Integrated Data Governance: An Analysis of One Data Indonesia Policy Implementation in Pohuwato District, Indonesia

Abstract

Digital transformation in governance demands improved data quality as the foundation for effective and transparent decision-making. One of the strategic policies promoted by the Indonesian government is the implementation of One Data Indonesia, which aims to produce quality, standardised, and accessible data across sectors. This study aims to analyse the implementation of the this policy in the Pohuwato District and identify the determinants of its success. Using a qualitative approach with a case study method, this research was conducted at Bappeda, the Office of Communication and Information Technology and the Statistics Agency of Pohuwato Regency through in-depth interview techniques with the snowball sampling method. The results showed that implementing Satu Data Indonesia in Pohuwato Regency faced several obstacles in the planning, collection, examination, and dissemination stages. The dominant factors affecting the effectiveness of the policy include a lack of coordination between agencies, weak information technology infrastructure, and low involvement of village-level data producers. The conclusion of this study emphasises the importance of a collaborative approach, strengthening human resource capacity, and building a data interoperability system to accelerate the success of SDI policies. These findings strengthen regional data governance as the foundation for formulating participatory and evidence-based public policy.

***Keywords:*** *One Data Indonesia , policy implementation, data interoperability, governance*

**Introduction**

Data plays an important role in development because all forms of development start with data and, in turn, also produce data. Data serves as a tool to analyse various problems in development, which in turn is used to formulate policies. Every stage in the development process, from planning to implementation and evaluation, relies heavily on quality and accurate data (Iurev & Gnevanov, 2018). The quality of data used in these processes is a key factor in ensuring development success.

A good and comprehensive planning process is essential to ensuring the success of a development programme. To produce ideal planning, every process must be based on valid, measurable, and quality data and information. Data analysis is important in supporting planning strategies, resource management, and improving the quality of public services provided by the government. Effective data use allows for accurate visualization of conditions, thus supporting more responsive, transparent, and accountable decision-making by stakeholders regarding community need (Kumar, 2016)

Policies formulated by the government have a massive role in encouraging people to develop and improve their quality of life. Good policies can increase people’s loyalty to the government, which is considered present and active in overcoming societal problems. Public policy itself is an effort that involves a series of activities, programmes, and decisions made by relevant actors in order to solve problems faced by society (Barrett & Twycross, 2018). In the study of public administration, public policy refers to public bureaucratic actions related to what the government should and should not do (Dssrinelti, 2021). This policy can also be understood as a step to determine what the government does, the reasons behind these actions, and what causes the government to act in different ways (Widodo, 2021).

Policy implementation is a very crucial stage in the public policy process. At this stage, the government’s policies are implemented and applied to the parties who are the targets of these policies to achieve the desired goals. Policy implementation is implementing activities related to legal products that stakeholders have agreed upon to achieve the set goals (Madani, 2011). Edward III identified four factors that influence the success or failure of policy implementation, namely communication, resources, executor attitudes, and bureaucratic structure (Aneta, 2012). These factors are key to the success of policy implementation, as they are directly related to how the policy is delivered, supported, and accepted by all parties involved (Anggraini et al. 2022; Hassel & Wegrich, 2022).

In the digital transformation era, governments at the central and local levels face significant challenges and opportunities, especially in data-based decision-making. One of the important initiatives listed in Indonesia’s National Action Plan for Open Government 2018-2020 is implementing One Data Indonesia to realize more transparent and efficient government data governance (Bappenas, 2017). SDI aims to provide quality data, which includes credibility, accountability, and data currency, which is used as a reference in public policy making and implementation.

Open Government Data is a doctrine that encourages data disclosure by the government for the public interest, including for academics, businesses, and the wider community. Open data is expected to encourage innovation, public discussion, and community participation in government policy-making (Yudan and Virgy, 2021). The One Data Indonesia (SDI) policy is a concrete step to create quality data easily accessible to various parties, both central and regional government agencies. The transformation of information carried out through SDI involves various stages, from planning, collection, processing, and analysis to the presentation and dissemination of data that is transparent and easily accessible to all interested parties (Islami, 2021).

