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DIGIDES-BASED SMART VILLAGE: A STUDY OF DIGITAL TRANSFORMATION IN BURAU VILLAGE GOVERNANCE

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Abstract :

The implementation of a Smart Village concept based on local wisdom represents a strategic approach to fostering inclusive and sustainable digital transformation in village governance. This article aims to describe a community service program implementing a Smart Village through the use of Digital Village applications (Digides) in Burau Village, Burau Subdistrict, East Luwu Regency. The program adopted an Asset-Based Community Development (ABCD) approach, emphasizing the optimization of existing local assets and community potential as the foundation for change. The methodology was carried out through several stages, including inculturation, asset mapping, participatory planning, program implementation, and reflection and evaluation. The results indicate that the adoption of Digides significantly improved administrative efficiency, transparency, and accountability, while also accelerating public service delivery. Furthermore, the development of visual communication media such as educational banners, informational signboards, and village infographics enhanced public information disclosure and community participation. The program also stimulated social transformation, reflected in increased digital literacy, active youth involvement as digital facilitators, and strengthened cross-social group collaboration. Overall, the integration of digital technology with local wisdom effectively reinforced community self-reliance and positioned Burau Village as a contextual, inclusive, and competitive model of Smart Village development.

Keywords : *Smart Village, Digital Village, Digides, local wisdom, ABCD, Burau Village*

INTRODUCTION

The rapid evolution of digital technology over the past decade has catalyzed transformative changes across various sectors, most notably in rural governance (Irfan and Anirwan 2024). The digitalization of village administration serves as a pivotal strategy for enhancing the quality of public services, bolstering transparency, and streamlining bureaucratic processes previously constrained by conventional methodologies. Within this context, the "Smart, Village" framework has emerged as a viable solution, integrating technological innovation with active community participation and sustainable development paradigms.

The implementation of the Smart Village concept enables rural communities to optimize information technology for local resource management, thereby fostering economic empowerment and collectively elevating the standard of living (Meilyta and Suryani 2021). Nevertheless, the realization of this concept across various regions in Indonesia remains hindered by multifaceted challenges. Significant disparities in digital infrastructure, limited human resource competency, and a lack of technical proficiency among village officials in managing digital service platforms constitute the primary barriers to successful implementation (Fardani et al. 2021).

This situation has caused many villages to experience difficulties in adopting technology optimally in their governance systems. As a result, most village administrative affairs are still conducted manually, which not only reduces work productivity but also affects data accuracy, information transparency, and the quality of public services. Therefore, technological innovation must be balanced with socio-cultural strategies to ensure acceptance and adaptability within rural communities that possess diverse characteristics (Hombore, 2025).

Burau Village, located in Burau Sub-district, East Luwu Regency, has considerable potential for developing the Smart Village concept that integrates modern technology with local wisdom. The village is equipped with computer facilities and internet connectivity at the village office, as well as human resources that are relatively open to technological advancement. Nevertheless, the utilization of digital administrative applications and public service platforms remains very limited. Many administrative processes, such as document issuance, data archiving, and inter-staff communication, are still carried out manually. This condition is primarily attributed to the low level of digital competence among village officials. The high dependence on manual procedures hampers the acceleration of digital transformation, which is a core objective of the Smart Village concept. In addition to technical factors, social and cultural aspects play a crucial role in determining the success of village digitalization.

The community of Burau Village continues to uphold strong values of mutual cooperation, social solidarity, and deliberative decision-making in addressing various village issues. These values constitute valuable social

capital for building a smart village that emphasizes togetherness and active community participation. Consequently, the implementation of the Smart Village concept must take into account and strengthen local wisdom that forms the social identity of the village community. Such an approach not only accelerates the digitalization process but also ensures that the innovations introduced are aligned with the characteristics and needs of the local population. This strategy will support Burau Village in evolving into a smart, inclusive, and sustainable village that harmonizes technological modernization with local cultural values. Socially and culturally grounded digital transformation is expected to foster a more self-reliant and prosperous community with a strong spirit of collectivity. In the long term, this Smart Village model may serve as a reference for other villages seeking to implement digitalization without neglecting their local identity and values.

