


# The Challenges of Implementing e-Voting in Elections As a New Form Agile Governance Concept in Indonesia

Anisya Yuli Marzalia 

Department of International Program of Government Affairs and Administration, Universitas Muhammadiyah Yogyakarta, Indonesia

 [anisya.yuli.isip20@mail.umy.ac.id](mailto:anisya.yuli.isip20@mail.umy.ac.id)

## **Abstract**

*Agile governance is a novel notion in which the government is expected to be able to respond rapidly, adaptably, and to constantly changing circumstances. The advancement of time and technology has made it possible for an electronic voting system (e-Voting) to exist. It adopts the idea of agile governance and allows individuals to exercise their right to vote only with the aid of an internet connection and any digital devices they may own to increase the effectiveness and efficiency of elections. The purpose of this research is to analyze the challenges faced in implementing e-Voting as a new form of Agile Governance concept in Indonesia. This study uses qualitative methods using secondary data sources. NVivo 12 Plus software was used to handle and analyze all the data collected for this research. The researcher refers to one of the principles of agile governance, Human Focused. Based on these principles, researchers found indicators that are still a challenge in implementing e-Voting in Indonesia, namely public trust, data security, and public participation. Because of this, it is anticipated that the emergence of the notion of agile governance will lead to positive improvements in how Indonesia implements e-Voting as a new type of voting system.*

**Keywords:** E-Voting; Agile Governance; Democracy; Elections.

## ***Tantangan Penerapan e-Voting dalam Pemilu Sebagai Bentuk Baru Konsep Agile Governance di Indonesia***

### **Abstrak**

*Agile governance merupakan sebuah gagasan baru dimana pemerintah diharapkan mampu merespon dengan cepat, adaptif, dan terhadap keadaan yang terus berubah. Kemajuan zaman dan teknologi memungkinkan adanya sistem pemungutan suara secara elektronik (e-Voting). Hal ini mengadopsi gagasan pemerintahan yang tangkas (agile governance) dan memungkinkan individu untuk menggunakan hak pilih mereka hanya dengan bantuan koneksi internet dan perangkat digital apa pun yang mereka miliki untuk meningkatkan efektivitas dan efisiensi pemilu. Tujuan dari penelitian ini adalah untuk menganalisis tantangan yang dihadapi dalam penerapan e-Voting sebagai bentuk baru konsep Agile Governance di Indonesia. Penelitian ini menggunakan metode kualitatif dengan menggunakan sumber data sekunder. Perangkat lunak NVivo 12 Plus digunakan untuk menangani dan menganalisis semua data yang dikumpulkan untuk penelitian ini. Peneliti mengacu pada salah satu prinsip agile governance yaitu Human Focused. Berdasarkan prinsip tersebut, peneliti menemukan indikator yang masih menjadi tantangan dalam penerapan e-Voting di Indonesia, yaitu kepercayaan masyarakat, keamanan data, dan partisipasi masyarakat. Oleh karena itu, munculnya gagasan agile governance diperkirakan akan membawa perbaikan positif dalam cara Indonesia menerapkan e-Voting sebagai sistem pemungutan suara jenis baru.*

**Kata Kunci:** E-Voting; Tata Kelola yang Tangkas; Demokrasi; Pemilu.

## 1. Introduction

The rapid development of technology today makes great changes in every aspect of life, including in the field of government. Recently, the government system has begun to adopt the use of information and communication technology known as e-Government as a form of adaptation to technological developments that have begun to become a necessity for every community. The development of e-Government is driven by the growing number of pressing public demands on public officials. The emergence of e-Government can be said to be a form of government attention to the needs of its people. The use of information and communication technology in the government system provides convenience and benefits for the community and the government. E-Government has the potential to make government more efficient and improve government communication with its internal and external affairs. In addition, the community can help the government by providing input that can later improve the quality of government [1].

E-Government aims to improve the quality and effectiveness of government services at a lower cost. In addition, in developing countries e-Government has a very important role in advancing the economy of governments and their communities [2]. Therefore, the government must start the transition to e-Governance so that the government can build good management and work. Thus, the government is expected to work together to provide access to information and public services that are currently needed by the community. The rapid development of IT can be an opportunity in accelerating the application of e-Government as a digitization of data and information [3].

