

MODEL OF IMPLEMENTATION OF THE ONE DATA INFORMATION SYSTEM (SIMATA) POLICY BASED ON PUBLIC INNOVATION GOVERNANCE AT THE DISKOMINFO OF SOUTH SUMATRA PROVINCE

MODELO DE IMPLEMENTAÇÃO DA POLÍTICA DO SISTEMA DE INFORMAÇÃO DE DADOS ÚNICO (SIMATA) BASEADO NA GOVERNANÇA DA INOVAÇÃO PÚBLICA NA DISKOMINFO DA PROVÍNCIA DE SUMATRA DO SUL

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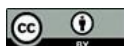
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Abstract

Various problems are encountered in the implementation of SIMATA, including non-standardized data, the lack of interoperability among regional government information systems, and limited regulations governing data management. Based on these issues, this study aims to explore the actual conditions of SIMATA implementation, identify its obstacles and supporting factors, and formulate an optimal public innovation governance model to support the effective implementation of the policy. This study employs a qualitative research approach. Data were collected through in-depth interviews, observation, and documentation. The data analysis technique used was the interactive model, which consists of data collection, data condensation, data display, and conclusion drawing/verification. Based on the research findings, the implementation of the One Data Information System (SIMATA) Policy based on Public Innovation Governance at the Communication and Informatics Office of South Sumatra Province has been carried out, although

Resumo

Vários problemas são encontrados na implementação do SIMATA, incluindo dados não padronizados, a falta de interoperabilidade entre os sistemas de informação dos governos regionais e regulamentações limitadas que regem a gestão de dados. Com base nessas questões, este estudo tem como objetivo explorar as condições reais da implementação do SIMATA, identificar seus obstáculos e fatores favoráveis, e formular um modelo ideal de governança da inovação pública para apoiar a implementação eficaz da política. Este estudo emprega uma abordagem de pesquisa qualitativa. Os dados foram coletados por meio de entrevistas em profundidade, observação e documentação. A técnica de análise de dados utilizada foi o modelo interativo, que consiste em coleta de dados, condensação de dados, apresentação de dados e formulação/verificação de conclusões. Com base nos resultados da pesquisa, a implementação da Política do Sistema Único de Informação (SIMATA) com base na Governança da Inovação Pública no Escritório de



it still faces several constraints. Public Innovation Governance in the implementation of SIMATA in the South Sumatra Provincial Government integrates three major theoretical frameworks simultaneously: the multi-actor collaboration theory of Agranoff and McGuire, Hartley's institutional adaptation theory, and the concept of technology utilization in digital government transformation, into a comprehensive and operational model of One Data policy implementation.

Keywords: One Data Policy. Public Innovation Governance. SIMATA. Digital Government. Data Integration.

Comunicação e Informática da Província de Sumatra do Sul foi realizada, embora ainda enfrente várias restrições. A Governança da Inovação Pública na implementação do SIMATA no Governo Provincial de Sumatra do Sul integra simultaneamente três grandes marcos teóricos: a teoria da colaboração multi-atores de Agranoff e McGuire, a teoria da adaptação institucional de Hartley e o conceito de utilização de tecnologia na transformação do governo digital, em um modelo abrangente e operacional de implementação da política One Data.

Palavras-chave: Política One Data. Governança da Inovação Pública. SIMATA. Governo Digital. Integração de Dados.

1 INTRODUCTION

Law Number 14 of 2008 concerning Public Information Disclosure, Article 7 also mandates that every Public Agency is obliged to build and develop an information and documentation system to manage public information properly and efficiently so that it can provide easy access, even information governance can ensure the provision of easy, meticulous, fast and accurate information. Baker (1997), stated that there are four strategies in looking at the approach to government public relations, namely: focusing on the purpose of public relations in conducting political communication; serving information; forming a positive image of the institution; and embracing feedback from the public. Baker also stated that the task of listening to feedback is *the most misunderstood strategic task of government relations*, for which information is needed that is accurate, truthful, and not misleading (in Idris, 2015). Therefore, public relations managerial skills must be possessed, namely managerial communication skills and communication technician skills. Managerial skills are the ability to identify issues and problems (*expert presciber*), mediator or facilitate two-way communication between institutions and the public (*communication facilitator*), and *problem solving facilitators*, which are to help leaders solve problems and oversee the implementation of solving problems.

One form of innovation is the use of *e-government* in public services. According to PANRB Ministerial Regulation No. 30 of 2014, public service innovation is a breakthrough in the type of public service, both which is an original creative idea/idea and/or adaptation/modification that provides benefits to the community, either directly or indirectly.

Empirical problems, described from the results of research by Selvia (2022) reveal that policy programs in the form of the South Sumatra One Data Information System (SIMATA) portal, which presents data related to South Sumatra Province, are often temporarily inaccessible, this is suspected to be due to the absence of clear operating procedures and coordination in assisting the organizational work process, development and maintenance on the portal that is not yet consistent as well as budgeting that is also not fully compliant with regulations, as well as unclear Standard Operating Procedures. Therefore, it is better to take corrective actions in the planning process that must be further improved and supervision that must be further clarified, so that the problems that occur in the management of the realization of a perfect SIMATA portal and the one data policy can be resolved.

Muhammad Firdaus Febriansyah (2022) with the title Implementation of the One Data Policy in Providing an Accurate and Transparent Database in South Sumatra Province (Study on the Communication and Information Service of South Sumatra Province) outlined the One Data Policy of South Sumatra Province in accordance with the stages contained in the Regulation of the Governor of South Sumatra Number 4 of 2021 concerning One Data of South Sumatra Province. The supporting factors in this policy are the clarity and consistency of communication, information resources and authorities that have been available as well as dispositions in the form of cognition, response direction and the existence of incentives, while the inhibiting factors during the implementation of the policy are communication transmission that has not run optimally, human resources that are not yet competent, supporting facilities that have not yet been updated with technology and the absence of standard operating procedures to facilitate work and work coordination that are not yet effective. Therefore, improvements should be made in communication transmission, continue to increase the capacity of human resources, update policy support facilities, accelerate the creation of standard operating procedures and strengthen work coordination by implementing a reward and punishment

system in order to overcome obstacles to the implementation of the One Data policy of South Sumatra Province

One data and other digital policies the use of the internet is one of the basic needs of the government in implementing and carrying out operational activities on policy products such as portals, websites and other digital policy products. Therefore, the importance of the availability of access to the internet is increasingly needed by the government and the community, this is in line with the industrial revolution 4.0 ICT facilities used by the community have undergone a shift, all interests including state interests are required to make improvements and improvements.

Digital transformation in government is a strategic need to improve efficiency, transparency, and accountability in public governance. The South Sumatra Provincial Government through Governor's Regulation Number 4 of 2021 initiated the One Data Information System (SIMATA) as an implementation of Presidential Regulation Number 39 of 2019 concerning One Data Indonesia. This policy aims to integrate data across regional apparatus to support evidence-based decision-making. However, its implementation faces various challenges, including data fragmentation, lack of coordination between actors, and limited technology infrastructure.

Data fragmentation across regional apparatus in South Sumatra Province hinders the optimization of this policy. According to the South Sumatra Communication and Information Service (2023), only 60% of regional apparatus has been connected to SIMATA. Unstandardized data, lack of interoperability between regional apparatus systems, and limited regulations governing data management are some of the problems that often arise. This makes SIMATA policies difficult to implement effectively, resulting in weak availability of reliable data to support strategic decision-making.

Furthermore, fragmented data management often leads to inconsistencies in public information. For example, a report by the Education Office and the Health Office shows significant data discrepancies regarding the number of students who need technological assistance for online learning during the COVID-19 pandemic. This inconsistency creates a service gap that has a direct impact on society. This issue underscores the importance of integrated data governance through SIMATA policies.

In addition, public participation in the policy process is also still low. In fact, community involvement can enrich the database and provide relevant feedback for policy

improvement. For example, according to an internal survey by the Diskominfo (2023), only 30% of the public is aware of the existence of SIMATA and its benefits for public information transparency. Limited socialization and education to the public is one of the causes of this low participation.

Another problem arises from the weak capacity of human resources (HR) in the regional apparatus. Most of the employees in charge of managing SIMATA do not have adequate technical expertise in technology-based data management. This causes a slow process of data integration between regional apparatus. In addition, the uneven technological infrastructure in various regions in South Sumatra is the main obstacle. Rural areas, for example, still face significant limitations in internet access, making online data integration difficult.