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The KKN program aims to establish an innovative paradigm in village governance through digital transformation. Digitalization is not merely perceived as a technical tool for accelerating administrative processes but as a strategic instrument for achieving transparent, accountable, and adaptive governance. The integration of information technology with the culture of mutual cooperation positions Burau Village as an example of an inclusive Smart Village capable of harmonizing digital innovation with the preservation of social values and cultural identity. This approach is consistent with the theory proposed by Kretzmann and McKnight (1993), which emphasizes sustainable social change through active community participation. Community members are expected to be directly involved in managing their own assets. This community service initiative not only introduces digital technology but also strengthens the social capacity of local residents, with a primary focus on fostering

sustainable community self-reliance. The program is expected to result in a digitally smart village that is socially resilient and economically progressive. Smart Village Burau represents a holistic, local wisdom-based development model that prioritizes community welfare without compromising traditional values. This model serves as an inspiration for other villages in implementing culturally grounded digitalization.

RESEARCH METHOD

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This community service initiative was specifically implemented in Burau Village, strategically located in Burau Sub-district, East Luwu Regency, South Sulawesi, during the period from July to August 2025, with a carefully planned duration. The primary subjects actively and fully involved in the program included village government officials, youth groups, and the general community representing diverse social strata. Their participation was ensured throughout all stages of the program, from initial planning to comprehensive final evaluation. The overall implementation of the program was systematically and structurally organized into five interrelated main stages: (1) the inculturation stage for initial adaptation and understanding of the local context; (2) in-depth and comprehensive community asset mapping; (3) program planning based on concrete asset-based findings; (4) collaborative program implementation with maximum community participation; and (5) continuous reflection and evaluation stages aimed at improvement and further development.

1. Inculturation

The inculturation stage, as the initial phase, involved a process of

deep social adaptation between the KKN student team and the residents of Burau Village to establish open and collaborative relationships from the outset. This stage was conducted during the first week through direct visits to various hamlets, active participation in the community's socio-religious routines, and informal dialogues with traditional leaders and community figures. Through these intensive interactions, the KKN team was able to identify deeply embedded local cultural values, distinctive communication patterns, and the unique social characteristics of Burau Village, ensuring that all community service programs were contextual and responsive to the actual needs of the local population.

This adaptation phase also served as a strategic momentum to introduce the Smart Village concept and emphasize the urgency of digital transformation in public service delivery to village government officials (Setyorini & Cipta, 2025). The findings from this stage became the primary foundation for subsequent community asset mapping and informed the formulation of precise program planning, with a particular focus on enhancing the digital capacity of village officials and strengthening technological literacy across all segments of society.

2. Asset Mapping

The asset mapping stage focused on identifying strengths and potentials that support the implementation of the Smart Village concept in Burau Village, aiming to map available resources so that program planning could be more targeted and aligned with community capacity. The assets identified were categorized into three main groups: (1) digital assets, including computers, internet networks, and administrative applications at the village office; (2) social assets, such as the culture of mutual cooperation, community solidarity, and active youth participation; and (3) economic assets derived from local micro, small, and medium enterprises (MSMEs) and agricultural potential ready for digital development.

Asset mapping was conducted through in-depth interviews with village officials, neighborhood leaders (RT/RW), community figures, and MSME actors, complemented by field documentation and inspections of technological facilities. The findings indicated a high potential for digital transformation, despite constraints related to limited training and internet access in certain hamlets. These results formed the basis for participatory and contextual program planning.

3. Program Planning

The program planning stage was carried out participatively through village deliberation forums involving village officials, youth representatives, and community members. This process aimed to determine priority activities based on asset mapping outcomes and local needs, with a focus on realistic programs utilizing available resources and directly enhancing digital capacity (Setyorini & Cipta, 2025). The planning process resulted in four main programs: (1) the establishment of a digital village administration system account (Digides) specifically for Burau Village as

the foundation for administrative digitalization; (2) the development of visual communication media in the form of educational banners strategically placed in mosques to increase public awareness and participation; (3) the production and installation of informational banners in waste management areas to support environmental cleanliness and sustainable waste management initiatives; and (4) the preparation of scientifically presented village infographics as public communication tools to visualize key information related to village development and programs.

All programs were designed with careful consideration of time constraints, available facilities, and the technical capacities of the community, accompanied by measurable success indicators such as the adoption rate of Digides usage, the effectiveness of visual media in information dissemination, and the level of community participation in digital-based activities.