This IT-based government system has a broad impact on the election system in Indonesia. As a country that upholds democracy, Indonesia began to use an electronic voting system (e-Voting) since the rise of the Covid-19 pandemic in 2020, but still on a small scale such as regional head elections. The concept of elections with this electronic system is something new for the people of Indonesia, the implementation of e-Voting is carried out by the government as an effort to prevent the spread of Covid-19 in Indonesia. The existence of e-Voting can affect how well and efficiently the electoral process is running, as well as how much community participation there is [4].

Reflecting on the regional elections in previous years which were so inefficient that they caused many problems, such as the number of election officials who were confirmed sick and died due to exhaustion. In addition, the regional elections also caused many election dispute lawsuits filed with the Constitutional Court, so this is a consideration for the government to be able to hold elections more effectively and efficiently by holding them digitally [5].

In Indonesia itself, the general election system using the e-Voting system is good but not optimal [6]. The cause of the non-optimal e-Voting system can be caused by various factors. One of the factors that are often found in the community is the lack of guidance and socialization of the organizing committee and the surrounding community. One example of the non-optimal implementation of elections with the e-Voting system can be found in the implementation of the Pilkades in Empat Lawang Regency, South Sumatra. In the Pilkades, there are still some obstacles in its implementation, such as the lack of socialization in the use of e-Voting tools to the surrounding community which makes the community confused in choosing and the lack of reliable operators and technical teams in organizing the Pilkades, so that the Pilkades with the e-Voting system looks inefficient [3].

The concept of Agile Governance can be interpreted as an agile government reaction in the face of unexpected phenomena. Therefore, researchers use one of the principles of Agile Governance proposed by Luna, Krutchen, and Moura [7] namely Human Focused as a guide in analyzing the implementation of the Agile Governance concept in

responding to the challenges of effective and efficient elections through e-Voting in Indonesia.

## 2. Literature Review

### A. Electronic Voting (E-Voting)

Electronic Voting or commonly known as e-Voting is a new method used to cast and count votes in general elections. The application of e-Voting in Indonesia is still on a small scale, only limited to the level of head elections [8]. E-Voting is a form of implementation of the use of Information and Communication Technology (ICT) in the voting process in general elections. In addition, e-Voting exists to provide convenience to voters When casting their votes safely and confidentially through the internet network [4].

Elections are a very crucial aspect in the modern democratic system, the e-Voting electoral system deserves to be used as an alternative to conventional elections if applied with appropriate rules [9]. E-Voting can be used as an opportunity to improve the quality of democracy in Indonesia, because currently many people are using the internet network [10]. E-Voting is expected to replace conventional elections that seem to be ineffective because there have been many violations and irregularities that have occurred, both administrative and criminal in nature [11].

In its implementation, the e-Voting system pays attention to aspects of efficiency, security, and also practicality in it [12]. One of the benefits that can be felt directly from the e-Voting system is faster and more accurate results, improved quality of the data produced, and more efficient. Based on these benefits, Indonesia is trying to adopt e-Voting in the general election system [8]. The purpose of holding e-Voting is to hold elections at a more cost-effective manner and use a secure and easy system

### B. Agile Governance

Agile Governance can be defined as the ability of the government to respond to unexpected changes quickly which is a basic ability for a government to survive in development and to respond to demands from society quickly and efficiently [1].

Agile governance is a basis for transforming governance that is in line with the times and focuses on providing the best in the demands of society, so that in the future it will be able to create innovations that are easily accessible to all circles [13]. When connected with organizational theory, agile governance has a great influence in creating agile organizations. An agile organization can be defined as an organization that has the ability to adapt to changes that occur quickly and pay attention to what the environment and society needs [14].

The virtue of the concept of agile governance is to simplify the bureaucracy, oriented towards effectiveness and efficiency and create something new that has never existed. In its implementation, agile governance requires an agile and responsive bureaucratic culture [11]. In the application of the concept of agile governance, qualified ICT-based facilities are needed, so that it can encourage the running of an agile bureaucracy as well [15].

