

## POLICY IMPLEMENTATION OF ONE DATA INITIATIVE IN LOCAL GOVERNMENT: A CASE STUDY OF MEDAN CITY

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### ABSTRACT

*This study aims to analyze the implementation of the One Data Policy in Medan City as a strategic effort to support the achievement of Indonesia's Golden Vision 2045. The policy represents a public service innovation based on information technology, designed to establish an accurate, integrated, and transparent data system across regional government agencies. The research employs a descriptive qualitative approach using interviews, observations, and document analysis. Van Meter and Van Horn's implementation theory serves as the analytical framework, encompassing six variables: policy standards and objectives, resources, characteristics of implementing agencies, disposition of implementers, inter-organizational communication, and external environment. The findings reveal that the standards and objectives have been outlined through Mayor Regulation No. 31 of 2021. However, the policy implementation faces several challenges, particularly in human resource capacity and inter-agency communication, which is hindered by sectoral egos. Despite support from the socio-political environment, the policy's impact on public service delivery remains suboptimal. The study recommends strengthening coordination, enhancing human resource capacity, and conducting regular evaluations to improve policy effectiveness in achieving long-term development goals.*

**Keywords:** Medan Identity, Policy Implementation, Local Government.

## 1. INTRODUCTION

Modern governance in the 21st century is characterized by the need for efficient, transparent, and accountable data governance. The government's ability to manage data is not only related to bureaucratic administration, but is also the main basis for effective policy formulation, development performance evaluation, and public services that are adaptive to the needs of the community (Wirtz et al., 2018). In this context, the

presence of the One Data Indonesia policy is the Government of Indonesia's strategic response to the challenges of data disintegration, overlapping information, and weak interoperability between government agencies.

Indonesia's One Data Policy was stipulated through Presidential Regulation Number 39 of 2019 and is intended as a national instrument in realizing an integrated, standardized, and shareable data management system between agencies. This policy emphasizes the importance of three main pillars: (1) data standards, (2) metadata, and (3) interoperability, as well as encouraging the uniform use of reference codes and master data (Bappenas, 2020). The ultimate goal is to create a quality, open, and usable data ecosystem to comprehensively support the national development planning process.

In particular, the concept of open government data (OGD), which is the foundation of the One Data philosophy, is also increasingly emerging in the public administration literature. According to Janssen et al. (2012), OGD is a government concept that encourages government data disclosure to increase public transparency, efficiency, and innovation. OGD can also create economic and social value by enabling communities, academics, and the private sector to use government data in a variety of contexts (Zuiderwijk et al., 2014). This principle then became part of the global Open Government Partnership (OGP) movement, which Indonesia has participated in since 2011. In the local context, the Medan City Government translates the national policy through Medan Mayor Regulation Number 31 of 2021 concerning the Implementation of One Data for the City of Medan. This policy aims to create comprehensive data governance in all Regional Apparatus Organizations (OPD) within the Medan City Government. The One Data Medan City Portal was established as a digital medium to accommodate, manage, and disseminate official city data that can be used as a reference in development planning, program evaluation, and public information disclosure.

However, although this policy has a legal basis and technical infrastructure, its implementation on the ground still faces various challenges. The results of observation and documentation show that the quality and quantity of data displayed on the portal are still not optimal. Some OPDs are not active in updating data, coordination between agencies is still weak, and there is no bureaucratic culture that supports comprehensive

data integration. In addition, sectoral egos between agencies are the main obstacles in the process of data sharing and collaboration across organizations. This condition reflects that there is still a gap between policy formulation and policy implementation that is the focus of this study.

Conceptually, the implementation of public policy is the most crucial stage in the policy cycle because it becomes a bridge between policy design and the social reality that is to be changed (Grindle, 1980). According to Van Meter and Van Horn (1975), the success of policy implementation is influenced by six main factors, namely: (1) policy standards and objectives, (2) resources, (3) characteristics of implementing agencies, (4) attitude or disposition of implementers, (5) communication between implementing agencies, and (6) external environment. This model is important because it integrates a top-down and bottom-up approach in the policy implementation process.