The various problems faced in the implementation of SIMATA, such as data fragmentation, lack of coordination across regional apparatus, and low public participation, show that innovation in the public sector often not only faces technical challenges, but also requires fundamental changes in governance.

Theoretical problems, it is known that the nature of public innovation, as described by Hartley (2005), describes innovation as a non-linear process, involving complex interactions between actors and institutions. The theory of innovation diffusion (Rogers, 1995), for example, although it has been widely used, is more suitable for the context of individual or private sector technology deployment. In the public sector, innovation is often more complex because it involves the dynamics of relationships between actors and institutional challenges. In this case, Chesbrough (2003) through the concept of *open innovation* shows that collaboration between actors and openness to external resources are very important in driving sustainable innovation. Therefore, a theoretical framework is needed that is able to capture this complexity more holistically. As a complement, the concept of *co-creation* introduced by Bason (2010) emphasizes the importance of direct involvement of users in the innovation process, both as consumers and solution contributors. This approach is relevant in supporting collaboration-based governance. Then, Osborne (2006) through the concept of *New Public Governance* (NPG) expands this discussion by emphasizing the importance of building multi-stakeholder collaboration networks that function to create adaptive and sustainable public governance. This approach emphasizes the importance of building

multi-stakeholder collaboration networks that function to create adaptive and sustainable public governance. In the context of SIMATA Implementation, this approach helps to understand the role of government as a facilitator in integrating various actors, including society and the private sector, into a synergistic innovation ecosystem.

In addition, Hartley (2005) highlights the importance of governance transformation as part of public innovation. He explains that the success of innovation does not only depend on technology, but also on institutional strengthening and the involvement of cross-sector actors. In the context of the implementation of SIMATA, this view affirms that coordination across regional apparatus, regulatory adaptation, and user involvement are key elements that must be considered. As additional supporters, Bason (2010) and Von Hippel (2007) emphasize the importance of co-creation in public sector innovation, where users or communities play the role of co-producers in the innovation process.

Thus, a public innovation governance approach that prioritizes collaboration, institutional adaptation, and user involvement seems to be a relevant solution to overcome the problem of SIMATA implementation. This approach not only focuses on technical solutions for data integration, but is also able to answer structural challenges such as weak regulations, low human resource capacity, and limited coordination across regional apparatus. This approach is relevant because it is able to bring together strategic needs in data management with the demands of community participation and innovation sustainability. In addition, public innovation governance offers a framework to align the government's role as a facilitator with the dynamics of relationships between various actors, both from the public and private sectors. With this framework, it is hoped that the implementation of SIMATA can run more effectively, efficiently, and in accordance with local needs. This approach not only focuses on the technical aspects of data integration, but also on the institutional and social dimensions that support policy success.

Based on the various issues above, this study aims to explore the conditions of SIMATA implementation, identify obstacles and supporting factors, and formulate an optimal public innovation governance model to support the implementation of the policy

Based on the background and formulation of the above problem, this study aims to explain the Policy Implementation Model of One Data Information System (Simata)

Based on Public Innovation Governance at the South Sumatra Provincial Diskominfo. In detail, this study has several objectives:

1. Analyze the conditions of SIMATA implementation in South Sumatra Province in the context of cross-sector data governance.
2. Identify the obstacles and supporting factors that affect the implementation of SIMATA based on the perspective of public innovation governance.
3. Formulate an optimal public innovation governance model, emphasizing multi-stakeholder synergy, institutional strengthening, and the use of technology to support SIMATA policies.

2 RESEARCH METHODS

Based on the type of data and its analysis, this research is qualitative, which aims to analyze and recommend the One Data Information System (Simata) Policy Implementation Model Based on Public Innovation Governance at the Diskominfo of South Sumatra Province. Moleong (2014: 6) describes qualitative research as research that aims to understand the phenomenon of what is experienced by the research subject such as perception, motivation, action, behavior and so on holistically/thoroughly by describing in the form of words and language in a natural context and utilizing various natural methods. Qualitative research is open, meaning that the research problems presented in front are flexible and *subject to change*, in accordance with the work process that occurs in the field so that the focus of the research also changes to adapt to changing research problems. Moleong defines qualitative methodology as a research procedure that produces descriptive data in the form of written or oral data from people and observed behaviors.

3 RESULTS OF RESEARCH AND DISCUSSION

3.1 Aspects of multi-actor collaboration

The implementation of the One Data Information System (SIMATA) policy based on public innovation governance at the South Sumatra Provincial Diskominfo shows that the success of implementation is highly determined by the synergy between multi-actor collaboration, institutional adaptation, and the use of technology. From the aspect of multi-actor collaboration, the implementation of SIMATA involves various stakeholders, both internal local governments such as OPDs, and external ones such as the central government, academics, and technology partners. This collaboration is not only coordinated, but also requires data openness, trust between actors, and a willingness to share roles and resources. However, in practice, obstacles are still found in the form of sectoral egos and organizational resistance that affect the effectiveness of collaboration.

Academically, Multi-Actor Collaboration adopts the theory of Agranoff and McGuire (2003: 43-44) which views collaboration as a process of network *management* between various actors across sectors to achieve public goals that cannot be effectively achieved by one organization alone. Collaboration is not just administrative cooperation, but involves structured, sustainable, and interdependent strategic interactions between government actors, the private sector, civil society, and local communities. Multi-actor collaboration, according to Agranoff and McGuire (2003), emphasizes that the success of public policy is highly determined by the government's ability as *a network manager* to orchestrate relationships between actors, build trust, manage conflicts of interest, and create resource synergies. This approach is relevant in the study of digital governance and public policy because it places collaboration at the core of modern governance that is participatory, adaptive, and network-based.

Multi-actor collaboration according to Agranoff and McGuire (2003) consists of six *styles of collaboration*, which show how public actors position themselves and interact with other actors in the policy network, which include: *jurisdiction based, abstinence, top down, donor recipient, reactive, and contented*

Jurisdiction Based is a Government Effort that takes strategic actions with many Actors and agencies from various Governments and several sectors related to the Implementation of the South Sumatra One Data Information System (Simata) Policy which includes: Strengthening Regulations and Institutions Across Actors, Coordination and Collaboration Between Governments, Involvement of Non-Government Actors, Capacity Building of Human Resources Across Sectors, Integration of Shared Systems and Infrastructure, Incentives, Supervision, and Accountability and Encouraging the Use of Data for Public Policies and Services. In the context of SIMATA South Sumatra, *Jurisdiction Based* includes the involvement: the South Sumatra Provincial Government as the main coordinator and person in charge of the One Regional Data policy; Bappeda as *the leading sector* in planning, integration, and utilization of development data; The Communication and Information Service as the manager of information technology infrastructure, application systems, and data security; Other Regional Apparatus as producers and sectoral guardians according to their respective fields of affairs; Regency/City Governments as regional data providers and implementers of the One Data policy at the local level; and the Central Statistics Agency as a statistical data coach and guarantor of data quality standards. This *jurisdiction-based* collaboration shows that the implementation of SIMATA South Sumatra is built through structured, formal, and regulation-based cross-agency coordination. Each actor works within the framework of his authority, so that data integration can take place legally, accountably, and avoid overlapping roles. Although flexibility is relatively limited, this style of collaboration is important as an initial foundation for strengthening data governance and implementing a sustainable One Data policy in South Sumatra.

Theoretically, this jurisdiction-based collaboration model is in line with the views of Agranoff and McGuire (2003) who emphasize that collaboration between Government organizations often takes place within the boundaries of clear formal authority to maintain accountability and policy legitimacy. Research conducted by Emerson and Nabatchi (2015) also shows that a clear institutional structure is an important prerequisite for building collaborative governance, especially in the early stages of public policy implementation involving many actors. In addition, a study by Sharon S. Dawes (1996) confirms that formal authority-based coordination is needed to reduce role conflicts and increase trust between agencies in data sharing.

Furthermore, in the context of the One Data policy in Indonesia, research findings by Agus Budi Pratama (2020) reveal that a regulation-based approach and clear division of roles between agencies are able to increase data consistency and strengthen the integration of government information systems. This is strengthened by a study by Sutopo (2021) which states that clarity of roles between data producers, data guardians, and data coaches is key in avoiding duplication and improving the quality of sectoral data. Thus, *jurisdiction-based* collaboration in the implementation of SIMATA South Sumatra shows that data integration is carried out through a coordinated and regulation-based formal mechanism. Although flexibility in innovation is relatively limited, this approach has the advantage of ensuring legality, accountability, and clarity of roles between actors. Therefore, this model is an important initial foundation in building strong and sustainable data governance, before evolving towards a more adaptive and participatory form of collaboration.

