



Implementation of Smart Government Through Digital Village Information System

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Abstract: This service aims to increase the capacity of the village government in implementing smart governance with OpenSID while empowering the community as service users. This service employed the Participatory Action Research (PAR) method. The stages of activities carried out to achieve the goal were socialization of the urgency of SID in realizing Smart Village Governance. The activity was continued with training on the importance of SID for the Muaro Singoan Village Government. The team also provided assistance and training to the Village Government in managing the Village Information System through SID. Finally, socialization was carried out to the Muaro Singoan Village community regarding the understanding of the use of SID in serving the community. The service employed evaluation of attitude, knowledge, mentality, skills, partnership and follow-up that are conducted two weeks after the activity took place. This service resulted in changes in the knowledge, attitudes, mentality and skills of village communities and officials in organizing village governance with digital SID.

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Introduction

Villages have experienced a massive transition over the past decade as a consequence of the enactment of Law Number 6 of 2014 concerning Villages (M. A. Saadah et al., 2024). The Village Law provides broad autonomy for Villages to carry out governance independently and empowered by optimizing their potential through Village Funds. As a form of accountability for these autonomous rights, the village government is required to submit development plans and realizations, work plans and realizations, and sources and amounts of Village income to the village community and the state. The delivery of this information must be carried out through information services that can be widely accessed and reported in the Village Deliberation at least once a year (Erida et al., 2023).

Furthermore, the Village Law requires villages to report this information digitally through the Village Information System (SID) platform. This mechanism is also regulated in the Village Law which states that SID is an integral part of the implementation of village government regulations. The law requires village governments to use SID facilitated by the Regency Government. In its development, Regency Governments in many areas have not provided the SID platform as they should. The urgent need for SID has made technology developers provide the SID platform freely. One of the SID platforms that is widely used is OpenSID. This platform has proven to be a digital enabler in realizing smart governance with various features such as self-service, employee attendance, population, finance, analysis,

Research related to smart governance has been conducted by various scientific backgrounds. Researchers conducted a literature analysis with Vovviewer to obtain an overview of related publications. Based on a search on the Scopus database, there are 168 publications with the keyword Smart Governance and are divided into seven (7) clusters as seen in the image below:





In general, the following is a description of the formulation of the problem in the implementation of smart governance with OpenSID:

- 1) The Muaro Muaro Singoan Village Government does not yet understand the urgency of utilizing SID to create Smart Governance in the Village Government.
- 2) The Muaro Muaro Singoan Village Government does not yet understand the indicators of Village Smart Governance.
- 3) The Muaro Muaro Singoan Village Government does not yet have the capacity of qualified human resources to implement Smart Governance Through SID.
- 4) There has been no socialization of Understanding the benefits of SID for the Community to improve Public Services

Based on the formulation of the problem, the community service team aims to carry out activities as a solution to the above problems:

- 1) Providing socialization of the urgency of SID in realizing Smart Village Governance, that Smart Governance is very important in Village Government to realize a smart and digitalized Village Government.
- 2) Providing an Understanding of the importance of SID for the Muaro Singoan Village Government in order to achieve the Good Governance indicators so that good governance is realized.
- 3) Provide Mentoring and Training on how the Village Government can manage the Village Information System through SID, and improve the quality of Human Resources or Government Apparatus of Muaro Singoan Village.
- 4) Provide socialization to the community of Muaro Singoan Village about the understanding of the use of SID in serving the Community.

Thus, this service aims to solve practical problems in the implementation of OpenSID by the Singoan village government in Batanghari Regency through assistance in the implementation of the principles of Smart Village Governance with a dynamic managerial capacity perspective.

Method

The implementation of this community service activity used the Participatory Action Research (PAR) method. The PAR method was considered appropriate because this method allowed collaboration between the community service team and community service partners to investigate problems and take action to bring about social change (De Oliveira, 2023). The problems faced by partners could also only be solved if partners were willing to increase their capacity and transform the use of SID for governance, this is in line with the argument (Doucet et al., 2022).