**Table 1.** Journal Articles Related to Literature Review

No	Writer	Headings	Finding
1.	Karmanis (2021)	Electronic-voting (e-voting) and general elections (Comparative Studies in Indonesia, Brazil, India, Switzerland and Australia)	The geographical location of Indonesia, which is an archipelagic country passed by waters, causes the need for a general election system (legislative ownership, regional head elections, and presidential elections) by e-voting. In addition, e-Voting is able to increase the value of democracy in various countries that were used as the object of this study (Brazil, India, Switzerland, and Australia), especially in

			increasing public participation and making the implementation of elections more effective and efficient. However, in its implementation, e-Voting still has shortcomings, namely, the existence of hackers who are able to hack the system used for e-Voting [4].
2.	Sandy Prayoga (2021)	The Use of E-Voting in the Simultaneous Governor, Regent and Mayor Elections in 2024 Based on Law Number 6 of 2020	There is still a need for consideration to use e-Voting in the 2024 Simultaneous Governor, Regent and Mayoral Elections. This is based on the principle of elections, namely "Secret" which means that voters guarantee that their choice is not known to anyone because with this electronic system people's choices will be recorded so as to eliminate the principle of secret. In addition, the readiness of the community and local governments in providing facilities used for e-Voting to socialization to the community regarding the use of the e-Voting system [16].
3.	Fahri Bachmid and Hardianto Djanggaih (2022)	The Future of E-voting Implementation in Indonesian General Election Process: Constitutionality, Benefits and Challenges	E-Voting can be used as an alternative to elections, because it is in accordance with the principles of elections (direct, free, confidential, honest, and fair) contained in the 1945 Constitution. In addition, elections using the e-Voting system provide constitutional, democratic, flexible, efficient, and suitable benefits to be applied during a pandemic like today. In addition, there are several challenges for Indonesia in implementing e-Voting, including the system used is still not safe and technicians are not reliable as well as there are technological gaps and the development of e-Voting supporting infrastructure that is not evenly distributed [14].
4.	Slamet Risnanto, Yahaya Bin Abdul Rohim, and Nanna Herman (2019)	Polling Stations Secure Scheme For e-Voting System in Indonesian General Election	Efficiency, security, and practicality are the main things that must be considered in holding e-Voting-based elections. In addition, it is necessary to have readiness of resources and infrastructure, public trust, framework, etc [11].
5.	Slamet Risnanto, Yahaya Bin Abdul Rohim, Nanna Suryana Herman, and Abdurrohman (2020)	E-Voting Readiness Mapping For General Election Implementation	A readiness framework that must be prepared to implement e-Voting. In addition to the readiness of technology, the readiness of human resources determines the success of the implementation of e-Voting. In addition, before the implementation of e-Voting, it is necessary to create a framework so that the implementation runs smoothly [15].
6.	Karmanis Karolan (2020)	Electronic-Voting (E-Voting) Policy In Consistent General Elections Towards A Democracy System In Indonesia	The conventional elections that have been implemented have not gone well, because there was a lot of fraud, human error, swelling of the budget used for elections, the process of recapitulation of votes that took a long time and the increasing number of election committees who died. E-Voting-based elections are considered to be able to replace conventional election positions to realize effective and efficient elections and minimize fraud in the vote recapitulation process [17].
7.	Anik Hanifatul Azizah (2018)	Trust Factor Analysis Of Technology On People's Desires In Adopting E-Voting	It was found that the trust factor in using e-voting, thus producing a statement that trust in technology greatly affects people's desire to use the e-Voting system. In addition, security, reliability and privacy

			also have a very positive influence on public trust in technology, so that the high level of Public trust in technology will affect the magnitude of will and desire people in using e-Voting [19].
8.	Adityo Pratikno Ramadan , Anita Pebri Fitriani, Sugeng Suharto, and Titiek Kartika Hendrastiti (2018)	Electronic Voting in Indonesia: Head of Village Election	It was found that e-Voting can be held in even remote rural areas that have limited access to technology and education. Village officials believe that elections held with e-Voting can minimize fraud in the counting of votes and succeed in increasing community participation. However, it is undeniable that there is election fraud through the system [18].
9.	Zulkarnain Hamson (2020)	Covid-19 Pandemic Alternatives Application of E-Voting in Elections Indonesian	The article examines that the holding of elections in Indonesia still has many shortcomings. This can be seen in the number of reports related to fraud and violations in elections every year. Therefore, to minimize the occurrence of unwanted things, e-Voting is present as a new method of organizing elections in Indonesia [19].
10.	Junior Hendri Wijaya, Achmad Zulfikar and Amanda's Faith Permatasari (2019)	Implementation of E- voting System to Improve the Quality of Democracy in Indonesia	E-Voting has a great opportunity to be applied in Indonesia, based on a SWOT analysis researchers state that e-Voting provides many advantages, although in its implementation there are still challenges and obstacles [20].