Abstinence can be seen from the low intensity of data delivery and updating, limited cross-sector coordination, and lack of initiatives to integrate sectoral data into SIMATA. Actors who are abstinent tend to view the One Data policy as the sole responsibility of the Communication and Information Department, not as a collective commitment across regional apparatus. This is often influenced by limited human resources, low data and technology literacy, lack of strong institutional incentives, and the perception that SIMATA has not yet become an organizational strategic priority. *Abstinence* reflects the main challenge in the implementation of SIMATA South Sumatra, namely the weak internalization of the value of collaboration and innovation at the institutional level. To overcome this, it is necessary to strengthen more binding regulations, increase human resource capacity, provide data-based performance incentives, and collaborative leadership from the Diskominfo so that all actors are pushed out of passive positions towards active participation in the One Regional Data ecosystem

Empirically, this condition is in line with the findings of Agranoff and McGuire (2003) who stated that in public collaboration, actors can be in a position of *abstinence*, that is, choosing not to be actively involved despite having authority and capacity. This is also reinforced by the research of Ansell and Gash (2008) which confirms that the success of *collaborative governance* is greatly influenced by the level of trust, commitment, and active participation of stakeholders; without this, collaboration tends

to stagnate. In addition, the study of O'Leary and Vij (2012) shows that passive resistance in public organizations often arises due to a lack of incentives, unclear benefits of collaboration, and weak collaborative leadership. In the context of government data management, Dawes' (1996) research also highlights that the low willingness to share data between agencies is often caused by concerns of loss of control, differences in interests, and limited institutional capacity. Meanwhile, the study of Gil-Garcia (2014) emphasizes that the integration of government information systems requires not only technological infrastructure, but also organizational culture changes towards openness and collaboration.

To overcome these *abstinence* conditions, a comprehensive strategy is needed, including strengthening more binding regulations to ensure actors' compliance, increasing the capacity of human resources in data literacy and technology, and providing data-based performance incentives to encourage active participation. In addition, collaborative leadership from Diskominfo is key in moving all actors to move out of passive positions to active involvement. This is in line with the findings of Emerson and Nabatchi (2015) who emphasize the importance of the role of leadership in building effective and sustainable collaboration dynamics. Thus, this discussion shows that the challenges of *abstinence* in the implementation of SIMATA South Sumatra are not only technical issues, but also closely related to aspects of organizational culture, incentives, and leadership. Therefore, a holistic and sustainable approach is needed to drive the transformation from passive participation to active collaboration in regional data governance.

The *top-down* collaboration style in the Implementation of the South Sumatra One Data Information System (Simata) Policy initiated by the Government and implemented through applicable regulations and regulations can be categorized as *institutionalized collaboration* or coordinated top-down collaboration. This style emphasizes *state-led collaboration* with multi-actor involvement in a clear legal framework. The *top-down collaboration style* in the implementation of the South Sumatra One Data Information System Policy (SIMATA) is characterized by the dominance of the provincial government's role as the main actor who controls the direction, mechanism, and standards of policy implementation. The South Sumatra Provincial Communication and Information Department functions as a technical

controller and operational regulator, while other regional apparatus plays a more role as implementers who follow instructions, guidelines, and provisions that have been set. This pattern can be seen from the determination of data standards, reporting formats, input schedules, and the use of the SIMATA application which is mandatory and uniform for all OPDs. In a *top-down* framework, collaboration is built through command, regulation, and supervision mechanisms. The involvement of other actors is not entirely an equal partnership, but rather an object of policy implementation. The South Sumatra Provincial Government determines targets, indicators, and work procedures, while Regency/City Governments and sectoral OPDs adjust to these policies. This pattern is effective in creating system uniformity, legal certainty, and accelerating the implementation of SIMATA as a regional strategic policy. However, the *top-down style* also has limitations in the context of public innovation governance. The space for participation, creativity, and initiative from other actors has become relatively narrow, so the potential for innovation based on sectoral needs has not been fully accommodated. As a result, collaboration tends to be administrative and structural compliance, rather than participatory substantive collaboration. However, in the early stages of strengthening regional data governance, the *top-down style* is an important foundation for building institutional discipline and consistency in SIMATA implementation in South Sumatra

Theoretically, this pattern is in line with the views of Pressman and Wildavsky (1973) who emphasized that the success of policy implementation is greatly influenced by the clarity of instructions, hierarchical structure, and control of central authorities. A similar point is also put forward by Sabatier (1986) who states that *the top-down* approach is effective in ensuring actors' compliance with policy objectives through clear standards and procedures. In the context of digital governance, Heeks' (2006) research shows that a centralized approach is often used in the early stages of government information system implementation to ensure data integration, consistency, and quality control. In addition, the study of Gil-Garcia and Pardo (2005) confirms that centralized leadership plays an important role in coordinating various agencies in the integration of information systems across sectors. However, *the top-down style* also has limitations in the context of public innovation governance. The space for participation, creativity, and initiative from other actors has become relatively narrow, so the potential for innovation based on sectoral needs has not been fully accommodated. This condition is in line with

the findings of Ansell and Gash (2008) who affirm that collaboration that is too dominated by one actor will hinder the formation of participatory dialogue and trust between stakeholders. Furthermore, the research of Sørensen and Torfing (2011) shows that public innovation requires an open and equal space of interaction for actors to contribute creatively. As a result, in *the top-down* pattern, collaboration tends to be administrative and structural compliance, rather than participatory substantive collaboration.

However, in the early stages of strengthening regional data governance, the *top-down* style remains an important foundation for building institutional discipline and consistency of SIMATA implementation in South Sumatra. As emphasized by Emerson and Nabatchi (2015), a strong institutional structure and clear leadership are needed as a foundation before evolving towards more participatory and adaptive collaboration. Thus, the *top-down* approach in SIMATA can be understood as a strategic initial stage, which further needs to be combined with a collaborative approach to encourage innovation and policy sustainability.

The Donor Recipient *collaboration style* in which the Government receives assistance or support from external parties to assist in the development or development of programs in the One Data Information System (Simata) Policy Implementation can be categorized as *supportive partnership collaboration* or *guided co-production*. In this model, the Government remains the policy *owner*, while external parties play the role of supporters, facilitators, or expertise providers. The *Donor-Recipient* collaboration style in the implementation of the South Sumatra One Data Information System (SIMATA) Policy is characterized by the relationship of resource dependence between actors who act as donors and actors who act as recipients. In this context, the South Sumatra Provincial Government through Diskominfo plays the role of the main donor who provides technological infrastructure, SIMATA applications, funding, technical guidelines, and capacity building support. Meanwhile, Regional Apparatus and Regency/City Governments act as *recipients* who receive these facilities, systems, and directions to be implemented in each sector and region. This pattern can be seen from the provision of servers, networks, application platforms, technical training, to data management assistance centered at Diskominfo. Sectoral OPDs and lower-level local governments are more in the position of beneficiaries, system users, and technical

implementers of data input and updates. Collaboration is built not on the basis of full equality, but on functional relationships that rely on the transfer of resources and capacity

In the framework of public innovation governance, *the donor-recipient style* has a strategic role, especially in the early phases of SIMATA implementation, when the technological readiness and human resource capacity between institutions are still uneven. Through this pattern, the capability gap can be reduced, system standards can be standardized, and the acceleration of the adoption of the One Regional Data policy can be realized. However, the weakness is the emergence of a high potential dependence of recipients on donors. OPDs or local governments can become less independent, passive, and wait for initiatives from Diskominfo. Therefore, in the long term, the donor-recipient style needs to be transformed towards more equal and participatory collaboration, so that all actors not only become users of the system, but also become active partners in the development, utilization, and innovation of SIMATA South Sumatra data management

Theoretically, this approach is in line with the view of Agranoff and McGuire (2003) who stated that in public collaboration, the relationship between actors can be in the form of *donor-recipient* when there is a gap in capacity and resources. In addition, the research of Brown and Potoski (2003) shows that in relations between government organizations, support mechanisms from stronger actors are often needed to increase the capacity of weaker organizations, especially in the implementation of technology-based policies. In the context of digital governance, the study of Heeks (2006) confirms that the transfer of knowledge, training, and technical support from central actors is an important factor in accelerating the adoption of information systems in the government environment. However, the main weakness of the *donor-recipient style* is the emergence of a high potential dependence of recipients on *donors*. OPDs or local governments can become less independent, passive, and tend to wait for initiatives from Diskominfo. This is in line with the findings of Pfeffer and Salancik (1978) who explained that dependence on external resources can affect organizational autonomy and limit innovation capabilities. In addition, Ansell and Gash's (2008) research emphasizes that unequal collaborative relationships have the potential to inhibit active participation and reduce the quality of interaction between actors in the long run.