The proposed PAR method is a type of explanatory PAR that allows the community service team to facilitate the community in analyzing their problems, solutions and needs before taking transformative action. In the view of Community Service PAR, empowerment is not a solution, but a way or approach to carrying out solution-oriented activities. Assistance in the implementation of SID is carried out as an effort to make the community independent, not dependent on the Community Service team. Thus, social change in the form of implementing the principles of smart governance can be realized. Because PAR requires all empowerment activities to be carried out together with partners who will be empowered (Gashi et al., 2023), this service ensures partner participation in every stage. In addition, this PKM activity is carried out in by the PAR life cycle which occurs simultaneously and continuously, this is done so that the change process occurs sustainably. Thus, this service



will be carried out according to the PAR cycle and guarantees community participation as follows:

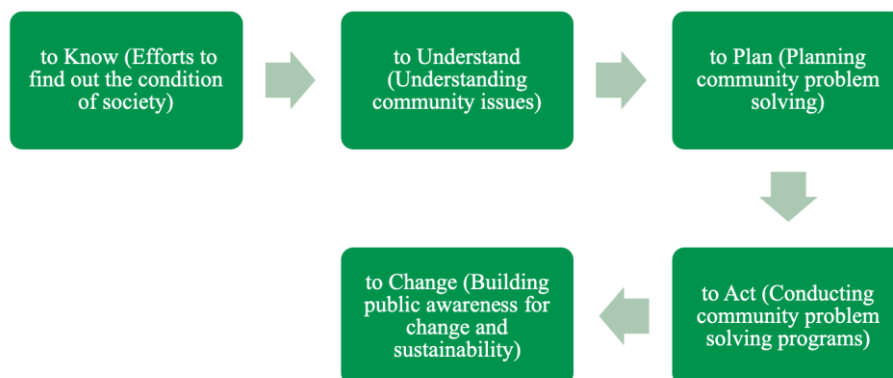


Figure.2 Stages of community service according to the PAR cycle

To ensure the success of the program, this service employs monitoring and evaluation in the last stage of the cycle. Monitoring will be held twice during the service program to see whether there are still obstacles in managing the Village Office SID. This activity should be attended by the Village Head, Batanghari Regional Government (the village community empowerment office), Community Service Team, all Village Government Apparatus and Village Community Representatives.

Evaluation is carried out to determine deficiencies in program implementation. Through the evaluation process, shortcomings that occur in the implementation can be discussed between the implementation team and the community or Government, so that solutions can be found to solve these problems. The purpose of the periodic evaluation report is to conduct a joint assessment. The first periodic evaluation is carried out every time an activity is completed, which is expected to improve the achievement of the next activity to the desired stage of knowledge. The second periodic evaluation is carried out once every two weeks during the activity. The success indicators of this program are as follows:

Table 1. Indicators of Success

No	Aspect	Indicator
1	Knowledge	a. Understanding the urgency of utilizing SID to create Smart Governance in Village Government b. Understanding the urgency of utilizing SID to create Smart Governance in Village Government.
2	Attitude	a. The growing desire of the community to use digital SID services b. The ability of village officials to provide services in a conceptual manner with a smart governance platform
3	Mental	a. The emergence of critical attitudes about service quality. b. The growth of a mindset to increase governance capacity with SID features.
4	Skills	a. Capacity building for the implementation of Smart Governance through SID. b. Sharpen analytical skills to optimize SID services.
5	Partnership	a. Establishment of cooperation between Jambi University and the Muara Bulian District Government and



		Singoan Village. b. There is a partnership between Jambi University, the application developer and the Batanghari Regency Government.
6	Program Follow Up	a. Active contribution from the community regarding monitoring the implementation of government with the principle of smart governance b. Further assistance regarding increasing the capacity to optimize SID features.

Result and Discussion

The Village Government, like other governments in a democratic country, should involve as much participation as possible from various stakeholders. This involvement is widely known in public administration studies as governance (Jäntti et al., 2023; M. Saadah, n.d.). The achievement of village government functions in accordance with the principles of governance is an ideal condition expected by the Law (Karya Pamungkas & Rosyanfikri, 2022). Furthermore, the implementation of technology-based governance makes the government, which was originally oriented towards the role of government as a single actor, shift towards collaborative governance (Gjaltema et al., 2020). So, the use of the term smart governance or intelligent governance in this study refers to the use of information technology to achieve the three functions of governance. Digital SID is believed to be able to enable intelligent governance by improving the quality of public services, efficient bureaucratic management and effective public policy processes.

The Village Government has previously subscribed to a digital SID, purchased hosting, domains and renovated the village service space to be more visitor-friendly. In fact, digital change or transformation will be more optimal if intangible aspects such as human resource capabilities and community digitalization awareness have been met. As a result, the digital SID in Muaro Singoan Village has not been able to realize the ideals of village governance. The village has also passed the active period of subscribing to the Digital SID along with its hosting and domain and has not been budgeted for an extension considering the large priorities of other developments in the Village.

Furthermore, the village government has not been able to increase the capacity of village officials either in operating SID or in interpreting the principles of smart governance with SID features. In addition, the village government has also not been able to educate the community through socialization of the introduction of the benefits of SID for improving the quality, efficiency and effectiveness of services or training in using SID to access services. Community Service carried out will transfer Science and Technology (IPTEK) to partners in the form of knowledge about the benefits of using SID in governance, the ability to install SID online, the ability to fill in village administration through SID, the ability to provide public services through SID, understanding of online public administration services to the community. In addition, this service will also transfer knowledge about the benefits of SID and its use to the Village community in Muara Bulian District. This is done so that the community is independent in accordance with the principles of PAR service.