In the Indonesian context, many studies show that the failure of public policy implementation is more often caused by weak coordination, lack of human and financial support, and low bureaucratic responsiveness to the social dynamics of society (Winarno, 2012; Edward III, 1980; Agustino, 2022). Therefore, the evaluation of the implementation of the One Data Medan City policy cannot be separated from the context of local bureaucratic organization, resource capacity, and political and social dynamics in the region.

Furthermore, the importance of integrated data policies is very strategic because it is directly related to the Golden Indonesia Vision 2045, which is Indonesia's long-term vision which targets to become a developed country with the fifth largest economy in the world, high per capita income, and superior and competitive quality of human resources (Bappenas, 2021). One of the main requirements for achieving this vision is the ability of governments, both central and regional, to develop and implement accurate and reliable data-based programs. In this case, the implementation of the One Data policy in Medan City is a reflection of regional readiness to support the achievement of the national agenda.

However, until now, there are still very limited academic studies that specifically evaluate the implementation of the One Data policy at the city level. Most studies focus more on the technical aspects of information technology or on national regulations (Afandi & Afandi, 2018; Zulfa & Afandi, 2023). Therefore, this research has academic

significance in filling the literature gap related to the implementation of data policies at the local level and providing practical recommendations for the Medan City Government and other regions that are or will develop the One Data system.

Indonesia's One Data Policy is a strategic step by the government in building an integrated, open, and quality data governance system to support evidence-based national development planning. The Medan City Government has responded to this policy by issuing Medan Mayor Regulation Number 31 of 2021 and building the Medan City One Data Portal as an effort to unify data from all Regional Apparatus Organizations (OPD). However, in its implementation, this policy still faces various serious challenges, such as weak coordination between agencies, limited human resource and budget capacity, and still strong sectoral egos. The mismatch between policy design and the reality on the ground suggests that policy implementation requires not only regulation and infrastructure, but also institutional readiness, bureaucratic culture, and social and political environmental support.

Therefore, an analysis of the implementation of the One Data Medan City policy is important to assess the extent to which this policy can support the achievement of the Golden Indonesia Vision in 2045. Using the Van Meter and Van Horn implementation models as an analytical framework, this study aims to uncover the factors that affect policy effectiveness and contribute to strengthening data governance at the local government level.

## **2. RESEARCH METHODE**

This study uses a qualitative approach with a descriptive type of research. This approach was chosen to gain a deep understanding of the implementation of the One Data Medan City policy in the context of local government dynamics, especially in supporting the achievement of the Golden Indonesia Vision in 2045. Qualitative research allows researchers to comprehensively examine policy processes, actors, obstacles, and dynamics through narrative and contextual data (Creswell, 2014).

The research location was conducted in the city of Medan, North Sumatra, with a focus on key agencies involved in the implementation of the policy, including the Medan City Communication and Information Office, the Regional Development Planning Agency (Bappeda), and several other Regional Apparatus Organizations

(OPD) that act as data producers and guardians. The informants in this study were selected purposively, namely those who have knowledge and direct involvement in the implementation of the One Data Medan City policy. The criteria for informants include structural officials, technical staff, and data portal operators.

The data collection technique was carried out through three main methods: in-depth interviews, observations, and documentation studies. Interviews were conducted in a semi-structured manner to gather information about the perceptions, experiences, and challenges faced by policy implementers. Observations were made on the technical process of data management in related agencies, including the use of the One Data portal. Meanwhile, the documentation includes an analysis of regulations (Perwal No. 31 of 2021), internal reports, organizational structures, and digital content on the official portal.

The data sources in this study consist of primary data and secondary data. Primary data was obtained directly from interviews and field observations, while secondary data was obtained through the review of policy documents, institutional archives, and academic literature relevant to the research topic. To ensure the validity of the data, the researcher uses the source and method triangulation technique, which is comparing findings from interviews, observations, and documents to strengthen the validity of the information. In addition, a member checking process was also carried out with several informants to confirm the correctness of the data.