Furthermore, the study by Sørensen and Torfing (2011) emphasizes that sustainable public innovation requires the active involvement of all actors in the

cocreation process, not just a one-way relationship. Therefore, in the long term, the *donor-recipient* style needs to be transformed towards more equal and participatory collaboration, so that all actors not only become users of the system, but also become active partners in the development, utilization, and innovation of SIMATA South Sumatra data management. Thus, the *donor-recipient pattern* can be understood as an effective transitional strategy in overcoming capacity gaps in the early stages of implementation, but needs to be balanced with efforts to empower and increase the independence of actors in order to create a collaborative and sustainable data governance ecosystem.

The Reactive *collaboration style* is carried out when the Government and Policy Implementers actively work together to overcome problems in the development of the One Data Information System (Simata) can be categorized as collaborative *problem-solving* collaboration or operational co-production. This style emphasizes intensive, adaptive, and sustainable joint work between policy makers and implementers in the field. The *Reactive* collaboration style in the implementation of the South Sumatra One Data Information System Policy (SIMATA) is characterized by a responsive and situational work pattern, where collaboration between actors arises mainly as a reaction to external demands, urgent problems, or certain administrative needs. Collaboration is not entirely built through systematic long-term planning, but is more triggered by regulatory pressures, sudden data requests from leaders, reporting needs, or the importance of program evaluation. In the practice of South Sumatra SIMATA, the *reactive* style is seen when OPDs and related agencies only intensify coordination, collection, and data updates when there is an urgent request, such as the preparation of planning documents, local government performance reports, monitoring and evaluation needs, or audits. In this situation, Diskominfo acts as a quick response center that coordinates cross-sector data collection so that information needs can be immediately

Reactive collaboration shows that SIMATA has not been fully positioned as a system that is internalized in the bureaucratic work routine. Data is still seen as a momentary need, not as a strategic asset that is managed sustainably. As a result, the quality and consistency of data tends to fluctuate, depending on the intensity of pressure or urgency of needs. From the perspective of public innovation governance, *the reactive* style reflects the transition phase towards more mature data governance. Although less

than ideal due to the lack of proactive planning, this pattern still has strategic value as an early trigger for awareness of the importance of data integration. The main challenge is to transform reactive collaboration into proactive, institutionalized, and sustainable collaboration in the South Sumatra SIMATA ecosystem

Conceptually, this pattern is in line with the view of Agranoff and McGuire (2003) who identify that public collaboration is often situational and arises in response to external pressures, rather than the result of mature institutional design. This is also reinforced by the research of Ansell and Gash (2008) who assert that in many cases, initial collaboration is formed due to the existence of *starting conditions* in the form of pressure, conflict, or urgent need that forces actors to interact. In the context of digital governance, a study by Richard Heeks (2006) shows that the implementation of information systems in the public sector is often reactive in the early stages, especially when organizations do not have a strong institutional readiness and data culture.

Reactive collaboration shows that SIMATA has not been fully positioned as a system that is internalized in the bureaucratic work routine. Data is still seen as a momentary need, not as a strategic asset that is managed sustainably. This condition is in line with the findings of Dawes (1996) who stated that without structured governance, data sharing practices between agencies tend to be ad hoc and depend on short-term needs. As a result, the quality and consistency of data fluctuate, depending on the intensity of pressure or the urgency of needs. In addition, Gil-Garcia's (2014) research confirms that the lack of integration of business and institutional processes will lead to non-optimal and unsustainable data utilization. From the perspective of public innovation governance, *the reactive style* reflects the transition phase towards more mature data governance. Although less than ideal due to the lack of proactive planning, this pattern still has strategic value as an initial trigger for awareness of the importance of data integration. This is in line with the view of Sørensen and Torfing (2011) who stated that public innovation often starts from a response to pressure or problems, before developing into an institutionalized practice. Therefore, the main challenge in the implementation of SIMATA South Sumatra is to transform reactive collaboration into proactive, planned, and sustainable collaboration. This transformation requires strengthening regulations, system integration, human resource capacity building, and

leadership that is able to encourage organizational culture changes towards more strategic and long-term oriented data management.

Contented is a cooperation in a *mutual-benefit collaboration* style in the implementation of the One Data Information System Policy (Simata) built through fair value exchange, clarity of roles, and real results for all parties. When the benefits are felt together, *satisfaction* and trust will grow between collaboration actors. Contented collaboration style in the implementation of the One Data Information System Policy

(SIMATA) South Sumatra reflects the ideal conditions for multi-actor collaboration, where relationships between institutions have been built in a harmonious, stable, and mutually beneficial manner. In this style, actors no longer collaborate due to regulatory coercion or administrative pressure, but because of a shared awareness that SIMATA is a strategic need to improve the quality of data-based planning, decision-making, and public services. In the context of SIMATA South Sumatra, the *contented* style can be seen when Diskominfo, Bappeda, sectoral OPDs, and district/city governments have the same commitment to data management. Data input, updating, and utilization are carried out routinely and integrated, without always having to be driven by formal instructions. Trust is built between actors, communication runs openly, and there is a clear division of roles between data producers, data guardians, and data users. Contented collaboration is also characterized by a sense of *shared ownership* of SIMATA. Each actor views this system not as a "mere Diskominfo program", but as a shared ecosystem in regional development governance. This encourages the emergence of initiatives, innovations, and continuous improvement in sectoral data management. In the framework of public innovation governance, *the contented* style shows a high level of collaboration maturity. SIMATA not only functions as an administrative instrument, but has become the foundation of participatory, adaptive, and sustainable data-based governance. Thus, *contented* is the long-term goal of the implementation of the One Regional Data policy in South Sumatra. However, there are still various obstacles in Multi-Actor Collaboration on the Implementation of the One Data Information System (Simata). This obstacle arises because Simata involves many actors with different interests, capacities, and work cultures, both inside and outside the Government

Conceptually, this condition is in line with recent developments in *collaborative governance studies* that emphasize the importance of trust, shared commitment, and

collective value as the foundation of sustainable collaboration. Emerson and Nabatchi's (2015) research shows that mature collaboration is characterized by *shared motivation*, *joint capacity*, and *principled engagement*. Furthermore, a recent study by Bryson, Crosby, and Stone (2015) confirms that the success of cross-sector collaboration depends on the ability of actors to build trust, mutual legitimacy, and equitable sharing of benefits. In a more up-to-date context, Torfing and Ansell's (2021) research emphasizes that effective public innovation is born from *co-creation collaboration*, where all actors are actively involved in the process of formulating and implementing policies.

In the context of digital governance, the study of Mergel, Edelman, and Haug (2019) shows that digital transformation in the public sector will be optimal when collaboration between institutions has reached an integrative stage, characterized by system interoperability, continuous data exchange, and a culture of information sharing. This reinforces that *the contented style* in SIMATA reflects a high level of maturity, where systems are not only used, but also developed collectively as part of governance innovations.

However, even though *contented* is an ideal condition, the reality of SIMATA implementation still faces various obstacles in multi-actor collaboration. This obstacle arises because SIMATA involves many actors with different interests, capacities, and work cultures. Recent research by Gil-Garcia, Pardo, and Nam (2018) shows that cross-agency data integration is often hampered by differences in standards, limited technical capacity, and organizational resistance. In addition, the study of Meijer and Bolívar (2016) confirms that the main challenge in government digital collaboration is to unite different organizational cultures and build trust between institutions. Research by Wirtz and Müller (2019) reveals that the success of digital collaboration is greatly influenced by vision alignment, human resource readiness, and strong leadership support. Without this, collaboration tends to be fragmented and run suboptimally. Therefore, even though the *contented style* has begun to take shape, efforts to strengthen capacity, harmonize regulations, and develop a collaborative culture remain an important agenda in the implementation of SIMATA South Sumatra.

Thus, the *contented style* is a long-term goal in the implementation of the One Regional Data policy, which reflects mature, participatory, and sustainable collaboration. However, to achieve it optimally, a sustainable strategy is needed to overcome capacity

gaps, align interests between actors, and strengthen trust and collective commitment in the data governance ecosystem.