4. Program Implementation

The implementation stage represented the execution of all activities formulated during the planning phase. Activities were carried out collaboratively by KKN students, village officials, youth groups, and the general community, guided by the principle of active participation. Each program was designed to strengthen community digital skills and support the application of an adaptive and sustainable Smart Village concept in Burau Village.

Training on the use of the village administrative application was conducted at the village office with direct assistance provided to computer operators and service staff, focusing on enhancing skills in digital data management and correspondence. In addition, graphic design training using the Canva application was provided to village youth to improve their ability to create public information media and village promotional materials.

The Village Digital Education Program emphasized improving digital literacy among MSME actors through mentoring in promotional content creation and the introduction of Google Maps as a marketing platform for local products. All activities were conducted in an interactive and collaborative atmosphere, with community members actively involved at every stage of implementation. This approach was expected to strengthen cooperation among residents and build collective awareness of the importance of digitalization in promoting inclusive and competitive village development in Burau Village.

5. Reflection and Evaluation

The reflection and evaluation stage constituted the final phase of the community service program in Burau Village, aiming to assess the extent of program implementation and the effectiveness of the applied Smart Village approach. The evaluation process was conducted participatively by involving village officials, youth, and community members through Focus Group Discussions (FGDs), in-depth interviews, and field observations to

obtain a comprehensive understanding of participant experiences, challenges encountered, and levels of community engagement in utilizing digital facilities. FGDs were used to explore participant perceptions, interviews served to identify obstacles, and observations were conducted to assess the functional use of technology during training activities.

Subsequently, the KKN implementation team reflected on the application of the Asset-Based Community Development (ABCD) approach within the context of Burau Village to formulate strategic recommendations and follow-up plans aimed at ensuring program sustainability beyond the community service period. In this program, qualitative data were collected through participant observation, in-depth interviews, and visual field documentation, while simple quantitative data were used to measure participation levels and program achievements. Program success was evaluated not only based on technical outputs but also on the community's ability to independently continue digitalization efforts after the intervention. This methodological approach ensured that the community service program generated both new technological skills and collective awareness of social participation in digital-based development. The Asset-Based Community Development (ABCD) approach proved effective in integrating technological innovation with local values, thereby enabling inclusive, contextual, and sustainable digital transformation.

FINDINGS AND DISCUSSION

The implementation of the community service program through the Smart Village concept in Burau Village produced concrete outcomes that reflect positive transformation in village governance and community empowerment. The Asset-Based Community Development (ABCD) approach successfully integrated local potential with digital technology in an effective and context-sensitive manner. Collaboration among KKN students, village officials, and community members generated strong synergy in developing public service systems that are more efficient, transparent, and participatory. Digital innovation was shown to be well aligned with deeply rooted local values such as mutual cooperation, social cohesion, and a collective learning ethos within the community. Consequently, the Smart Village initiative in Burau Village not only emphasized technological advancement but also strengthened social cohesion and enhanced community self-reliance in managing local development.

Table : 1 Field Data Sources for KKN Activities in Burau Village, 2025

Program Aspect	Acheivement Indicators	Number of Participants / Units	Success Rate(%)

Development of a digital village administrative system (Digides)	Village officials possess active Digides accounts and are able to manage basic administrative data	8 officials	80%
Development of visual communication media in the form of educational banners in mosques	Educational banners installed and observed to be read by congregants based on community interaction observations	2 mosques	95%
Production and installation of informative banners in the waste management area	Informative banner installed and utilized as a reminder for residents regarding proper waste management practices	1 location	90%
Preparation of village infographics as public communication tools	Infographics completed, validated by village officials, and published on public information boards	5 infographics	100%

1. Digital Village Administrative System (Burau Village Goes Digital)

   The primary outcome of the Burau Village Goes Digital program was a significant improvement in administrative performance and public service delivery in Burau Village through the utilization of digital service applications (Ibnu Fajar et al., 2025). KKN students, in collaboration with village officials, conducted a series of training sessions and technical assistance activities to support the use of the administrative application developed by the DIGIDES team. The training focused on key administrative functions, including the issuance of official certificates, digital document storage, population data recording, and systematic archive management.

Figure 1: Village App Training for Burau Officials

This transformation generated tangible implications for improving the quality of public services and the performance of village officials. The implementation of digital administrative systems was shown not only to enhance bureaucratic efficiency but also to strengthen the principles of transparency and accountability in village governance. In addition, the use of digital-based systems facilitated more systematic monitoring and document traceability, thereby minimizing the risk of data loss.

