisation in combating COVID-19 in Pekanbaru City (Amin et al., 2021). Then, government collaboration in solving problems for handling COVID-19 in Pekanbaru City includes collaboration with professional groups and hospitals, both government and private hospitals, collaboration with religious and community leaders for controlling and monitoring social activities and physical distancing, collaboration with the National Police and TNI, as well as cooperation with universities and the mass media.

Furthermore, from the six factors described above, the following will be explained regarding the dominant aspects of the Penta Helix synergy in handling COVID-19 in Pekanbaru City, as seen in Figure 5.

Figure 5 shows that the aspects that play a role in influencing the Penta Helix synergy in handling COVID-19 in Pekanbaru City are dominated by the dimensions of the joint decision-making process (20.45%), followed by aspects of the government's role (18.18%), formal organising (15.91%), consensus (15.91%), collaboration in solving problems (15.91%), and equality between actors (13.64%). In essence, the aspect of the joint decision-making process is the most influential dimension in handling COVID-19 in Pekanbaru City due to the Pekanbaru City Government's readiness to implement policies in handling COVID-19, where the Pekanbaru City Government's approach to following up on policies at the central level is considered quite strategic to immediately assign the task of the COVID-19 handling team, consisting of various parties with specific tasks according to their areas of expertise. However, in practice, there are still problems related to the joint decision-making process, where the government sector is the strongest actor and other actors are only involved in activities that take advantage of the potential and interests of each actor. Thus, the dominance of the formal structure of power from the Pekanbaru City Government in handling COVID-19 tends to cause social dynamics and membership complexity that still occur because other elements such as academia, the private sector, the community, organizations, and the media have quite large disparities in the role of handling COVID-19. This is in line with the research findings of Minyoung Ku et al. (2022), who found that management in pandemic and disaster management requires careful governance structure design and will not be conducive if cross-sectoral collaboration is not carried out, where roles between actors must have equality and should not have a very large disparity in their implementation.

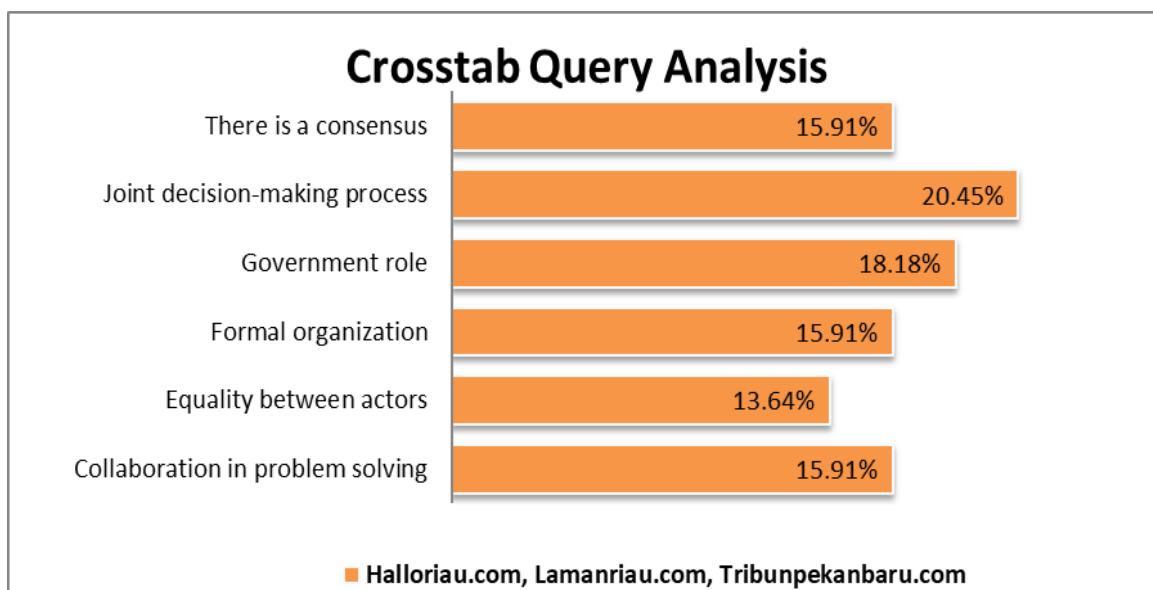


Figure 5. Aspects that Play a Role in Influencing Penta Helix Synergy in Handling COVID-19 at the Pekanbaru City Level  
 Source: Analysis Using Nvivo12 Plus (2022)