Based on the discussion above, it can be said that if multi-actor collaboration is specifically able to map the six collaboration styles of Agranoff and McGuire (*jurisdiction based, abstinence, top down, donor-recipient, reactive, and contented*) into the implementation practice of SIMATA South Sumatra, where the implementation of One Regional Data does not run in a single collaboration pattern, but is on a spectrum of dynamic and gradual collaboration styles according to the level of institutional maturity, then the implementation of the One Data Information System (Simata) Policy Based on Public Innovation Governance at the South Sumatra Province Diskominfo can be optimal

3.2 Aspects of institutional adaptation

Based on the results of the study, it is known that institutional adaptation in public innovation focuses on increasing data interoperability, organizational structure flexibility, and strengthening human resource competence in cross-sector data management. Academically Institutional Adaptation (Hartley 2005): Adjusting regulations and institutional structures to support the efficient implementation of technology-based policies, which include sub-aspects of data interoperability, institutional structure flexibility and improving human resource competence in cross-sector data management.

Data interoperability in the implementation of the One Data Information System (Simata) is the ability of various information systems and work units to exchange, integrate, and use data consistently even though they come from different sources and applications. Interoperability is the main key for Simata to truly realize one unified data. Currently, interoperability is connected to SPLP, South Sumatra News website of the South Sumatra Provincial Government. Data interoperability in the implementation of the South Sumatra One Data Information System (Simata) can be seen from the integration of the SDI Portal with the CKAN Application. CKAN (*Comprehensive Knowledge Archive*) Application

Network) has a close and functional relationship with the Spatial Data Infrastructure (SDI). CKAN acts as a data portal or catalog that functions to manage,

distribute, and share spatial data within the SDI framework, both at the national and regional levels, as implemented in the One Data Indonesia (SDI) initiative. This application is also applied to the South Sumatra SDI Portal. CKAN acts as a key component, especially in the technological and accessibility aspects, of the SDI framework. One of its main roles is **Spatial Standard Support**: Through extensions (such as *ckanext-spatial*), CKAN can understand and integrate spatial metadata according to international standards (e.g., ISO 19115 and ISO 19139, as well as *OGC/Open Geospatial Consortium*). This ensures interoperability (the ability of different systems to work together) between SDI systems

Data interoperability in the implementation of the South Sumatra One Data Information System (Simata) can be seen from the integration of the SDI Portal with BPS WEBAPI. In the use of sectoral statistical data, where the South Sumatra SDI Portal through the CKAN system integrates BPS basic statistical data and OPD sectoral statistical data through the Central Statistics Agency's WEBAPI portal integration system. The Central Statistics Agency (BPS) is an official institution in Indonesia that provides various types of statistical data for the government, the private sector and other parties. With this status, BPS certainly has a very rich collection of data and provides access for users to obtain the data. Various efforts are made by BPS to make it easier for data users, including by utilizing information technology

Through data interoperability, SIMATA South Sumatra is directed to become an integrated platform that allows sectoral data from various OPDs to be accessed, combined, and used together to support development planning, policy monitoring, and evidence-based decision-making. This demands a standardization of data formats, metadata, classification, and clear data exchange procedures. Without interoperability, SIMATA risks becoming just a collection of separate and uninterconnected sectoral databases. In the perspective of public innovation governance, data interoperability reflects a paradigm shift from fragmented bureaucratic work to collaborative and integrated governance. Data is no longer seen as the exclusive asset of each OPD, but as a shared resource that must be managed collectively for the public benefit. Thus, data interoperability is the main foundation for institutional adaptation because it strengthens synergy between actors, improves bureaucratic efficiency, and encourages the birth of policy innovations based on cross-sectoral data utilization in South Sumatra Province

This interoperability reflects the practice of *data integration* that is key to the digital transformation of government. J. Ramon Gil-Garcia's (2018) research confirms that data interoperability is the main foundation in building *a smart government*, as it allows for efficient and standardized cross-organizational data exchange. This is reinforced by the study of Scholl and Klischewski (2007) which states that interoperability is not only technical, but also includes organizational and semantic aspects, such as the suitability of data standards, metadata, and understanding between institutions. In a more recent context, the research of Janssen and van den Hoven (2020) shows that the success of interoperability is highly dependent on clear data governance, including regulations, standards, and structured data exchange mechanisms.

Through data interoperability, SIMATA South Sumatra is directed to become an integrated platform that allows sectoral data from various OPDs to be accessed, combined, and utilized jointly to support development planning, policy monitoring, and evidence-based decision-making. This requires standardization of data formats, metadata, classification, and clear data exchange procedures. Without interoperability, SIMATA risks becoming just a collection of separate and uninterconnected sectoral databases. Recent research by the European Commission (2017) through *the European Interoperability Framework* confirms that effective data integration requires alignment on four main dimensions: legal, organizational, semantics, and technical.

In the perspective of public innovation governance, data interoperability reflects a paradigm shift from fragmented bureaucratic work to collaborative and integrated governance. Data is no longer seen as the exclusive asset of each OPD, but as a shared resource that must be managed collectively for the public benefit. This is in line with the findings of Mergel (2019) who stated that the government's digital transformation requires a change in organizational culture towards *data sharing* and cross-sector collaboration. In addition, the study of Dawes and Helbig (2010) emphasized that data interoperability can improve bureaucratic efficiency, public service quality, and government transparency.

Thus, data interoperability is the main foundation in the institutional adaptation of SIMATA South Sumatra because it is able to strengthen synergy between actors, improve the efficiency of bureaucratic processes, and encourage the birth of policy innovations based on cross-sector data utilization. However, to achieve optimal

interoperability, it is necessary to strengthen data standards, increase the technical capacity of human resources, and build an open and collaborative data governance.

The flexibility of the institutional structure in the implementation of the One Data Information System (Simata) is the ability of organizations and institutional settings to adjust roles, work mechanisms, and coordination in accordance with the dynamics of data, technology, and policy needs, without ignoring legal and governance certainties. The flexibility of the institutional structure as one of the aspects of institutional adaptation in the implementation of the One Data Information System Policy (SIMATA) based on public innovation governance at the Communication and Information System Office of South Sumatra Province shows the ability of organizations to adapt structures, work mechanisms, and coordination patterns to the demands of dynamic and cross-sectoral data management. This flexibility marks a shift from a rigid and hierarchical bureaucracy to an organization that is more adaptive, collaborative, and responsive to technological developments and data-based policy needs. In the practice of SIMATA South Sumatra, the flexibility of the institutional structure is reflected in the formation of new roles and functions such as guardians, data producers, and the One Regional Data coordination forum involving various OPDs. Diskominfo not only acts as a technical unit, but also as *a data network orchestrator* that bridges cross-sectoral interests. The work structure becomes more fluid through cross-OPD teams, horizontal coordination mechanisms, and more open communication patterns

This flexibility is also reflected in the institutional ability to adjust bureaucratic procedures, for example in accelerating data verification flows, simplifying reporting mechanisms, and utilizing digital platforms as the main means of coordination. Thus, institutional structures are no longer just administrative regulators, but also a space for innovation in data management

This phenomenon is in line with the development of modern public organization theory that emphasizes the importance *of organizational agility* in dealing with policy complexity. Research by Mergel, Ganapati, and Whitford (2021) shows that public organizations that are able to adapt flexibly through cross-functional work structures and horizontal collaboration tend to be more successful in the implementation of digital innovations. This is reinforced by the study of Torfing, Sørensen, and Røiseland (2019) which affirms that public innovation requires an institutional structure that is not rigid,

but rather allows for dynamic interaction between actors and the formation of collaborative networks.

This flexibility is also seen in the ability of institutions to adjust bureaucratic procedures, for example in accelerating data verification flows, simplifying reporting mechanisms, and utilizing digital platforms as the main means of coordination. Thus, institutional structures are no longer just administrative regulators, but rather a space for innovation in data management. In this context, the research of Kuipers, Higgs, Kickert, Tummers, Grandia, and Van der Voet (2014) explains that the success of public sector organizational change is greatly influenced by the ability of institutions to make structural and procedural adjustments flexibly. Furthermore, a recent study by Klievink, Romijn, Cunningham, and de Bruijn (2017) shows that the digital transformation of government requires a change in institutional structure towards a more adaptive and *networked governance* model, where coordination is no longer purely hierarchical, but also horizontal and collaborative. This is relevant to the practice of SIMATA South Sumatra which prioritizes coordination across OPDs and data integration as part of digital-based governance. However, institutional flexibility also faces challenges, such as potential role unclarity, overlapping authority, and resistance from actors who are accustomed to conventional bureaucratic structures. Research by O'Toole and Meier (2015) emphasizes that in network-based organizations, a strong coordination mechanism and leadership that are able to maintain a balance between flexibility and accountability are needed. Thus, the flexibility of the institutional structure in the implementation of SIMATA South Sumatra reflects an important form of institutional adaptation in supporting the governance of public innovations. This flexibility not only increases bureaucratic efficiency and responsiveness, but also opens up space for cross-sector collaboration and data-driven innovation. Therefore, strengthening institutional capacity, clarity of roles, and collaborative leadership is key in ensuring that this flexibility can run effectively and sustainably.