Although there is a lot of literature on policy implementation and government data governance in public policy studies, few studies explore the implementation of Satu Data Indonesia in depth, especially in the context of its influence on the quality of decision-making and public services in Pohuwato District. This research is expected to bridge the gap by examining how the One Data Indonesia policy is implemented in the field and how it impacts government performance and public satisfaction.

The main objective of this research is to analyze the implementation of the One Data Indonesia policy in Pohuwato Regency. This research will contribute to the development of more efficient and transparent public policies and strengthen the relationship between the government and the community through better data governance in Pohuwato District.

**Research Methods**

This research was conducted at the Regional Research and Development Planning Agency (Bappeda) and the Communication, Information and Statistics Office of Pohuwato Regency from January to March 2025. Using a case study method, the qualitative approach aims to describe in depth the phenomenon of implementing the One Data Indonesia Policy. Determining respondents used snowball sampling with in-depth interviews with the State Civil Apparatus in the two agencies.

The research stages include problem formulation, data collection through observation, interviews, documentation studies, and data analysis using qualitative descriptive techniques. Data analysis was done using data reduction, presentation, and conclusion drawing (Miles & Huberman, 2017). Data validity was checked using the criteria of credibility, transferability, dependability, and confirmability, referring to the concept of Lincoln & Guba (1985) adapted by Glaser (2004).

**Results and Discussion**

Based on field data collection through in-depth interviews with informants, a summary of the research results regarding implementing the One Data Indonesia Policy in Pohuwato Regency is presented in the table below, including planning, collecting, checking data, and disseminating data.

Table 1: Summary of interview results on the implementation of the One Data Indonesia policy in Pohuwato District

| **Stage** | **Description** |
| --- | --- |
| **Data Planning** | - Not fully implemented in Pohuwato.- **Challenges:** Lack of clarity from central government on priority data list, reliance on OPD indicators, no consensus on metadata standards and platforms. Low participation from ministries/agencies. |
| **Data Collection** | - Data collected based on OPD indicators, not aligned with the "One Data Indonesia" framework.- **Challenges:** Data lacks metadata and standards, top-down approach, limited participation from villages and districts. |
| **Data Validation** | - Validation limited to checking OPD macro-indicators, not covering full data integrity (metadata, sources, time). Manual process, prone to errors.- **Challenges:** Low quality data (incomplete, inconsistent), insufficient training, limited resources. |
| **Data Dissemination** | - Data dissemination is limited to the internal e-Data Sector application and not publicly accessible.- **Challenges:** No connection with the national "One Data Indonesia" portal, lack of interoperability. |

Data planning is a crucial first step in implementing the One Data Indonesia policy. This step involves determining the data to be collected and which agreed standards at the central and local levels must be compiled. In Pohuwato District, data planning is still not optimal, as there is a mismatch between the list of data used by the local government and the list of data determined by the central government. This mismatch has led to a lack of integration of data collected by each Regional Apparatus Organization and a focus on sectoral indicators that are not interconnected (Dwiyanto, 2019). Sectoral ego is still a big challenge in data planning. Each OPD tends to work with its standards and indicators, resulting in non-standardised data collection.

Similarly, Heeks (2017) stated that sectoral ego is a major obstacle in data integration and information sharing, as each agency tends to consider data as an asset that needs to be protected rather than shared. However, a collaboration-based approach can solve this problem by encouraging open discussions between agencies to create a common understanding of the value of data sharing. Therefore, more coordination between local and central government is needed to develop clearer standards in data planning.