The data obtained were analyzed using an interactive model from Miles, Huberman, and Saldana (2014), which consisted of three stages: data reduction, data presentation, and conclusion drawn. This process is carried out simultaneously and iteratively to build a thorough understanding of the phenomenon being studied. Data reduction is carried out to sort out important information, data presentation is carried out in the form of narratives and thematic matrices, while conclusions are drawn through in-depth interpretation of emerging patterns.

As a theoretical framework, this study refers to the public policy implementation model of Van Meter and Van Horn (1975). This model was chosen because it is able to provide a comprehensive framework in evaluating the policy implementation process through six main variables, namely: policy standards and objectives, resources,

characteristics of implementing organizations, disposition or attitude of implementers, communication between implementing agencies, and social, economic, and political environment. This model is also relevant because it considers structural and cultural aspects in the implementation of public policies, especially at the local government level.

### **3. RESULT AND DISCUSSION**

Based on the results of research conducted through in-depth interviews, participatory observations, and document analysis, the implementation of the One Data Medan City policy shows quite complex and layered dynamics. This policy, which aims to build a standardized, integrated, and open local government data system, already has a clear legal basis through Medan Mayor Regulation Number 31 of 2021. This regulation normatively regulates the role of policy actors such as data guardians (Diskominfo), data coaches (Bappeda), and data producers (OPD), as well as developing governance frameworks and inter-institutional data flows.

However, in its implementation in the field, there are still various challenges from structural, technical, and cultural aspects. The reality of regional bureaucracy that is not fully prepared in terms of digital infrastructure, human resource capacity, and collaborative work culture is the main inhibiting factor in carrying out the policy mandate. In addition, institutional resistance, lack of incentives, and weak coordination across sectors have also slowed down the process of internalizing policies at the organizational level of the regional apparatus.

#### **Policy Standards and Objectives**

When formulating the results section, it is important to remember that the results of the study do not prove anything. The findings can only confirm or disprove the hypothesis underlying this study. However, the act of articulating results helps to understand the problem, break it down into parts, and to look at the research problem from a variety of perspectives.

The One Data Policy for the City of Medan has been formally formulated through the Regulation of the Mayor of Medan Number 31 of 2021 concerning the Implementation of One Data for the City of Medan. In this regulation, it is clearly stated that the main goal of the policy is to realize an integrated, standardized, easily accessible, and accountable regional data system, in order to support the process of planning, implementing, evaluating, and controlling regional development more effectively and efficiently. Substantively, this policy is also intended to strengthen the contribution of local governments in supporting One Data Indonesia as mandated in Presidential Regulation Number 39 of 2019.

The standard for the implementation of this policy regulates a number of technical aspects, including the use of metadata, the use of national reference codes, and the grouping of data according to sectoral categories in accordance with regional development priorities. In addition, the roles and functions of the institution have also been clearly defined: the Medan City Diskominfo as the guardian, Bappeda as the data coach, and all OPDs as data producers. The standard reporting format, validation mechanism, and frequency of data updates have also been regulated in derivative technical documents such as implementation guidelines and internal SOPs (One Data Medan SOP Document, 2022).

Although normatively this policy has been prepared quite comprehensively, the results of the study show that at the implementation level there is still a significant gap between the formulation of policy standards and their implementation in the field. Many OPDs do not have an adequate understanding of the responsibilities and technical procedures in managing data. Most OPDs have not even been able to distinguish the role of data producers from the validation function by the data guardian. This has an impact on format inconsistencies, irregularities in data updates, and weak accuracy of data content displayed on the Medan City One Data Portal.

This phenomenon shows the existence of information asymmetry and weakness of vertical communication between policy makers (top-level) and policy implementers (street-level bureaucracy). According to Van Meter and Van Horn (1975), one of the important factors in the effectiveness of policy implementation is the consistency of policy standards and objectives with the implementable capacity

and understanding of implementers. When policies are not translated operationally through systematic training, coaching, and monitoring, the standards that have been set risk becoming mere instruments of formality.