## The Implications of the Synergy of the Penta Helix Model in Handling COVID-19 at the Pekanbaru City Level

Fundamentally, the synergy of the Penta Helix model will have a positive impact on society if it is carried out sustainably (Adhani et al., 2021). When the government can accommodate community social capital within the Penta Helix framework, then this technique is believed to be very effective in combating the COVID-19 pandemic (Humaedi et al., 2021). In addition, the dedication of each actor to generate consensus and collaborate in the process will also help in breaking the cycle of COVID-19 transmission (Syapitri et al., 2021). Figure 6 shows the impact of the synergy of the Penta Helix model in dealing with COVID-19 in Pekanbaru City, based on data from various web media coded by the Nvivo 12 Plus software.

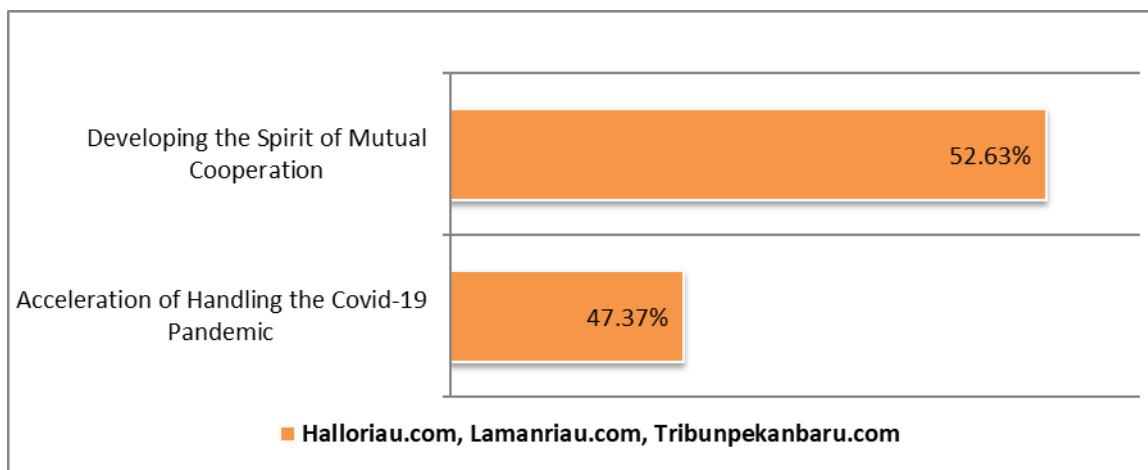


Figure 6. The Impact of Penta Helix Synergy in Handling COVID-19 at the Pekanbaru City Level

Source: Analysis Using Nvivo12 Plus (2022)

In Figure 6, it can be seen that the synergistic impact of the Penta Helix model in handling COVID-19 in Pekanbaru City is dominated by aspects of growing the spirit of cooperation (52.63%) and followed by aspects of accelerating the handling of the COVID-19 pandemic (47.37%). If examined further, the impact in the aspect of developing the spirit of cooperation becomes dominant because it is related to the collaborative activities carried out by each actor in Pekanbaru City while still adhering to health protocols (Tribunpekanbaru.com, 2020). Then, the existence of a spirit of cooperation as an active and effective collaboration of actors based on solidarity and shared interests in the process will form the basis of the Penta Helix model framework, which involves many stakeholders (Humaedi et al., 2021). To overcome disasters, especially the COVID-19 pandemic, actors from various social, cultural, economic, and political backgrounds seek to reduce barriers and integrate perceptions, visions, and collaborations based on common links and interests. Therefore, the government can utilise the social capital of cooperation as an integral component of the Penta Helix interaction, which enables

strategic cooperation between the government as a regulator and stimulant and community groups as players and agents in an emergency.