Improving the competence of human resources in cross-sector data management in the implementation of the One Data Information System (Simata) is a key strategy so that data collaboration runs effectively, quality, and sustainable. Strengthening competencies is not only technical, but also includes understanding governance, collaboration, and the use of data for policies. Policy actors involved in Public Innovation

Governance in the Implementation of One Data Information System (Simata) (either Subjects/Implementers or Objects/Policy Recipients). Policy Subjects/Implementers, including: Regional Heads and Government Leaders, Regional Apparatus in Charge of One Data (Diskominfo - walidata; BPS - Data Coach; Bappeda - Coordinator of the SDI Secretariat), Regional Apparatus of Data Producers, namely OPD and Technical Team and Innovation Manager. Policy Objects / Beneficiaries, Local Governments and Apparatus, Communities, Academics and Research Institutions, Business and Investors, Central Government and Supervisory Institutions and the Public. Various obstacles to institutional adaptation in the Implementation of the One Data Information System (Simata). This obstacle arises because Simata demands changes in the way of working, structure, and organizational culture that were previously sectoral to integrated and collaborative. Efforts to overcome institutional adaptation obstacles in the implementation of the One Data Information System (Simata) must be carried out gradually, planned, and continuously, because it concerns changes in organizational structure, roles, culture, and ways of working

The importance of improving human resource competencies is in line with the research of Janssen, van der Voort, and Wahyudi (2017) which emphasizes that the success of *data-driven government* is largely determined by the capacity of human resources to manage, analyze, and utilize data collaboratively. Furthermore, the study of Mergel, Edelmann, and Haug (2019) shows that the digital transformation of government does not only depend on technology, but also on the readiness of employees' competencies to adopt new data-based ways of working. More recent research by Sousa, Rocha, and de Carvalho (2022) emphasizes that the development of *digital skills* and *data literacy* is the main prerequisite in creating adaptive and innovative public organizations.

However, in the practice of SIMATA implementation, there are still various obstacles to institutional adaptation. This obstacle arises because SIMATA demands fundamental changes in the way of working, organizational structure, and bureaucratic culture that was previously sectoral to be integrated and collaborative. Resistance to change, uneven competency limitations, and lack of understanding of the importance of data as a strategic asset are the main obstacles. This is in line with the findings of Klievink and Janssen (2014) who stated that digital transformation in the public sector is often hampered by organizational and cultural factors, not just technological aspects. In

addition, Vial's (2019) research emphasizes that the change towards a digital organization requires a comprehensive transformation that includes the structure, processes, and competencies of human resources. Therefore, efforts to overcome institutional adaptation obstacles in the implementation of SIMATA must be carried out gradually, planned, and sustainable. Strategies that can be carried out include training and competency development based on needs, strengthening data literacy for all actors, forming *a community of practice*, and implementing data-based performance-based incentives. In addition, visionary and collaborative leadership is key in encouraging organizational culture change towards data-based governance. This is strengthened by the study of Torfing and Triantafillou (2016) which emphasized that innovative leadership plays an important role in facilitating organizational learning and accelerating the adoption of innovation in the public sector. Thus, improving human resource competencies in SIMATA is not only a technical need, but also an institutional transformation strategy that supports the creation of collaborative, adaptive, and sustainable public innovation governance.

Based on the discussion above, it can be said that if Hartley's institutional adaptation by formulating it into three operational indicators that are contextual with data governance, namely: Data interoperability, Flexibility of institutional structures, and human resource competencies for cross-sector data management, focusing on the placement of institutional adaptation not only as an organizational innovation, but as a prerequisite for technology-based One Data Regional governance, then the implementation of the One Data Information System (Simata) Policy Based on Public Innovation Governance at the Diskominfo of South Sumatra Province, can be optimal

3.3 Aspects of technology use

The use of technology plays a role in improving data efficiency, transparency, and accessibility, as well as connecting information systems between OPDs and providing legitimacy to the innovations carried out. The use of technology means utilizing technology as the main driver of innovation in public governance, especially in the implementation of SIMATA by integrating technology as the main tool to improve efficiency, transparency, and accessibility, and the technology used must be in harmony

with the local context, including digital infrastructure and applications for integrated data management.

Integrating technology as the main tool to improve efficiency, transparency, and accessibility in SIMATA South Sumatra reflects the practice of public innovation governance, where technology is a catalyst for governance change towards a more efficient, transparent, and inclusive bureaucracy. This effort emphasizes that the success of the One Regional Data policy is not only determined by regulations, but also by the extent to which technology is optimized as a tool for institutional transformation and improving the quality of public services. In terms of efficiency, technology integration through SIMATA allows the process of data collection, processing, and presentation to be carried out more quickly, accurately, and standardized. The digital system reduces data duplication between OPDs, minimizes manual errors, and accelerates cross-sector coordination flows. Thus, bureaucratic time and costs can be reduced, while the quality of information for decision-making is increased. In terms of transparency, SIMATA plays a role as a platform that opens access to development data information in a more open and structured manner. The data presented in the system can be monitored by regional leaders, related OPDs, and even the public in accordance with the principles of public information disclosure. This encourages accountability for government performance, because every policy and program can be traced based on clear and verified data. Meanwhile, in terms of accessibility, technology allows data to be accessed anytime and anywhere by authorized actors through an integrated digital platform. SIMATA breaks the dependence on manual and conventional communication systems, thereby expanding the reach of data utilization across regions and sectors. Easier access to data also strengthens collaboration between OPDs and supports the development of comprehensive information-based policy innovations

Strategic steps so that public data governance runs modernly, accountably, and inclusively. Technology integration does not only focus on the system, but also on its processes and utilization, including the Development of Integrated *Data Platforms*, the Application of Standards and Interoperability of Technology, the Digitalization and Automation of Data Management Processes, the Increase of Transparency through Open Data Access, the Strengthening of Data Security and Protection, the Improvement of

Technology Accessibility and Inclusivity, and the Integration of Technology with Policy Processes

Empirically, this is in line with the findings of Mergel, Edelmann, and Haug (2019) who stated that the integration of technology in government is able to improve operational efficiency and the quality of public services through process automation and standardization. In addition, research by Janssen and van den Hoven (2020) confirms that the interoperability of digital systems contributes significantly to reducing data redundancy and improving information consistency between institutions.

In terms of transparency, SIMATA plays a role as a platform that opens access to development data information in a more open and structured manner. The data presented in the system can be monitored by regional leaders, related OPDs, and even the public in accordance with the principle of public information disclosure. This encourages accountability for government performance, because every policy and program can be traced based on clear and verified data. This finding is strengthened by a study by Meijer (2015) which shows that the use of digital technology increases transparency and strengthens public accountability through open access to information. More recently, Ruijter, Grimmelikhuijsen, and Meijer (2017) explained that open data platforms encourage public participation and increase public trust in the Government.

Meanwhile, in terms of accessibility, technology allows data to be accessed anytime and anywhere by authorized actors through integrated digital platforms. SIMATA breaks the dependence on manual and conventional communication systems, thereby expanding the reach of data utilization across regions and sectors. Easier access to data also strengthens collaboration between OPDs and supports the development of comprehensive information-based policy innovations. This is in line with the research of Gil-Garcia, Dawes, and Pardo (2018) which affirms that cross-sector data accessibility is an important factor in increasing collaboration and the effectiveness of data-based policies. In addition, Vial's (2019) study shows that digital transformation allows public organizations to become more responsive and adaptive to real-time information needs.

Furthermore, within the framework of public innovation governance, technology integration in SIMATA is a strategic step to realize modern, accountable, and inclusive data governance. The development of *integrated data platforms*, the application of technology standards and interoperability, digitization and automation of processes,

increased transparency through open data, strengthening data security, and increasing accessibility are key elements in this transformation. Recent research by the OECD (2020) confirms that effective digital governments must integrate technology with policy processes and ensure data openness, security, and inclusivity. In addition, the study of Wirtz and Müller (2019) emphasizes that successful technology integration focuses not only on systems, but also on changing business processes and increasing organizational capacity.