### 3. Method

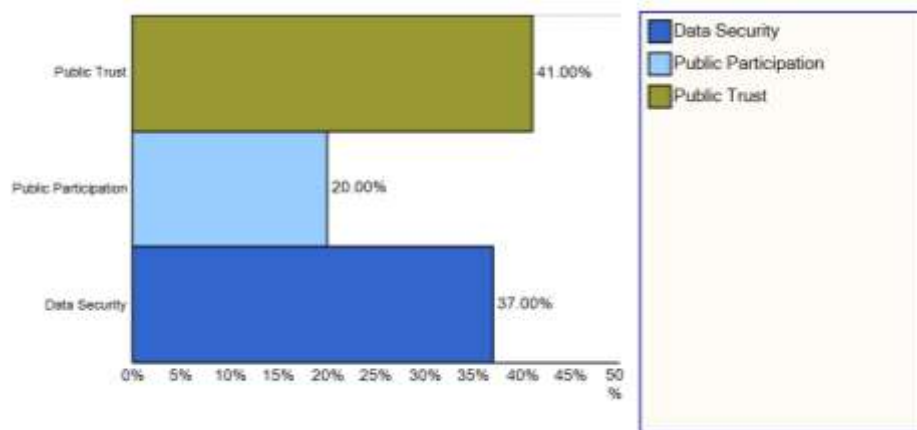
The author uses qualitative data analysis techniques, meaning that the author tries to display some facts that occur from several sources through the data obtained. In this study, the method used was a qualitative method. This method focuses on deep understanding of an object, so that the use of this method can result in a more comprehensive study of a phenomenon [18]. In addition, this method of research does not directly deal with the object under study, it accesses information from secondary data from various literature. Secondary data is data obtained and processed by the first author of various literature in the form of books, journals, documents, magazines, newspapers, the internet, and newsletters that are closely related to the problem under study. The data collection technique of this study uses literature research. A literature review is a written summary of various articles, journals, books and other documents describing the past and present state of knowledge on a topic [19]. All data obtained in this study were then processed and analyzed using the NVivo 12 Plus software.

### 4. Result and Discussion

As the times develop, of course, it makes thoughts and views also change. In this increasingly advanced era, effectiveness and efficiency are aspects that are highly considered, especially in the fields of politics and government. Innovations continue to be developed to facilitate all forms of affairs related to the existing government system, thus giving birth to a new government concept called agile governance. Agile governance is a concept that requires the government to be adaptive, responsive, agile, responsive in facing various unpredictable conditions, and of course consider aspects of effectiveness by adjusting to the development of the existing times and always adjusted to the demands of society. In addition, this concept comes by providing a new offer, namely to maximize the ability of an organization to utilize information and communication technology that exists in the digital era like today. The development of this government concept is

expected to have an impact in creating rapid innovation so that all circles, both agencies and the public, can access it [20].

The form of implementation of a democratic country such as Indonesia is channeled through the means of general elections (Elections), where the people can exercise their right to vote and determine leaders who will later accommodate and realize the aspirations they carry [21]. The electoral experience that Indonesia has had for many years has not made the democratic system in Indonesia run perfectly, because in holding these elections from year to year it is still prone to violations and irregularities. The principle of direct, public, free, secret, honest and fair elections seems to be only a formality, because often the principle is violated as there is fraud. The fraud arises because of low ethics and morals, which implies an increase or problem that can further endanger the conduct of the election [22]. Therefore, it can be seen that the general election system in Indonesia is far from perfect and not optimal, so efforts are needed to improve the election system, such as law enforcement must be further strengthened so that election organizers can carry out their duties properly.



**Figure 1.** Diagram Regarding the Problem of Implementing Human Focused Principles in Indonesia's E-Voting System

*Source, Nvivo 12 Plus*

Based on the analysis of the data presented in the form of a chart above, it can be seen that the author refers to one of the principles of Agile Governance, namely Human Focused where the government focuses on its community by involving community participation in it [7]. The author takes several indicators that become a benchmark for the problem of implementing the Human Focused principle in the E-Voting system in Indonesia, namely public trust, public participation, and data security, where the three of them are interrelated. From the picture, it can be seen that public trust dominates with a percentage of 41%, meaning that low public trust is the main problem with the existence of an electronic-based electoral system or e-Voting because people are still difficult to accept new technology. Public trust is the main factor to influence people's willingness to use a technology, so it is necessary to analyze the needs of the community first before introducing new technology [8]. The low public trust is caused by several factors, one of which is data security issues. In **Figure 1**. It can be concluded that the issue of data security ranks second only to public trust with a percentage of 37%. E-Voting is classified as a new innovation in the government sector even though previously e-Voting has also been held in elections in several regions in Indonesia on a small scale. The public still does not fully believe in data security in the e-Voting system as a substitute for conventional elections, because electronic-based elections are feared by hackers who can hack the system, so it is feared that there will be fraud, either data manipulation or games on the election data. In addition, in the security supervision process, the public is also worried about incompetent and irresponsible officers, so their security is questionable. This makes conventional elections still the people's choice.