Furthermore, regarding the impact on aspects of accelerating the handling of the COVID-19 pandemic, related to community involvement with the COVID-19 task force team to contain the spread of COVID-19, which then had an impact on Pekanbaru City being released from the "red zone" of the COVID-19 case (Tribunpekanbaru.com, 2021). Handling COVID-19 requires the participation of every stakeholder. In this case, local governments must comprehensively understand the Penta Helix synergy with the participation of each component at the regional level. The component in question involves government agencies working in collaboration with academia, the private sector, communities, organizations, and also the mass media. Therefore, if the synergy of the Penta Helix model can be realised optimally, it will be able to develop a spirit of cooperation and accelerate the breaking of the chain of transmission of COVID-19. This is in line with the findings of Caraka et al., (2021), who explain that the Penta Helix model has proven to help overcome problems, especially those related to health, by bringing together various sectors to improve planning, implementation, and monitoring of the implementation process. In addition, the Penta Helix model is considered to be able to reduce the citizens' dependence on the state to solve social problems that exist in society.

## **Conclusion**

The findings of this study indicate that several factors affect the synergy of the Penta Helix model in handling COVID-19 at the Pekanbaru City Level, which include: First, the role of the government related to the determination of the COVID-19 handling policy, which was made in stages in Pekanbaru City. Second, the factor of involvement and equality between actors has been followed by various elements such as the government, academics, private sector, media, community, and various other organizations, but still has dynamics related to the structural domination of formal power by elements of the government. Third, phases 1–3 of the Large-Scale Social Restrictions (PSBB) policy in Pekanbaru City have challenges relating to people who continue to breach health regulations and the lack of power from players outside of the government sector in the joint decision-making process for implementation. Fourth, the formal organising aspect can be observed in the structure that has been built via the involvement of numerous players, but there are still hurdles due to a lack of human, financial, and infrastructure resources available. Fifth, the factor of consensus that can be seen from several dimensions in the fields of health, social, security and order, communication and information, as well as the social safety network sector. Sixth is the collaboration factor in problem solving, which includes collaboration with professional groups and hospitals, religious and community leaders, the police, and the army, as well as collaboration with universities and the mass media.

Furthermore, there are two impacts of the synergy of the Penta Helix model in handling Covid-19 at the level of Pekanbaru City, which has implications for the development of a spirit of cooperation where many collaborative activities have been

carried out by each actor in Pekanbaru City while still complying with health protocols, as well as the implications for the acceleration of the handling of the Covid-19 pandemic, where after the synergies in handling Covid-19 by each actor, it had an impact on the release of Pekanbaru City from the red zone of cases of the spread of Covid-19. The substance of this research contributes in the form of recommendations to continue to strengthen synergies between actors based on a systematic mapping of the balance of the roles of each stakeholder to optimally contribute to handling COVID-19 in Pekanbaru City. This study has limitations in its research methodology, which only comes from secondary data. Therefore, further research is needed to explore primary data comprehensively. This study also proposes that further research use a data collection approach based on observations and interviews.

### **Acknowledgement**

We would like to thank the Research and Community Service Institute of Universitas Islam Riau, Indonesia, for funding this research and all parties who have supported it so that this study can be completed according to the predetermined initial target.

### **References**

Abdul Hanief Amarullah, Arthur Josias Simon Runturambi, B. W. (2021). Analyzing Cyber Crimes during COVID-19 Time in Indonesia. *3rd International Conference on Computer Communication and the Internet (ICCI)*, 78–83.

Adhani, L., Saing, B., Widodo, H., Setiawati, S., & Ismaniah. (2021). Edukasi Menanggulangi Pandemi Covid-19 Berbasis Komuniti Untuk Mewujudkan Kekuatan Pentahelix. *Jurnal Sains Teknologi Dalam Pemberdayaan Masyarakat*, 2(2), 97–106. <https://doi.org/10.31599/jstpm.v2i2.791>

Agostino, D., Arnaboldi, M., & Lema, M. D. (2020). New development: COVID-19 as an accelerator of digital transformation in public service delivery. *Public Money and Management*, 0(0), 1–4. <https://doi.org/10.1080/09540962.2020.1764206>

Agustino, L. (2021). Policy Learning and Handling of Covid-19 in Indonesia. *TRANSFORMASI: Jurnal Manajemen Pemerintahan*, 13(1), 62–78.

Ahmad, F., & Arundina, R. (2020). Usulan Mitigasi Bencana Kota Bandung Dengan Pendekatan Penta Helix. *SeTIA Mengabdi: Jurnal Pengabdian Kepada Masyarakat*, 1(2), 55–62.