Data collection should be conducted based on jointly agreed standards regarding metadata, interoperability, and reference codes. However, in Pohuwato Regency, data collection is still done sectorally, with each agency using its system to collect data. This leads to fragmented data that is difficult to share between sectors. This situation becomes an obstacle to practical data-driven analysis and planning, as data from one sector cannot be easily combined with data from another sector. In this case, the lack of interoperability between data systems becomes a significant issue. Data interoperability is crucial for accessing and processing data from various sources, as fragmented data hinders practical analysis and decision-making. Lenzerini (2019) states that the lack of interoperability between data systems hinders the integration necessary for comprehensive insights.

There is no text to translate. Please provide the text you would like me to translate. Data inspection is an important stage to ensure that the collected data meets the quality standards set by the One Data Indonesia policy. In countries like Finland, data verification is systematically conducted by designated agencies to ensure the quality and consistency of the data (Mussalo & Tenhunen, 2007). With the presence of a special body responsible for data verification, Finland can ensure that the data used by the government is always accurate and accountable. On the other hand, in Pohuwato Regency, data verification has not been conducted comprehensively, and each agency still relies on the sectoral indicators. This causes inconsistencies in data processing and utilization.

One of the key elements of the One Data Indonesia policy is the dissemination of transparent data. The One Data Indonesia policy emphasizes disseminating transparent data, ensuring that data is easily understandable. This accessibility is crucial for public engagement and enables stakeholders to make decisions based on the shared data (Gozali et al., 2023). Pohuwato Regency does not yet have a data portal that enables data interoperability between sectors and agencies. Although there have been efforts to build the One Data portal, it is still in development and cannot be used to its full potential yet. Therefore, the local government needs to expedite the development and implementation of this portal to improve data accessibility and transparency.

Therefore, local governments need to expedite the development and implementation of this portal to improve data accessibility and transparency. The success of implementing integrated data policies, such as One Data Indonesia, heavily relies on the government’s ability to overcome existing structural and bureaucratic obstacles and foster a culture of collaboration among government agencies. The success of implementing integrated data policies, such as Satu Data Indonesia, heavily depends on the government’s ability to overcome existing structural and bureaucratic obstacles and foster a culture of collaboration among government agencies. Research conducted by Janssen et al. (2020) shows that the success of data integration at the regional level depends on the ability to create synergy between government agencies. Kitchin (2014) emphasizes the importance of data interoperability in reducing fragmentation and improving the quality of evidence-based decisions. This is highly relevant to the situation in Pohuwato Regency, where the main issue faced is the inability of different agencies to share data due to differences in standards and systems used. Sahroni (2017) conveyed this condition in his research, which found that the implementation of data standardization in Indonesia did not run effectively due to inconsistent participation and a lack of compliance with metadata standards.

Several countries have successfully implemented data policies similar to One Data Indonesia through more integrated systems. Estonia, for example, successfully addressed the issue of data fragmentation by creating the e-Estonia platform, which allows all government data to be integrated into a single system that is easily accessible to the public and relevant agencies (Lember, 2018). Estonia’s success lies in implementing strict data standards across all sectors and a commitment to data sharing as part of an open and transparent government philosophy. Singapore also has successful experience managing government data through Data.gov.sg, an open platform that enables data exchange between government agencies, businesses, and the public (Chong, 2018).

Singapore's experience managing government data through the Data.gov.sg platform is a representative model of integrated, disclosure-oriented public data governance. The platform encourages interoperability between government agencies while enabling business entities and the wider public to access it (Chong, 2018). The initiative promotes administrative efficiency and reflects a new paradigm in data management as a strategic public good in supporting evidence-based policymaking. This proves that digitizing data and providing open access can strengthen the national information ecosystem and accelerate the innovation process in the public and private sectors.

Furthermore, Saxena and Zhang (2021) emphasize the importance of a bottom-up approach to data collection and utilization by empowering local actors as active subjects in the information system. This approach conceptually rests on the principle of decentralized governance, which places communities and local governments at the center of the dynamics of contextual data collection. In addition to ensuring the accuracy and relevance of data at the regional level, this strategy also creates a two-way communication channel between the center and the regions, so that the information collected is not only descriptive statistics, but also responsive to dynamic local needs. Implementing this approach is likely to encounter problems in top-down data systems, such as delays in updates, mismatches in local indicators, and weak community participation.