Considering that in the 2019 elections the Election Supervisory Board (Bawaslu) reported the results of handling election violations as many as 16,134 administrative

violations, 373 violations of the code of ethics, 582 criminal offenses, and 1,475 other violations [23]. The number of violations that occur in these elections is a big problem that is a homework that must be resolved, because these violations can affect the decline in public participation in the upcoming elections. In **Figure 1**. It is also explained that community participation has a percentage of 20%. Public participation is just as important as public trust and data security. This lack of political participation can be caused by several factors, such as the busyness of the community towards their work, low public awareness about the importance of exercising their rights in elections, the lack of political participation of the community due to the low quality of people's Human Resources (HR), and various other factors [24]. The voter participation rate in the 2019 elections is around 90%. Meanwhile, voter participation in the 2020 Regional Elections held in the midst of the Covid-19 pandemic reached around 70% [25]. Based on this data, the Covid-19 Pandemic has a significant impact on the number of people's participation in elections, meaning that community participation is a very serious problem to be handled, because to support the democratic success of a country, participation from its people is needed.

## 5. Conclusion

Agile governance is a new government concept where the government is required to be able to act adaptively, quickly, and responsively to situations and conditions that are always changing. The birth of the concept of agile governance fosters new innovations in the government sector, as a country that upholds democracy, Indonesia conducts elections as a form of embodiment of its democracy so that elections are a very important moment to choose leaders who will later become representatives of the people to accommodate and realize their aspirations. The development of this era and technology supports the existence of an electronic-based election system (e-Voting) where people can exercise their voting rights only with the help of the internet network and digital devices they have. E-Voting is an example of agile governance with Human Focused principles. In its implementation, e-Voting still has several challenges that need to be faced including lack of public trust, weak data security, and lack of public participation. Public participation has a very important role in the realization of a democratic state, without which public democratic participation will not be achieved. Therefore, the concept of agile governance is expected to provide good changes such as increasing public trust, guaranteeing data security, and increasing public participation with e-Voting as a new form of the electoral system in Indonesia.

## Reference

- [1] D. Mellyanika, "Peran Masyarakat dalam Pelayanan Publik," February 2020. [Online]. Available: <https://ombudsman.go.id/pengumuman/r/artikel--peran-masyarakat-dalam-pelayanan-publik>.
- [2] O. S. Al-Mushayt, "Automating E-Government Services With Artificial Intelligence," in *IEEE Access*, vol. 7, pp. 146821-146829, 2019, doi: 10.1109/ACCESS.2019.2946204.
- [3] A. Rahardian, "Revitalisasi Birokrasi Melalui Transformasi Birokrasi Menuju E-Governance Pada Era Revolusi Industri 4.0," p. 91, 2019.
- [4] Karmanis, K. (2021). *Electronic-Voting (E-Voting) dan Pemilihan Umum (Studi Komparasi di Indonesia, Brazil, India, Swiss dan Australia)*. MIMBAR ADMINISTRASI FISIP UNTAG Semarang, 18(2), 11. <https://doi.org/10.56444/mia.v18i2.2526>.
- [5] MK RI, "mkri.id," Mahkamah Konstitusi Republik Indonesia, December 18, 2020. [Online]. Available: <https://www.mkri.id/index.php?page=web.News&id=16848&menu=2>. [Accessed 15 January 2023].
- [6] Faturrahman, Andy Rizki. (2022) *Evaluasi Penyelenggaraan Sistem Pemilihan Kepala Desa Berbasis E-Voting Tahun 2020 di Kabupaten Mempawah Provinsi Kalimantan Barat*. Diploma thesis, Institute of Internal Government.
- [7] Luna, A. J. H. de O., Kruchten, P., & Moura, H. P. de. (2015). *Agile Governance Theory: Conceptual Development*. In D. M. G. Sakata (Ed.), 12th International