Table 2. Service Cycles Activities

Cycle	Activity	Partner Roles	Role of PT Team
1 To Know Stage (Efforts to find	The first activity, namely exploring cooperation, was	Partners act as the main actors at this	The Community Service Team



out the condition of society)	carried out to elaborate on partner problems. The community service team met with the Village Head and village officials accompanied by the Muara Bulian Sub-district Head.	stage, the village head and village officials reveal problems and challenges in implementing SID.	listens to and classifies partner problems.
2 Stage to Understand (Understanding community problems)	Formulate partner problems to identify social conditions such as society, village infrastructure, level of knowledge of village officials. Problem identification is carried out through a second visit and meeting with village officials in Muara Bulian District.	Partners act as the main actors at this stage, they describe the technical problems in detail.	The Service Team projects pins – problem points to be reconfirmed by partners.
3 Stage to Plan (Planning community problem solving)	The signing of the cooperation agreement was carried out to sign the cooperation between Muara Bulian District and the University. This was done to accommodate the Tri Dharma activities in the recognition of the Main Performance Index of Higher Education.	Partners play an active role in providing input for the collaboration manuscript prepared by the Study Program.	The Community Service Team drafts a cooperation script containing general points including community service.
4 Stage to Act (Conducting community problem solving programs)	a. The First Meeting, the research team conducted a socialization of the urgency of implementing SID in realizing Smart Village Governance, that Smart Governance is very important in Village Government to realize a smart Village Government in order to achieve the <i>Smart Governance indicators</i> . This activity will be attended by the Head of Muaro Muaro Singoan Village, Batanghari Regional Government, PKM Supervising Lecturers, all Village Government Apparatus and Community Representatives. b. Second meeting, Conducting Mentoring and Training on how Village Government can manage Village Information Systems through SID, at this stage basic training will be provided such	At the program activity stage, partners play an active role as learners and main actors of change.	The Community Service Team acts as a facilitator in every stage of program implementation activities.



as Training on creating admin accounts, information on the presence of officials, community accounts or basic features in SID.

c. In the Third Meeting, Mentoring and Training will be carried out again, namely: Training on the Population SID feature (population database), letter services and Village information features.

The fourth meeting will involve implementation and re-training on the Village Information System on financial features and financial administration books.

5 Stage to Change (Building public awareness for change and sustainability)

a. The fifth meeting will be a Socialization Activity to the Muaro Muaro Singoan Village Community about the benefits and uses of SID. This activity will be attended by the Village Head, Village Government Apparatus, PKM Supervisor Lecturers and Village Communities as many as 30 people in each Village .

b. Then a workshop will be held as well as monitoring and evaluation of the workforce/HR to see whether there are still obstacles in managing the Village Office SID . This activity will be attended by the Village Head, Batanghari Regional Government, Community Service Team , all Village Government Apparatus and Community Representatives.

The service team purchased hosting, and domains and paid for the expired SID subscription fees. The team also updated the OpenSID dashboard on the page <https://muarosingoan.web.id/#!>. After the infrastructure problem was resolved, the community service team began to target the problem of the human resource capacity of village officials. The stages of activities carried out to achieve the goal are socialization of the urgency of SID in realizing Smart Village Governance, that Smart Governance is very important in Village Government to realize a smart and digitalized Village Government.



Figure 2. Socialization of the urgency of SID in realizing Smart Village Governance

The activity was continued with training on the importance of SID for the Muaro Singoan Village Government to achieve smart governance indicators so that good governance can be realized. The team also provided assistance and training to the Village Government in managing the Village Information System through SID, to improve the quality of human resources or the Muaro Singoan Village Government Apparatus. Finally, socialization was carried out to the Muaro Singoan Village community regarding the understanding of the use of SID in serving the community.