Airhihenbuwa, C. O., Iwelunmor, J., Munodawafa, D., Ford, C. L., Oni, T., Agyemang, C., Mota, C., Ikuomola, O. B., Simbayi, L., Fallah, M. P., Qian, Z., Makinwa, B., Niang, C., & Okosun, I. (2020). Culture matters in communicating the global response to COVID-19. *Preventing Chronic Disease*, 17(17), 1–8.

Amin, R. M., Febrina, R., & Wicaksono, B. (2021). Handling COVID-19 from a Collaborative Governance Perspective in Pekanbaru City. *Jurnal Bina Praja*, 13(1), 1–13. <https://doi.org/10.21787/jbp.13.2021.1-13>

Amin, R. M., Febrina, R., & Wicaksono, B. (2022). Model Proses Penanganan Covid-19 dalam Perspektif Multi-Stakeholder Partnership. *Jurnal Ilmu Sosial dan Humaniora*, 11(1), 111–125. <https://doi.org/10.23887/jish.v11i1.39418>

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective. *Sustainability (Switzerland)*, 12(20), 1–34. <https://doi.org/10.3390/su12208438>

Asriati, N., Syamsuri, S., Thoharudin, M., Wardani, S. F., & Kusuma Putra, A. H. P. (2022). Analysis of business behavior and HRM perspectives on post-COVID-19 SME business sustainability. *Cogent Business and Management*, 9(1).

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, 2(1), 1–10.

Caraka, R. E., Noh, M., Chen, R. C., Lee, Y., Gio, P. U., & Pardamean, B. (2021). Connecting Climate and Communicable Disease to Penta Helix Using Hierarchical Likelihood Structural Equation Modelling. *Symmetry*, 13(4), 1–21.

Chamidah, N., Putra, A. H. P. K., Mansur, D. M., & Guntoro, B. (2021). Penta helix Element Synergy as an Effort to Develop Tourism Villages in Indonesia. *Jurnal Manajemen Bisnis*, 8(1), 01–22. <https://doi.org/10.33096/jmb.v8i1.625>

China-briefing.com. (2023). *China Coronavirus Updates: Latest Developments and Business Advisory*. Retrieved on December 30, 2022. <https://www.china-briefing.com/news/china-coronavirus-updates-latest-developments-business-advisory-part-2/>

Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., & Indrawan, M. (2020). Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in Disaster Science*, 6(April), 1–9.

Gryszczyńska, A. (2021). The impact of the COVID-19 pandemic on cybercrime. *Bulletin of the Polish Academy of Sciences Technical Sciences*, 69(4), 1–9. <https://doi.org/10.24425/bpasts.2021.137933>

Halloriau.com. (2020). *Pemko Pekanbaru Akan Gelar Rapid Test Massal di Kelurahan Rejosari Hari Ini*. Retrieved on 01 July 2022. <https://www.halloriau.com/read-pekanbaru-133456-2020-07-29-pemko-pekanbaru-akan-gelar-rapid-test-massal-di-kelurahan-rejosari-hari-ini.html>

Halloriau.com. (2021a). *Ketua RT/RW se-Kecamatan Pekanbaru Kota Diminta Lebih Aktif Tangani Covid-19*. Retrieved on 02 July 2022. <https://www.halloriau.com/read-pekanbaru-148193-2021-06-10-ketua-rtrw-sekecamatan-pekanbaru-kota-diminta-lebih-aktif-tangani-covid19.html>

Halloriau.com. (2021b). *Penanganan Covid di Pekanbaru Alami Sejumlah Kendala, Kota Bertuah Masih Zona Merah*. Retrieved on 03 July 2022. <https://www.halloriau.com/read-pekanbaru-151442-2021-08-21-penanganan-covid-di-pekanbaru-alami-sejumlah-kendala-kota-bertuah-masih-zona-merah.html>

Humaedi, M. A., Purwaningsih, S. S., Sundary, L. V., & Fathy, R. (2021). Membangun Kegotongroyongan Dan Mengaktifkan Peran Kepemimpinan Lokal: Strategi Pentahelix Penanganan Dampak Covid-19. *Jurnal Masyarakat dan Budaya*, 23(1), 39–58. <https://doi.org/10.14203/jmb.v23i1.1203>

Kurniasih, D., Rosyadi, S., Sabiq, A., & Ahmad, A. A. (2022). Collaboration Challenges in Helping the Rural Creative Tourism Sector to Recover During the COVID-19 Pandemic. *KnE Social Sciences*, 2022, 412–422.