In the context of Pohuwato District, initiating the development of a village-based data governance model is a strategic policy rooted in the absolute need to develop a participatory, inclusive, and adaptive development information system. This model not only prioritizes strengthening the capacity of village institutions in managing and distributing data, but also has the potential to encourage a more transparent public accountability system. By strengthening the micro-level database, the distribution of information to the district and national levels can be done more efficiently, especially in the context of development planning, social assistance distribution, and monitoring of government programmed.

Theoretically, this approach is aligned with the framework of good governance, particularly in participation, transparency, and effectiveness. The integration between information technology infrastructure and local institutional capacity is the main requirement for the success of this model. Therefore, training mechanisms, mentoring, and regulatory schemes that ensure the sustainability of participatory data management are also needed in addition to technical support. Thus, the village-based data governance model in Pohuwato District can become a national reference in building a data ecosystem that is not only technocratic but also democratic.

This is in line with the research findings of Effendi and Nurmadewi (2023) that village-based data governance increases participation and supports decision-making. Implementing the One Data Indonesia policy in the Pohuwato Regency can be successful with a more collaborative and well-coordinated approach among various parties at the central and regional levels. Implementing the One Data Indonesia policy in the Pohuwato Regency can succeed with a more collaborative and well-coordinated approach among various parties at the central and regional levels. Meyer et al. (2019) and Ma (2018) state that collaboration between government agencies, the community, and the private sector is crucial in creating an efficient and transparent data governance system. Strong digital infrastructure must also support this collaboration to accelerate data integration.

**Conclusion**

This research shows that implementing the One Data Indonesia policy in Pohuwato Regency has been carried out through planning, collecting, examining, and disseminating data. However, its effectiveness is still affected by the quality of cross-sector coordination, the availability of competent human resources, and uneven information technology infrastructure. In the planning aspect, there is still a lack of synchronization between regional agencies in determining metadata standards and data needs. Data accuracy and consistency still need to be improved through a systematic validation mechanism at the collection and examination stage. Meanwhile, data dissemination experiences constraints on openness and accessibility, which limit public participation and data utilization across agencies.

Based on the research findings, the Pohuwato District Government is expected to strengthen institutional integration by establishing a cross-sectoral coordination team, providing continuous technical training for data managers, and building digital infrastructure that supports data interoperability. In addition, regular data audit and evaluation mechanisms must be institutionalized to ensure the quality and reliability of information used in public policy formulation.

**Disclaimer (Artificial intelligence)**

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

**References**

Aneta, A. (2012). Policy implementation of urban poverty alleviation programme in Gorontalo City. Public Administration Science *1*(1), 54-65.

Anggraini, H., Zainuddin, Z., & Hartono, B. (2022). Implementation of ASN Policy as an Implementer of Public Policy in Improving Employee Performance at the Regional Civil Service Agency Office, North Sumatra Province. Journal of Education, Humanities and Social Sciences, 5(2), 863–875. https://doi.org/10.34007/jehss.v5i2.1393

Bappenas. (2017). National Action Plan for Open Government Indonesia 2018–2020. National Development Planning Agency.

Barrett, S., & Twycross, A. (2018). Public Policy: A New Introduction. Oxford University Press.

Başkale, H. (2016). Determination of Validity, Reliability and Sample Size in Qualitative Studies. 9(1), 23–28. https://dergipark.org.tr/en/download/article-file/753041

Chong, Z. (2018). Data.gov.sg: A platform for seamless data exchange between government, businesses, and the public. Singapore: Government Digital Services.

Dssrinelti, E. (2021). Public Policy: Theory and Practice in Indonesia. Pustaka Pelajar.

Dwiyanto, A. (2019). Bureaucracy and sectoral ego in public services. Jakarta: Pustaka Pelajar.