Thus, the integration of technology in SIMATA not only improves efficiency, transparency, and accessibility, but also becomes a key foundation in driving data-driven governance transformation. However, the success of this integration is highly dependent on the alignment between technology, regulations, human resource capacity, and institutional commitment to building a collaborative and sustainable data ecosystem.

The technology used must be aligned with the local context, including digital infrastructure and applications for integrated data management. The alignment of the technology used with the Local Context, including Digital Infrastructure and Applications for Data Management that is integrated is very important so that the system can be used effectively, sustainably, and inclusively, especially in areas with different levels of infrastructure and human resource readiness. There are various obstacles to the use of technology in the implementation of the One Data Information System (Simata). These obstacles arise from both technical, institutional, human resources, and supporting environments, so that they can affect the effectiveness and sustainability of the system, including constraints on Limited Technology Infrastructure, System Interoperability Constraints, Capacity Constraints and Literacy of Technological Human Resources, Security and Data Protection Constraints, System Maintenance and Sustainability Constraints, Technology Conformity Constraints with Local Needs and Obstacles to Technology Integration with Work Processes

The technology used in the implementation of the One Data Information System (SIMATA) must be in harmony with the local context, including the condition of digital infrastructure, institutional capacity, and the readiness of human resources. This alignment is a key factor so that the system can not only be implemented, but also used effectively, sustainably, and inclusively. In a regional context such as South Sumatra, the variation in the level of readiness between regions requires an adaptive technological

approach, not just the adoption of a uniform system. This is in line with the research of Heeks (2002) which emphasizes the design *–reality gap*, which is the gap between technology design and local reality that is often the cause of failure in the implementation of information systems in the public sector.

Analytically, the alignment of technology with the local context is also related to *the context-aware approach to digital governance*, where technology must consider local social, economic, and institutional factors. Research by Dunleavy *et al.* (2006) confirms that successful digital transformation does not only depend on technological sophistication, but also on suitability with user needs and organizational capacity. More recently, the study of Andersson and Grönlund (2021) shows that the success of the implementation of e-government at the regional level is greatly influenced by the readiness of infrastructure and local digital literacy. However, in the implementation of SIMATA, there are still various obstacles to the use of multidimensional technology. From the technical aspect, the limitations of technological infrastructure such as uneven internet networks, server capacity, and non-standard hardware are the main obstacles. This is strengthened by research by Cordella and Tempini (2015) who stated that digital infrastructure is the main prerequisite in supporting the integration of data-based government systems. In addition, system interoperability constraints are also a significant challenge. Differences in data formats, metadata standards, and application platforms between OPDs hinder optimal data integration. Research by Janssen and van Veenstra (2018) confirms that the lack of interoperability standards often leads to system fragmentation and reduces the effectiveness of cross-sector collaboration.

In terms of human resources, limited capacity and technological literacy are quite dominant obstacles. Not all apparatus have technical capabilities in digital data management and an understanding of the importance of data governance. This is in line with the findings of van Laar *et al.* (2017) who stated that *the digital skills gap* is one of the main obstacles in the digital transformation of the public sector. Without improving competence, the available technology cannot be utilized optimally.

Furthermore, security and data protection aspects are also important concerns. The risk of data leakage, misuse of information, and suboptimal cybersecurity systems can hinder trust in the system. Research by Bannister and Connolly (2014) emphasizes that trust in digital systems is greatly influenced by security guarantees and data protection.

Another obstacle that is no less important is the maintenance and sustainability aspect of the system. Many public information systems experience stagnation due to limited maintenance budgets, lack of technological updates, and dependence on third parties. Anthopoulos' (2017) study shows that the sustainability of digital systems requires long-term planning that includes technical, financial, and institutional aspects. In addition, the suitability of technology with local needs is often a challenge in itself. Systems that are too complex or not user-friendly can hinder adoption by users at the OPD level. Research by Venkatesh *et al.* (2012) confirms that the perception of ease of use and suitability with work needs greatly influences the level of acceptance of technology.

Finally, the constraint of integrating technology with bureaucratic work processes is also a crucial issue. Digital transformation will not be effective if it is not accompanied by changes in business processes and work culture. This is emphasized by Vial (2019) who stated that the success of digital transformation depends on the integration between technology, organizational processes, and changes in work culture. Thus, technological alignment with the local context in SIMATA is not just a technical aspect, but a comprehensive institutional adaptation strategy. To overcome these various obstacles, a holistic approach is needed that includes strengthening digital infrastructure, system standardization, increasing human resource capacity, strengthening data security, and adapting technology to local needs and work processes. This approach will ensure that SIMATA can develop as a system that is not only technologically sophisticated, but also relevant, inclusive, and sustainable in supporting data-based governance.

Based on the discussion above, it can be said that if the use of technology is able to integrate technology as the main tool to improve efficiency, transparency, and accessibility, and is in harmony with the local context, including digital infrastructure and applications for integrated data management, then the Implementation of the One Data Information System (Simata) Policy Based on Public Innovation Governance in Diskominfo of South Sumatra Province, can be optimal. A discussion of research on the implementation model of the One Data Information System (SIMATA) policy based on public innovation governance at the South Sumatra Provincial Diskominfo shows that the success of implementation is highly determined by the synergy between multi-actor collaboration, institutional adaptation, and the use of technology. From the aspect of multi-actor collaboration, the implementation of SIMATA involves various

stakeholders, both internal local governments such as OPDs, and external ones such as the central government, academics, and technology partners. This collaboration is not only coordinated, but also requires data openness, trust between actors, and a willingness to share roles and resources. However, in practice, obstacles are still found in the form of sectoral egos and organizational resistance that affect the effectiveness of collaboration.

Furthermore, from the aspect of institutional adaptation, the implementation of SIMATA requires adjustments to organizational structure and work mechanisms to be more flexible and responsive to innovation. This adaptation is reflected in efforts to increase data interoperability between OPDs, strengthen the capacity of human resources in data management, and adjust internal regulations that support integrated data governance. However, challenges still arise in the form of uneven human resource competencies and regulations that tend to be rigid, thus hampering the innovation process.

Meanwhile, from the aspect of technology use, SIMATA plays a key role as the main instrument in encouraging efficiency, transparency, and accountability in government data management. Technology enables the integration of information systems between OPDs, accelerates data access, and supports data-based decision-making. However, the effectiveness of technology use is still influenced by infrastructure limitations, such as uneven networks and systems, as well as the lack of optimal use of data in public policy formulation

Thus, the SIMATA policy implementation model based on public innovation governance at the South Sumatra Provincial Diskominfo shows that the success of innovation does not only depend on the availability of technology, but also on the quality of collaboration between actors and the ability of institutions to adapt. These three aspects must run in an integrated manner so that the goals of data integration and improving the quality of public services can be optimally achieved.

The supporting factors for the implementation of the One Data Information System (SIMATA) policy based on public innovation governance at the Communication and Information Service of South Sumatra Province show that the success of policy innovation is not only determined by technical aspects, but also by a combination of institutional, leadership, and organizational culture factors.

First, leadership and political commitment are the main drivers in the implementation of SIMATA. The support of regional heads and OPD leaders plays an important role in ensuring policy direction, resource allocation, and consistency in program implementation. Theoretically, this is in line with the research of Torfing and Triantafillou (2016) which emphasized that collaborative leadership is able to encourage public sector innovation through facilitation of coordination and learning between actors. Furthermore, the study of Ansell and Gash (2008) shows that the commitment of leaders greatly determines the sustainability of collaboration in public policy.

Second, supportive regulations and policies provide legitimacy and legal certainty in the implementation of SIMATA. The existence of the One Data Indonesia policy framework and its technical rules is a formal foundation for OPDs in managing and sharing data. From an academic perspective, Borrás and Edquist (2013) emphasized that clear policies and regulations are important instruments in encouraging public innovation because they provide institutional direction and stability. Recent research by the OECD (2020) also emphasizes that adaptive regulation is the main foundation of government's digital transformation.

Third, multi-actor collaboration is a key element in public innovation governance. The implementation of SIMATA involves various parties such as OPDs, central and regional governments, academics, and technology partners. This collaboration allows for the exchange of knowledge, resources, and innovation across sectors. This is in line with the research of Emerson and Nabatchi (2015) which states that cross-actor collaboration increases the effectiveness of public policies through synergy and co-creation. In addition, the study of Bryson, Crosby, and Stone (2015) confirms that cross-sector partnerships are key in solving complex public problems.