Kurniawan, D. A., Zarkasyi, M. R., & Setyanta, B. (2023). Economic Recovery Strategy for the SMEs Post Covid-19 Pandemic in Ponorogo: The Role of the Penta Helix Model. *Sentralisasi*, 12(1), 75–86.

Lamanriau.com. (2021). *Transformasi Leadership Strategi Pembangunan Pekanbaru di Tengah Pandemi Covid-19*. Retrieved on 04 July 2022.

<https://lamanriau.com/2021/11/01/transformasi-leadership-strategi-pembangunan-pekanbaru-di-tengah-pandemi-covid-19/>

Lancaster, K. (2020). Making evidence and policy in public health emergencies: Lessons from COVID-19 for adaptive evidence-making and intervention. *Evidence and Policy* (Vol. 16, Issue 3, pp. 477–490).

Liputan6.com. (2020). *Tekan Kasus COVID-19, Gugus Tugas Gunakan Strategi Kolaborasi Pentahelix Berbasis Kearifan Lokal*. Retrieved on 05 July 2022. <https://www.liputan6.com/health/read/4298579/tekan-kasus-covid-19-gugus-tugas-gunakan-strategi-kolaborasi-pentahelix-berbasis-kearifan-lokal>

Liputan6.com. (2022). *Update Covid-19 Rabu 30 November 2022: Positif 6.664.844, Sembuh 6.445.738, Meninggal 159.830*. Retrieved on 30 December 2022. <https://www.liputan6.com/news/read/5140788/update-covid-19-rabu-30-november-2022-positif-6664844-sembuh-6445738-meninggal-159830>

Made Kembar Sri Budhi, Ni Putu Nina Eka Lestari, N. N. R. S. (2022). The Recovery of the Tourism Industry in Bali Province through the Penta-Helix Collaboration Strategy in the New Normal. *Geojournal of Tourism and Geosites*, 40(1), 167–174. <https://doi.org/10.30892/gtg.40120-816>

Maulana Mukhlis, Nasrullah Nazsir, Mudiyati Rahmatunnisa, N. Y. Y. (2018). The Actor Domination in the Collaborative Governance in the Lampung Province Central Government Displacement Policy: An Ambivalent. *Jurnal Ilmiah Peuradeun*, 6(3), 507–524. <https://doi.org/10.26811/peuradeun.v6i3.272>

Md. Mahmudul Alam, Agung Masyad Fawzi, Md. Monirul Islam, J. S. (2022). Impacts of Covid-19 Pandemic on National Security Issues: Indonesia as a Case Study. *Security Journal*, 35(0), 1067–1086. <https://doi.org/10.1057/s41284-021-00314-1>

Minyoung Ku, Ahreum Han, K.-H. L. (2022). The Dynamics of Cross-Sector Collaboration in Centralized Disaster Governance: A Network Study of Interorganizational Collaborations during the MERS Epidemic in South Korea. *International Journal of Environmental Research Public Health (IJERPH)*, 19(1), 1–15.

Mohammed, S., Peter, E., Killackey, T., & Maciver, J. (2021). The “nurse as hero” discourse in the COVID-19 pandemic: A poststructural discourse analysis. *International Journal of Nursing Studies*, 117, 103887.

Monique, H., Inge, H., & Bailey, A. (2020). *Qualitative Research Methods* (Alysha Owens (ed.); Second Edi). New York: SAGE Publications Ltd.

O.E.C.D. (2020). *COVID-19: Protecting people and societies*. Retrieved on January 10, 2023. <https://www.oecd.org/coronavirus/policy-responses/covid-19-protecting-people-and-societies-e5c9de1a/>

Olivia, S., Gibson, J., & Nasrudin, R. (2020). Indonesia in the Time of Covid-19. *Bulletin of Indonesian Economic Studies*, 56(2), 143–174.