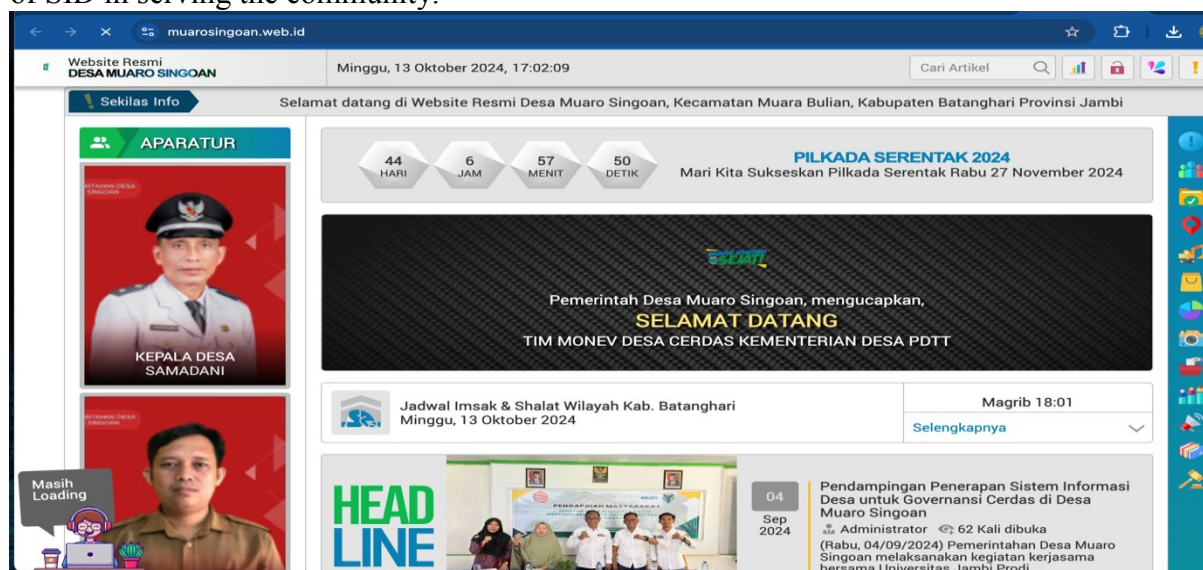


Figure 3. Digital Village Information System of Muaro Singoan Village

This empowerment activity involves all Penta helix actors in governance, namely the Batanghari Regency Government, Muara Bulian District, and Muaro Singoan Village Government as policymakers who will continue empowerment activities in the future. Furthermore, private actors are the OpenDesa Community as the developer of OpenSID. This partnership continues on both sides (the Village Government and OpenDesa) who currently know each other and understand each other's needs in the future. Then, the partnership also involves the local community and universities consisting of service teams and students as facilitators and companions for empowerment activities.

Evaluation of attitude, knowledge, mentality, skills, partnership and follow-up was conducted two weeks after the activity took place. The community's knowledge about the urgency of utilizing the SID in Singoan Village began to increase, people who initially used



SID services without knowing the big idea of Smart Governance, were increasingly motivated to try other features in the SID while village officials were motivated to create a roadmap for the implementation of village smart governance. Attitudinal changes were immediately apparent from the first activity, as the community found it easy to access services with SID. The community realized that services at other government offices still required in-person visits and queuing, which took much longer than accessing services in Singoan Village.

The Singoan Village Government did not rest on its laurels, realizing that the implementation of e-government required a concept or signpost to ensure a clear roadmap for implementation. Subsequently, the Village Government together with Jambi University drafted a roadmap for implementing smart governance through the SID platform. The Singoan Village apparatus quickly became skilled at identifying potential features in OpenSID to achieve smart governance principles. Initially, SID was utilized solely for the provision of correspondence and administrative services. After learning and understanding the concept of smart governance, the Village Government utilized the employee attendance feature as a mechanism for reporting the performance of village officials to the District Government. Community suggestions were also accommodated through the complaint feature, and the progress of the follow-up can be seen through the SID page.

Then, to strengthen institutional capacity, Jambi University established cooperation through the signing of a collaboration with the government of Muara Bulian District and Singoan Village. This allows both parties to contribute to the institutional strengthening of each institution. Jambi University can carry out teaching such as the placement of student interns in related courses in Singoan Village, increase the novelty of science through research and contribute through the application of science and technology to the community.

Conclusion

This service resulted in changes in the knowledge, attitudes, mentality, and skills of village communities and officials in organizing village governance with digital SID. The e-government they implement is more focused on the smart governance roadmap. The community realized that services at other government offices still required in-person visits and queuing, which took much longer than accessing services in Singoan Village. Jambi University and the Singoan Village apparatus drafted a roadmap for implementing smart governance through the SID platform. In addition, the partnership that has been established will become the basis for Jambi University to carry out follow-up services in the aspects of teaching and research.

Recommendation

Based on the community service activities that have been carried out, the community service team has prepared several recommendations that can be considered for implementation, namely: (1) The District Government needs to accelerate the implementation of OpenSID as a reporting medium for administrative activities for the development of 110 villages in Batanghari District, (2) Singoan Village can be a good example of how to manage SID for other villages in Batanghari District, (3) The Singoan Village Government needs to carry out SID management training for all village officials, considering that each government function has a role in SID management.



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