- Conference on Management of Technology and Information Systems. São Paulo: FEA-USP. 8
- [8] A. K. LAN, "lan.go.id," July 2022. [Online]. Available: <https://lan.go.id/?p=9942#:~:text=Di%20Indonesia%2C%20sebenarnya%20e%2Dvoting,Jembrana%2C%20Bali%20pada%20tahun%202009..>
- [9] Juliman, "Implementasi Pemilihan Kepala Desa Dengan Menggunakan Metode Elektronik Voting (E-Voting) di Kabupaten Empat Lawang Provinsi Sumatera Selatan," *Journal of Social and Political Research*, p. 18, 2017.
- [10] S. Nurhadi, "Mencari Penyebab Meninggalnya Petugas Pemilu," February 2020. [Online]. Available: <https://www.voaindonesia.com/a/mencari-penyebab-meninggalnya-petugas-pemilu/5294717.html>.
- [11] S. Risnanto, Y. B. Abdul Rohim and N. S. Herman, "Polling Stations Secure Scheme For E-Voting System in Indonesian General Election," p. 20, 2019.
- [12] A. A. Kuncoro, "Dampak Teknologi Informasi Dalam Bidang Pemerintahan," February 2022. [Online]. Available: <http://teknik-informatika-s1.stekom.ac.id/informasi/baca/Dampak-Teknologi-Informasi-Dalam-Bidang-Pemerintahan/8145abf752492c717f08f71ca1b9cf0f3d374e45>.
- [13] N. Tresna, S. Pujiarti and M. Fria, "mkri.id," December 2020. [Online]. Available: <https://www.mkri.id/index.php?page=web.News&id=16848&menu=2>.
- [14] F. Bachmid and H. Djanggaih, "The Future of E-voting Implementation in Indonesian General Election Process: Constitutionality, Benefits and Challenges," p. 49, 2022.
- [15] S. Risnanto, Y. B. Abd Rahim, N. S. Herman and A. , "E-Voting Readiness Mapping for General Election Implementation," *Journal of Theoretical and Applied Information Technology* , pp. 3288 -3289, 2020.
- [16] Prayoga, S, "Penggunaan E-Voting dalam Pemilihan Gubernur, Bupati dan Walikota Serentak Tahun 2024 Berdasarkan Undang-Undang Nomor 6 Tahun 2020," *Awasia: Jurnal Pemilu dan Demokrasi*, 1(2), p.160-175, 202
- [17] Karolan, K, "Electronic-Voting (E-Voting) Policy in Consistent General Elections Towards A Democracy System in Indonesia." *Dialogue: Jurnal Ilmu Administrasi Publik*, 2(2), 176-195, 2020
- [18] A. P. Ramadhan, A. P. Fitriani, S. Suharto and T. K. Hendrastiti, "Electronic Voting in Indonesia: Head of Village Election," *Journal of Social and Politics*, pp. 82-83, 2018.
- [19] Z. Hamson, "Pandemi Covid-19 Alternatif Penerapan E-Voting Dalam Pemilu," p. 5, 2020.
- [20] J. H. Wijaya, Z. Achmad and I. A. Permatasari, "Implementasi Sistem E-voting Untuk Meningkatkan Kualitas Demokrasi di Indonesia," p. 58, 2019.
- [21] A. H. Azizah, "Analisis Faktor Kepercayaan Terhadap Teknologi Pada Keinginan Masyarakat Dalam Mengadopsi E-Voting," 2018.
- [22] N. S. A. Zahra, N. Suparman and S. Alia, "Penerapan Prinsip Agile Governance Dalam Pelayanan Publik Pada Dinas Kependudukan dan Pencatatan Sipil Kota Bandung," *Journal of Research Innovation*, 2022.
- [23] Bawaslu RI, "Update Data Pelanggaran Pemilu Tahun 2019 per 4 November 2019," Bawaslu RI, 2019.
- [24] M. Sari and D. Aftrisia, "Strategi Penerapan Agile Governance pada Masa Pandemi Covid19 di Pemerintahan Kabupaten Musi Rawas Utara," 2020
- [25] Central Java DPRD, "DPRD of Central Java Province," 2022. [Online]. Available: <https://dprd.jatengprov.go.id/sosialisasi-non-perda-pentingnya-partisipasi-masyarakat-dalam-pemilu/>.