Oosterhout, C. van. (2021). COVID-19 evolution during the pandemic—Implications of new SARS-CoV-2 variants on disease control and public health policies. In *Virulence* (Vol. 12, Issue 1, pp. 507–508). <https://doi.org/10.1080/21505594.2021.1877066>

Pikiran-rakyat.com. (2022). *Update Covid-19 Dunia Rabu, 30 November 2022: Sudah Tembus 6 Juta Kasus, Indonesia Masuk 20 Besar*. Retrieved on December 30, 2022. <https://depok.pikiran-rakyat.com/internasional/pr-095910567/update-covid-19-dunia-rabu-30-november-2022-sudah-tembus-6-juta-kasus-indonesia-masuk-20-besar>

Poudel, K., & Subedi, P. (2020). Impact of COVID-19 pandemic on socioeconomic and mental health aspects in Nepal. *International Journal of Social Psychiatry*, 66(8), 748–755. <https://doi.org/10.1177/0020764020942247>

Purnamawati, I. G. A., Nugraha, I., & Yuniarta, G. A. (2021). Pentahelix Synergy Strengthening Model To Revival Sustainable Ecotourism in Bali Province. *International Journal of Business, Economic and Law*, 24(4), 76–83.

Qodir, Z., Effendi, G. N., Jubba, H., Yogyakarta, U. M., Nurmandi, A., Yogyakarta, U. M., Hidayati, M., & Yogyakarta, U. M. (2020). Covid-19 and Chaos in Indonesia Social-Political. *International Research Association for Talent Development and Excellence*, 12(1), 4629–4642.

Rafi, M., Suswanta, S., Handoko, T., & Effendi, G. N. (2022). Transformation of Public Services through Digital Services in the Covid-19 Era: Efforts Towards Good Governance in Indonesia. *Proceedings of the International Conference on Public Organization (ICONPO 2021)*, 209(Iconpo 2021), 168–176. <https://www.atlantis-press.com/proceedings/iconpo-21/125970954>

Raja Muhammad Amin, Rury Febrina, B. W. (2021). Handling COVID-19 from a Collaborative Governance Perspective in Pekanbaru City. *Jurnal Bina Praja*, 13(1), 1–13.

Rianda Dirkaresha, Azura, D. M., & Pradana, R. (2021). Government Policy During The Covid-19 Pandemi: Between Welfare State and Healthy State. *Jurnal Mercatoria*, 14(1), 46–55.

Rothon, H. A., & Byrareddy, S. N. (2020). The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. *Journal of Autoimmunity*, 109(February), 102433. <https://doi.org/10.1016/j.jaut.2020.102433>

Roziqin, A., Mas'udi, S. Y. F., & Sihidi, I. T. (2021). An analysis of Indonesian Government Policies against COVID-19. *Public Administration and Policy*, 24(1), 92–107. <https://doi.org/10.1108/PAP-08-2020-0039>

Sagala, S., Azhari, D., Rosyidie, A., Annisa, S. N., Ramadhani, A. K., Vicri, R. N., & Mahardika, M. D. (2021). COVID-19 in Indonesia: An Analysis of DKI Jakarta's COVID-19 Pandemic Response and Its Governance During the New Normal Period. *Proceedings of the First International Conference on Social Science, Humanity, and Public Health (ICOSHIP 2020)*, 514(Icoship 2020), 185–191. <https://doi.org/10.2991/assehr.k.210101.041>

Sari, Y. R., Handayani, D. W., Marta, A., Desiana, V., & Wiranata, I. J. (2022). Penta Helix Collaboration on Village Tourism Development Program in Indonesia Post Covid-19 Pandemic. *Proceedings of the Universitas Lampung International Conference on Social Sciences (ULICoSS 2021)*, 628(ULICoSS 2021), 25–32.

Setianingsih, E. L., Herawati, A. R., & Hariyani, D. (2022). Penta Helix Model Tourism Development in The City of Palembang. *Devotion: Journal of Research and Community Service*, 3(13), 2221–2226.

Subekti, N., Nurhaeni, I. D. A., & Hariyanti, R. H. (2021). The Dynamic Capability of the Indonesian General Election Commission (KPU) in the 2020 Election during the COVID-19 Pandemic. *Atlantis Press: 6th International Conference on Social and Political Sciences (ICOSAPS 2020)*, 510, 346–350.