Effendi, P. M., & Nurmadewi, D. (2023). Development and Implementation of a Web-Based Citizen Data Management System for Village Administration: A Case Study of Keboan Anom Village, Sidoarjo, Indonesia. Indonesian Journal of Cultural and Community Development, 14(2). <https://doi.org/10.21070/ijccd2023922>

Glaser, B. G. (2004). "Naturalist Inquiry" and Grounded Theory. *Forum Qualitative Sozialforschung Forum: Qualitative Social Research*, *5*(1). https://doi.org/10.17169/fqs-5.1.652

Gozali, A. A., Romadhony, A., & Subaveerapandiyan, A. (2023). One Data Indonesia Policy Adoption for Telkom University Data Warehouse Framework. https://doi.org/10.26594/register.v9i2.3473

Heeks, R. (2017). Information and communication technologies, development, and governance: A critical review. Journal of Information Technology, 32(3), 273–290.

Hassel, A., & Wegrich, K. (2022). How to implement public policy. How to do public policy. Oxford Academic. <https://doi.org/10.1093/oso/9780198747000.003.0005> (Accessed: 10 May 2025).

Islami, H. (2021). Information transformation in government data management. Journal of Information Technology, 12(2), 45–60.

Iurev, O., & Gnevanov, A. (2018). The importance of data in public policy development. Journal of Public Administration, 24(1), 34–45.

Janssen, M., Wimmer, M., & Deljoo, P. (2020). Policy implications of digital government transformation in smart cities. Journal of Urban Technology, 27(2), 1–16.

Kumar, M. (2019). Data-Driven Decision Making: How Organizations Use Analytics to Transform their Strategies. International Journal For Multidisciplinary Research, 1(2). https://doi.org/10.36948/ijfmr.2019.v01i02.20554

Kitchin, R. (2014). The data revolution: Big data, open data, data infrastructures and their consequences. London: Sage Publications.

Lember, V. (2018). e-Estonia: A successful digital government model. Digital Government Journal, 5(1), 41–52.

Lenzerini, M. (2019). Direct and Reverse Rewriting in Data Interoperability (pp. 3–13). Springer, Cham. https://doi.org/10.1007/978-3-030-21290-2\_1

Ma, J. (2018). Research on Collaborative Data Governance Action Research Under the Integration of Colleges and Universities. Proceedings of JAHP, 540–543. https://doi.org/10.2991/JAHP-18.2018.110

Madani, R. (2011). Public policy implementation in Indonesia: A theoretical and practical approach. Journal of Public Policy, 5(2), 56–70.

Meyer, P., Shaked, H., & Hars, A. (2019). Collaborative governance in digital data management: A framework for transparent and efficient systems. International Journal of Public Administration, 42(5), 489–500.

Miles, M. B., & Huberman, A. M. (2017). Qualitative data analysis: A methods sourcebook (3rd ed.). SAGE Publications.

Mussalo, P., & Tenhunen, J. (2007). Data completeness in the Finnish Intensive Care Quality Consortium database. Critical Care, 11(2), 501. <https://doi.org/10.1186/CC5661>

Sahroni, W. Y. (2017). *The effectiveness of spatial data sharing in indonesia-sdi: case study in ministry of environment and forestry and provincial government of west java*. *19*(1), 53–64. https://doi.org/10.24895/MIG.2017.19-1.483

Saxena, S., & Zhang, M. (2021). Enhancing local governance with bottom-up data governance models. Journal of Local Governance and Innovation, 19(3), 65–79.

Yudan, F. F., & Virgy, M. A. (2021). Implementation of Open Government Data by Bandung City Government. Transformative Journal, 7(1), 128-153. Chong, Z. (2018). Data.gov.sg: A platform for seamless data exchange between government, businesses, and the public. Singapore: Government Digital Services.

Widodo, J. 2021. Public Policy Analysis: Concept and Application of Public Policy Process Analysis. Media Nusa Creative, Malang Indonesia.