In addition, the lack of technical socialization and continuous training is the main cause of the lack of optimal policy internalization at the OPD level. A similar study by Afandi & Afandi (2018) stated that the success of the implementation of the data disclosure policy is highly determined by the intensity of training and the availability of technical instruments that are easy for implementers to understand. This is reinforced by the findings of Grindle (1980), who stated that implementation failures often occur not due to poor policy formulation, but due to weak capacity support of implementing organizations.

On the other hand, not all OPDs see this policy as a priority. In several interviews with technical officials, it was found that there are still many OPDs who consider data collection to be just an additional administrative job, not part of the institutional development strategy. The low understanding of the importance of data in the public policy cycle shows that institutional awareness of the urgency of this policy has not been evenly formed. This needs to be a special concern for city governments so that data governance reform does not stop at the level of policy documents, but is actually implemented through a measurable and sustainable process.

Thus, even though the One Data Medan City policy has clear and relevant standards and goals, major challenges still lie in the aspects of translating regulations into technical actions, improving data literacy, and harmonizing understanding between implementing agencies. To bridge this gap, follow-up policy interventions are needed in the form of intensive training programs, technical assistance, and the preparation of measurable implementation success indicators in each OPD.

## **Resources**

Resources are a fundamental element in the implementation of public policy. Without adequate resource support, policies, however ideal in their formulation, will not be effective in practice (Van Meter & Van Horn, 1975; Edward III, 1980). In the context of the implementation of the One Data Medan City policy, the results of the



study show that the limitation of resources, both human, budget, and information technology infrastructure, is the main obstacle in realizing an integrated and accessible data system across government sectors.

From the aspect of human resources (HR), most OPDs in Medan City do not have special personnel who are fully responsible for data management. The task is usually assigned to general administrative staff or planning subdivisions who do not have a background or technical competence in the field of digital data processing, metadata, or database management. As a result, the quality of data uploaded to the One Data portal becomes low, inconsistent, and often not updated regularly. This condition is in line with the findings of Lipsky (1980) who emphasized that the success of policy implementation is highly dependent on the competence of lower-level implementers (street-level bureaucrats) who are directly confronted with technical tasks in the field.

In the local government system, the capacity of human resources is also influenced by the pattern of high mutations and rotation of positions, so knowledge about policies is often unsustainable. A study conducted by Sutrisno (2020) shows that in regional bureaucracies in Indonesia, the weak development of technical functional positions is a factor that often leads to low professionalism and task specialization in the implementation of information technology-based policies.

Budget constraints are also another important obstacle. Although the One Data policy has been established normatively, in practice, special budget allocations to support data collection, management, and update activities are not yet available evenly across OPDs. The ICT budget in many OPDs is still directed towards spending on hardware or internet services, and has not been focused on strategic programs to strengthen data systems. This is in accordance with research from Nugroho (2018) which states that weak budget support is often the main cause of the low quality of digital-based policy implementation in local governments.

Another obstacle is the inequality of information technology infrastructure between OPDs. Some agencies such as Diskominfo or Bappeda already have relatively good data management devices and systems, but many other OPDs still rely on manual systems or simple spreadsheets. Not all agencies have a stable internet

network, self-storage servers, or software that is compatible with the integration system provided by the guardian. This device mismatch makes the process of data input and update slow or even undone. According to Janssen et al. (2012), data interoperability can only be achieved if all institutions in the system have a uniform minimum digital infrastructure, supported by an open API system and standardized communication protocols.

In addition, it was found that technical and operational regulatory support at the OPD level is still very minimal. Many OPDs do not yet have internal SOPs or technical instructions on how data is collected, validated, stored, and shared. This lack of clarity has an impact on weak accountability, because there are no indicators that explicitly set data management performance targets in each OPD. According to Winarno (2012), the absence of clear implementing regulations will create a gray space in policy implementation, which allows delays, negligence, and bureaucratic resistance to occur.