Susanna, D. (2020). When will the COVID-19 pandemic in indonesia end? *Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)*, 15(4), 160–162. <https://doi.org/10.21109/KESMAS.V15I4.4361>

Syapitri, H., Tarigan, F., & Ordekoria, S. (2021). Sinergi Pentahelix Sebagai Komitmen Memutus Mata Rantai Penularan Covid-19 Melalui Pos Gagah Di Wilayah Membidang. *Jurnal Kreativitas Pengabdian Kepada Masyarakat*, 4(2), 417–424.

Tosepu, R., Gunawan, J., Effendy, D. S., Ahmad, L. O. A. I., Lestari, H., Bahar, H., & Asfian, P. (2020). Correlation between weather and Covid-19 pandemic in Jakarta, Indonesia.

*Science of the Total Environment*, 725(138436), 1–4.

Tribunpekanbaru.com. (2020a). *PATUT Ditiru, Wako dan Sekko Pekanbaru Turun ke Parit Punguti Sampah, Gotong Royong Bersama Warga*. Retrieved on July 06, 2022. <https://pekanbaru.tribunnews.com/2020/12/20/patut-ditiruwako-dan-sekko-pekanbaru-turun-ke-parit-punguti-sampahgotong-royong-bersama-warga>

Tribunpekanbaru.com. (2020b). *Sekda Pekanbaru Tunggu Juknis Pembentukan Tim Pelaksana Vaksinasi Covid-19*. Retrieved on July 07, 2022. <https://pekanbaru.tribunnews.com/2020/12/14/sekda-pekanbaru-tunggu-juknis-pembentukan-tim-pelaksana-vaksinasi-covid-19>

Tribunpekanbaru.com. (2021). *Pekanbaru Siap Terapkan PPKM Level 3 Pada Akhir Tahun, Aturan Ini Harus Disampaikan dengan Baik*. Retrieved on July 08, 2022. <https://pekanbaru.tribunnews.com/2021/11/22/pekanbaru-siap-terapkan-ppkm-level-3-pada-akhir-tahun-aturan-ini-harus-disampaikan-dengan-baik>

U. N. I. C. E. F. (2021). Analysis of the Social and Economic Impacts of COVID-19 on Households and Strategic Policy Recommendations for Indonesia. In *Unicef Indonesia*. Retrieved on January 10, 2023. <https://www.unicef.org/indonesia/media/9501/file/Analysis of the Social and Economic Impacts of COVID-19 on Household and Strategic Policy Recommendations for Indonesia.pdf>

Upe, A., Haluoleo, U., Sumandiyar, A., Makassar, U. S., Jabar, A., & Haluoleo, U. (2021). Strengthening of Social Capital through Penta Helix Model in Handling Covid-19 Pandemic. *International Journal of Pharmaceutical Research*, 13(1), 4243–4248. <https://doi.org/10.31838/ijpr/2021.13.01.635>

Wiratraman, H. P. (2020). Does Indonesian COVID-19 Emergency Law Secure Rule of Law and Human Rights? *Journal of Southeast Asian Human Rights*, 4(1), 306. <https://doi.org/10.19184/jseahr.v4i1.18244>

Woods, M., Paulus, T., Atkins, D. P., & Macklin, R. (2015). Advancing Qualitative Research Using Qualitative Data Analysis Software (QDAS)? Reviewing Potential Versus Practice in Published Studies using ATLAS.ti and NVivo, 1994–2013. *Social Science Computer Review*, 34(5), 597–617. <https://doi.org/10.1177/0894439315596311>

Woolf, N. H., & Silver, C. (2018). *Qualitative Analysis Using NVivo: The Five-Level QDA® Method*. New York: Routledge.

Yunas, N. S. (2021). Implementation of pentahelix collaboration in handling Covid-19 pandemic through Kampung Tangguh program in Malang. *International Journal of Research in Business and Social Science (2147- 4478)*, 10(5), 207–215. <https://doi.org/10.20525/ijrbs.v10i5.1266>

Yuniti, I. G. A. D., Sasmita, N., Komara, L. L., Purba, J. H., & Pandawani, N. P. (2020). The impact of covid-19 on community life in the province of Bali, Indonesia. *International Journal of Psychosocial Rehabilitation*, 24(10).