Fourth, the use of digital technology plays a role in improving data efficiency, transparency, and accessibility. Technology enables data integration across OPDs and supports evidence-based decision-making. Research by Mergel, Edelman, and Haug (2019) shows that digital transformation improves the performance of public organizations through automation and system integration. Meanwhile, Gil-Garcia,

Dawes, and Pardo (2018) emphasized that digital technology is the main enabler in creating an integrated and responsive government.

Fifth, the capacity and competence of human resources (HR) are determining factors for the sustainability of innovation. Human resources who have data literacy, technical skills, and an understanding of data governance will be able to optimize the use of SIMATA. This is supported by research by Sousa, Rocha, and de Carvalho (2022) which emphasizes that *digital skills* are the main prerequisites for the success of the digital transformation of the public sector. In addition, van Laar *et al.* (2017) show that the digital competency gap can hinder technology adoption.

Sixth, an adaptive organizational culture plays a role in accelerating the internalization of innovation. The change from a rigid bureaucratic culture to a culture that is open to collaboration and innovation is an important factor in the implementation of SIMATA. Vial's (2019) research emphasizes that digital transformation requires changes in organizational culture so that innovation can be adopted comprehensively. Furthermore, Schein (2010) explained that organizational culture determines how individuals respond to change and innovation.

Overall, these supporting factors show that the implementation of SIMATA is not only a technology project, but also a complex institutional transformation process. The synergy between leadership, regulation, collaboration, technology, human resource capacity, and organizational culture is the main foundation in realizing effective, adaptive, and sustainable public innovation governance.

Furthermore, the factors inhibiting the implementation of the One Data Information System (SIMATA) policy based on public innovation governance at the South Sumatra Provincial Communication and Information Office show that the main challenges are not only technical, but also structural, cultural, and institutional.

First, sectoral egos and organizational resistance are classic obstacles to data collaboration. Many OPDs still view data as an exclusive asset so they are reluctant to share for reasons of power, control, or concerns about performance evaluation. This condition hinders cross-sector data integration. Empirically, this is in line with the research of Janssen, Charalabidis, and Zuiderwijk (2012) who stated that the main obstacles in the implementation of open data are organizational factors and data sharing culture. More recent research by Ruijter and Meijer (2020) also confirms that low trust between agencies strengthens resistance in data collaboration.

Second, limited infrastructure and technology are still significant obstacles, especially related to the equitable distribution of internet networks, system capacity, and technology budget support. Infrastructure inequality between regions causes the implementation of SIMATA to not run optimally evenly. This is supported by research by Cordella and Tempini (2015) which affirms that digital infrastructure is the main foundation for the success of electronic-based government systems. In addition, the OECD (2020) highlights the importance of sustainable investment in technology to ensure the sustainability of government digital innovation.

Third, uneven human resource capacity is an obstacle in data management and utilization. Data literacy and low technological capabilities in some apparatus cause the system not to be utilized optimally. These findings are in line with the research of Sousa, Rocha, and de Carvalho (2022) which emphasizes that the digital competency gap is a major obstacle in the digital transformation of the public sector. In addition, van Laar *et al.* (2017) show that low digital skills have a direct impact on the effectiveness of technology use.

Fourth, rigid and non-adaptive regulations are often an obstacle to innovation. Overly administrative and procedural rules limit OPD's flexibility in developing innovative data management practices. This is in line with the views of Borrás and Edquist (2013) who stated that overly rigid policies can hinder the dynamics of innovation. Recent research by Lember, Kattel, and Tõnurist (2018) also confirms that public sector innovation requires adaptive and experimental regulation.

Fifth, weak coordination and governance cause the implementation of SIMATA to be out of sync between OPDs. The lack of effective coordination mechanisms, both horizontally and vertically, hinders data integration and policy alignment. Research by Emerson and Nabatchi (2015) emphasizes that the success of collaboration is highly determined by clear governance, strong coordination mechanisms, and facilitative leadership. Without this, collaboration tends to run partially and unsustainable.

Sixth, the lack of data utilization for policy shows that SIMATA has not been fully utilized as an *evidence-based policy* instrument. The available data has often not been processed into strategic information to support planning and decision-making. This is in line with the research of Janssen, van der Voort, and Wahyudi (2017) which states that the main challenge for the government is not only the availability of data, but also the

ability to turn data into policy insights. Furthermore, Klievink, Bharosa, and Tan (2016) emphasized that the value of public data systems will be maximized if integrated into the decision-making process.

Overall, these inhibiting factors show that the implementation of SIMATA still faces challenges in institutional transformation towards public innovation governance. Strategic efforts are needed to overcome these obstacles, such as building a culture of data sharing, increasing infrastructure investment, strengthening human resource capacity, reforming regulations to be more adaptive, and strengthening coordination and collaborative governance. Without comprehensive interventions, SIMATA's potential as a data-driven policy innovation instrument will not be optimal.

4 CONCLUSION

Based on the results of the study, it is known that the Implementation of the One Data Information System (Simata) Policy Based on Public Innovation Governance at the South Sumatra Provincial Diskominfo, has been implemented even though it is still experiencing obstacles described as follows:

- 1) Public Innovation Governance in the Implementation of the One Data Information System (Simata) of the South Sumatra Provincial Government In this study integrates three major theoretical frameworks at once, namely: the multi-actor collaboration theory of Agranoff and McGuire, the theory of institutional adaptation of Hartley, and the concept of the use of technology in the digital transformation of the government into a complete and operational One Regional Data policy implementation model. In the context of SIMATA South Sumatra, this collaboration involves OPDs, central and regional governments, BPS, academics, and technology partners. Collaboration is not understood as mere administrative cooperation, but as a process of shared governance that allows data exchange, policy integration, and strengthening the legitimacy of innovation. This is what makes SIMATA an arena for complex cross-sector collaboration, as well as a means to reduce sectoral egos and build awareness that data is a shared public asset.

Institutional adaptation is realized through three main aspects, namely data interoperability, institutional structure flexibility, and strengthening human resource capacity. Data interoperability shows the ability of systems and institutions to connect with each other and share data in a standard and integrated manner. The flexibility of the institutional structure indicates that the bureaucracy must not be rigid, but must be able to adapt to the demands of digital innovation. Meanwhile, strengthening human resource capacity emphasizes that technological innovation will only be effective if it is supported by apparatus that has data literacy, analytical skills, and understanding of digital governance.

Utilization of Technology, which positions technology as the main tool to improve data efficiency, transparency, and accessibility. Technology in this model does not stand alone, but is integrated with organizational governance and collaboration patterns. An integrated platform, data sharing system, and competent human resource support are the foundation for SIMATA to truly function as an evidence-based decision-making system, not just as a digital archive.

- 2) What factors are obstacles or supports the implementation of SIMATA, seen from the perspective of public innovation governance Supporting Factors for Leadership and Political Commitment, Regulations and Policies, Multi-Actor Collaboration, Utilization of Digital Technology: Human Resources Capacity and Competence and Adaptive Organizational Culture. Factors Inhibiting the Implementation of the One Data Information System (Simata) Policy Based on Public Innovation Governance at the South Sumatra Provincial Communication and Information Department: Sectoral Ego and Organizational Resistance, Uneven Human Resource Capacity, Rigid and Unadaptive Regulations. Key Supporting Factors, namely leadership and political commitment, supportive regulations and policies, adaptive organizational collaboration and culture, and improving human resource competence. These factors act as the foundation that supports the three main pillars. Political leadership provides direction and legitimacy, regulations provide legal certainty, adaptive culture accelerates the acceptance of innovation, and human resource competence ensures the sustainability of the system

3) The novelty of this model's research lies in how to position SIMATA as a *governance innovation*, not just a digital *innovation*. This research integrates three major theoretical frameworks at once, namely: Agranoff and McGuire's multi-actor collaboration theory, Hartley's theory of institutional adaptation, and the concept of technology utilization in the digital transformation of government into a complete and operational One Regional Data policy implementation model. Another novelty is the affirmation that the implementation of SIMATA cannot be explained only by technical factors of the information system, but by the complex interaction between institutional structures, organizational culture, political leadership, and cross-sectoral collaboration patterns. Thus, SIMATA is understood as an arena for changing power relations, coordination patterns between OPDs, and the way the government produces and uses data-based knowledge. Conceptually, this model offers a new perspective that the success of the One Regional Data policy is determined by the ability of local governments to build an adaptive public innovation ecosystem. This is the main novelty of the research, which is to present a SIMATA implementation model based *on Public Innovation Governance* that unites multi-actor collaboration, institutional adaptation, and the use of technology in one framework for sustainable regional data governance transformation.

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