### **Characteristics of the Implementing Body**

One of the key components in the implementation framework of Van Meter and Van Horn (1975) is the characteristics of the implementing organization, which includes the institutional structure, work mechanisms, and inter-unit relationships in implementing policies. In the context of the One Data Medan City policy, the implementing structure has been formed with the main roles and functions contained in the Medan Mayor Regulation Number 31 of 2021. In this structure, the Communication and Information Service (Diskominfo) is designated as the guardian of data, the Regional Development Planning Agency (Bappeda) as the data coach, and the Regional Apparatus Organization (OPD) as the data producer.

Formally, the division of roles has provided a basic framework for who is responsible for data collection, validation, storage, and utilization. However, the results of the study show that the implementation of this role division has not been running optimally. In practice, there is still often overlap of authority between Diskominfo and OPD, especially in the process of validating and uploading data to the One Data portal of the City of Medan. Some OPDs feel that there is no need to wait for

validation from the Diskominfo because the data is the result of their internal activities, while Diskominfo as the guardian of data feels that it does not have enough authority to correct the content of the data provided by the OPD.

The absence of technical regulations or SOPs that regulate workflows operationally is the main cause of these problems. The absence of a technical document that explains in detail the limits of responsibility, reporting mechanisms, and data update cycles makes each institution work based on their own interpretation of existing regulations. This has the potential to cause disorientation in policy implementation, because each party does not have a uniform and binding work reference. This phenomenon is in accordance with the view of Goggin et al. (1990), who stated that the character of implementing organizations that do not have a clear operational structure tends to lead to policy fragmentation.

Problems can also be seen in the internal coordination between fields within the OPD itself. Some OPDs still face obstacles in harmonizing between the planning, finance, and technical unit subdivisions in the data preparation and reporting process. When data is seen only as a complementary product of administration, then the process of compiling data tends to be moved to the least burdened unit. This shows that data management has not become an institutional work culture, but rather an additional task that is incidental. According to Grindle (1980), the character of policy implementers who do not have a structured and performance-based work system will have difficulty in realizing policies consistently.

The bureaucratic nature of local government which is still hierarchical and procedural is also an inhibiting factor in cross-sector decision-making. In many cases, the technical staff responsible for data does not have the authority to coordinate directly with other OPDs or make decisions related to the system. All processes must wait for direction from the leadership, so the decision-making process becomes slow. This bureaucratic model is known as rigid hierarchy, which is considered inflexible in responding to the needs of collaborative systems such as One Data (Lipsky, 1980; Winarno, 2012).

Another finding is the lack of structural and non-structural incentives for work units or individuals involved in data management. The absence of awards or

performance recognition causes low motivation for employees in carrying out this policy to the maximum. In fact, according to Ingram & Schneider (1990), providing incentives in the policy implementation structure is a form of strengthening implementation mechanism that can encourage compliance and innovation from policy implementers in the field.

Thus, the characteristics of the One Data Medan City policy implementing organization still face a number of important challenges: lack of clear operational regulations, weak internal coordination, overlapping roles between agencies, and bureaucratic structures that do not yet support cross-sectoral and results-based work. Therefore, it is necessary to prepare technical SOPs, form a cross-OPD coordination team, and implement a performance evaluation system and incentives that support professional and sustainable data management.

### **Social, Economic and Political Environment**

In the framework of policy implementation according to Van Meter and Van Horn (1975), the external environment plays an important role in determining the effectiveness of policies. This environment includes social, economic, and political factors that directly or indirectly affect the acceptance, support, and capacity for implementation of a policy at the local level. In the case of the implementation of the One Data Medan City policy, these three dimensions show a role that is not optimal and tends to be symbolic or potential, not yet a concrete driving force.

Politically, there is normative support from regional leaders for the implementation of digitalization and information disclosure policies. This is reflected in the official statement of the Mayor of Medan and the ranks of regional leaders who openly expressed their commitment to digital transformation through programs such as Smart City, Medan Satu Data, and the digitization of public administration services. This vision is also stated in the 2021–2026 Medan City RPJMD document, which mentions the importance of strengthening regional development information systems and public data disclosure.

However, political support has not been fully derived into the form of derivative policies, operational instruments, or concrete budget allocations. There is no

additional mayor regulation that regulates the technical details of the implementation of the One Data policy as a whole. There is also no incentive policy or administrative sanctions for OPDs that are not active in uploading and updating data. According to Grindle (1980), without the support of technical and institutional policies, political commitment only becomes symbolic rhetoric that has no impact on changes in organizational behavior. This is also reinforced by Howlett and Ramesh (2003) who stated that political will without political capacity tends to produce stagnant policies at the implementation level.

From a social perspective, public awareness and participation in the Medan City One Data portal remains very low. Observations indicate that the general public, students, academics, media, and business actors are not yet aware of its existence or are using it as a source of information or development data. Data utilization is still dominated by internal local government circles and has not yet reached the wider public.

From the economic side, the implementation of the One Data Medan City policy has not shown a significant contribution to the efficiency of public services, increasing regional economic competitiveness, or creating a data-based innovation ecosystem. The business sector has not made local government data one of the considerations in their business processes. This shows that the economic impact of this policy is still at a potential stage.

#### **4. CONCLUSION**

The implementation of the One Data policy in Medan City shows that even though it has an adequate legal basis and institutional structure, its implementation in the field is still not optimal. Various challenges were found, ranging from low understanding of policy standards, limited human resources and infrastructure, weak coordination between OPDs, to lack of community participation and widespread use of data. Existing political support has not been fully translated into concrete technical and budgetary policies. Therefore, this policy has not been able to fully support the realization of effective data governance in order to encourage the achievement of the Golden Indonesia Vision 2045. Institutional capacity strengthening, harmonization of

operational regulations, and literacy and data dissemination strategies are needed to overcome these obstacles and encourage more integrated and sustainable policy implementation.

The main challenge in the implementation of the One Data Medan City policy lies in the gap between the ideal policy design and the capacity of implementers at the regional level. Although formal regulations and structures have been established, policy implementation is still faced with weak technical understanding in OPDs, limited human resources and infrastructure, lack of cross-sector coordination, and a bureaucratic culture that does not support data collaboration. On the other hand, the lack of data literacy and public dissemination strategies leads to low public participation and cross-sector data utilization. Declarative political commitments without operational and budgetary policy support also exacerbate implementation challenges. This emphasizes that the success of the One Data policy does not only depend on regulatory tools, but also on institutional readiness, synergy between actors, and conducive external environmental support.

## References

- Afandi, M., & Afandi, S. A. (2018). *Open Government dan Inovasi Administrasi Publik*. Jurnal Ilmu Administrasi Publik, 5(2), 101–112.
- Agustino, L. (2022). *Dasar-Dasar Kebijakan Publik*. Bandung: Alfabeta.
- Bappenas. (2020). *Satu Data Indonesia: Strategi Nasional Tata Kelola Data Pemerintah*. Jakarta: Kementerian Perencanaan Pembangunan Nasional/Bappenas.
- Bappenas. (2021). *Visi Indonesia Emas 2045: Peta Jalan Pembangunan Nasional Jangka Panjang*. Jakarta: Kementerian PPN/Bappenas.
- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27(3), 264–271. <https://doi.org/10.1016/j.giq.2010.03.001>
- Bekkers, V., & Homburg, V. (2007). *The Information Ecology of E-Government: E-Government as Institutional and Technological Innovation in Public Administration*. IOS Press.
- Charalabidis, Y., & Loukis, E. (2012). Evaluating different models of electronic participation: Results from a large-scale survey. *Government Information Quarterly*, 29(3), 368–377. <https://doi.org/10.1016/j.giq.2012.02.009>
- Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. (2006). New Public Management is dead: Long live digital-era governance. *Journal of Public Administration Research and Theory*, 16(3), 467–494. <https://doi.org/10.1093/jopart/mui057>
- Davies, T. (2010). *Open Data, Democracy and Public Sector Reform: A Look at Open Government Data Use from Data.gov.uk*. Master's Thesis. University of Oxford.

- Edward III, G. C. (1980). *Implementing Public Policy*. Washington, D.C.: Congressional Quarterly Press.
- Goggin, M. L., Bowman, A. O. M., Lester, J. P., & O'Toole Jr., L. J. (1990). *Implementation Theory and Practice: Toward a Third Generation*. Glenview: Scott, Foresman and Company.
- Grindle, M. S. (1980). *Politics and Policy Implementation in the Third World*. Princeton, NJ: Princeton University Press.
- Howlett, M., & Ramesh, M. (2003). *Studying Public Policy: Policy Cycles and Policy Subsystems* (2nd ed.). Toronto: Oxford University Press.
- Ingram, H., & Schneider, A. (1990). Improving implementation through framing smart policy designs. In D. J. Palumbo & D. J. Calista (Eds.), *Implementation and the Policy Process: Opening Up the Black Box* (pp. 65–88). Westport, CT: Greenwood Press.
- Janssen, M., Charalabidis, Y., & Zuiderwijk, A. (2012). Benefits, adoption barriers and myths of open data and open government. *Information Systems Management*, 29(4), 258–268. <https://doi.org/10.1080/10580530.2012.716740>
- Kominfo RI. (2020). *Roadmap SPBE (Sistem Pemerintahan Berbasis Elektronik) Nasional 2020–2024*. Jakarta: Kementerian Komunikasi dan Informatika Republik Indonesia.
- Meijer, A., Curtin, D., & Hillebrandt, M. (2012). Open government: Connecting vision and voice. *International Review of Administrative Sciences*, 78(1), 10–29. <https://doi.org/10.1177/0020852311429533>
- Nam, T. (2012). Citizens' attitudes toward open government and government 2.0. *International Review of Administrative Sciences*, 78(2), 346–368. <https://doi.org/10.1177/0020852312438783>
- Lipsky, M. (1980). *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*. New York: Russell Sage Foundation.
- Nugroho, R. (2018). *Public Policy: Dinamika Formulasi, Implementasi, dan Evaluasi Kebijakan Publik*. Jakarta: Elex Media Komputindo.
- OECD. (2019). *The Path to Becoming a Data-Driven Public Sector*. Paris: OECD Publishing. <https://doi.org/10.1787/059814a7-en>
- Pemerintah Kota Medan. (2021). *Peraturan Wali Kota Medan Nomor 31 Tahun 2021 tentang Penyelenggaraan Satu Data Kota Medan*.
- Sutrisno, B. (2020). Manajemen SDM di pemerintahan daerah: Strategi dan tantangan. *Jurnal Kebijakan Publik Daerah*, 9(2), 142–159.
- Van Meter, D. S., & Van Horn, C. E. (1975). The policy implementation process: A conceptual framework. *Administration & Society*, 6(4), 445–488. <https://doi.org/10.1177/009539977500600404>
- Winarno, B. (2012). *Kebijakan Publik: Teori, Proses dan Studi Kasus*. Yogyakarta: CAPS.
- Wirtz, B. W., Weyerer, J. C., & Rösch, M. (2018). Open government and citizen participation: A multidimensional model. *Government Information Quarterly*, 35(2), 291–304. <https://doi.org/10.1016/j.giq.2018.01.001>
- World Bank. (2021). *World Development Report 2021: Data for Better Lives*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1600-0>
- Wahyudi, W. (2021). Implementasi kebijakan Satu Data Indonesia: Peluang dan tantangan dalam integrasi data sektoral. *Jurnal Ilmu Administrasi Negara*, 11(1), 15–30. <https://doi.org/10.25077/jian.v11i1.1234>

- Yusdiyanto, T., & Arifin, S. (2019). E-Government dan tantangan integrasi sistem informasi antar instansi pemerintah. *Jurnal Transformasi Pemerintahan*, 6(2), 103–117.
- Zuiderwijk, A., & Janssen, M. (2014). Open data policies, their implementation and impact: A framework for comparison. *Government Information Quarterly*, 31(1), 17–29. <https://doi.org/10.1016/j.giq.2013.07.005>
- Zulfa, A., & Afandi, M. (2023). The role of data-driven governance in public policy: Challenges and innovation in Indonesia's digital transformation. *Jurnal Administrasi dan Kebijakan Publik*, 14(1), 55–68.