2. Development of Educational Banners as Visual Communication Media in Mosques

The development of educational visual communication media in the form of banners displayed in mosques generated positive impacts on the residents of Burau Village by enhancing their understanding and awareness of religious, social, and moral values. Information presented in a clear and visually accessible manner facilitated comprehension among community members across different age groups. This approach contributed to the formation of more orderly social behavior, mutual respect among residents, and the internalization of positive values in daily life.

Furthermore, the presence of educational banners in mosques strengthened the role of mosques as centers for education and information dissemination within the Burau Village community. Residents were able to access information related to religious activities, social programs, and community announcements more easily without relying on digital media. In the long term, educational banners have the potential to increase community participation in village and religious activities, as well as to reinforce social cohesion through the delivery of persuasive and constructive messages.

Figure 2: Educational Banner Promoting Friday Prayer Attendance

Another observed impact was the increased level of community participation and awareness regarding village activities and the surrounding environment. The consistent display of educational messages fostered a shared sense of responsibility, strengthened interpersonal relationships among residents, and encouraged the creation of a more harmonious village environment. In the long term, the use of educational banners in mosques contributes to the development of a more information-aware, value-oriented, and socially competitive Burau Village community.

3. Production and Installation of Informative Banners in the Waste Management Area

The activity of producing and installing an informative banner in the waste management area of Burau Village, East Luwu Regency, was carried out as a simple yet strategic effort to remind the community of the importance of maintaining environmental cleanliness. This initiative was motivated by the continued presence of improper waste disposal practices that negatively affect the surrounding environment. The installed banner contained a concise message prohibiting littering, delivered in clear and easily understandable language with a cautionary tone. Its placement was concentrated at a strategic point within the waste management area to ensure direct visibility to residents passing through

the location.

Figure 3: Anti-Improper Waste Banner Installation

Although implemented on a limited scale, the presence of the banner began to draw community attention to environmental cleanliness. The message served as a reminder that maintaining a clean environment is not solely the responsibility of sanitation workers or specific parties, but a shared obligation of all village residents. Through a simple yet firm visual approach, this activity is expected to foster greater public awareness of proper waste disposal practices and contribute to the creation of a cleaner, healthier, and more comfortable living environment in Burau Village.

4. Development of Village Infographics as Public Communication Media

The development of village infographics was conducted as an initiative to provide public information that is easily accessible and comprehensible to community members. This program emerged from the need for an information medium capable of presenting village data in a clear and standardized manner, thereby reducing reliance on orally transmitted information. KKN students collaborated with village officials to collect and process relevant data, which were then compiled into infographics featuring simple visual designs and communicative language. These infographics contained essential village-related information and were placed in locations that are easily visible to the public, serving as official references for public information.

The implementation of this activity contributed to increased information transparency within the village environment. Community members were able to access official information more easily and had clear reference points when seeking village-related data. Moreover, the presence of infographics helped reduce information misunderstandings and encouraged residents to verify information through the provided media. Through collaboration between students and village officials, this activity demonstrated that public information dissemination can be

carried out in a simple yet effective manner, thereby supporting more open and participatory communication at the village level.

CONCLUSION

The community service program implemented through the Smart Village concept based on local wisdom in Burau Village demonstrated a significant contribution to strengthening village governance and improving the quality of public services. The implementation of training on the use of digital administrative applications enhanced the capacity of village officials to manage population data and administrative correspondence in a more effective, efficient, and transparent manner. Active community participation throughout the program reflected an increased collective awareness of the importance of digital innovation as a strategic instrument supporting village development. Furthermore, the application of the Asset-Based Community Development (ABCD) approach proved effective in optimizing local potential, strengthening synergy among community members, and fostering a shared sense of ownership toward the sustainable implementation of village digitalization programs.

In addition to improving administrative systems, the program also stimulated meaningful social transformation at the community level. Residents began to demonstrate greater adaptability in utilizing technology as a tool to accelerate public service delivery and expand access to information. Village youth played a strategic role as digital facilitators by providing assistance to community members in using the Digides (Digital Village) platform as part of the Smart Village implementation. Other positive impacts were reflected in increased community participation and the development of cross-group collaboration in various village activities. These conditions indicate that development approaches integrating local wisdom with digital innovation are capable of strengthening community self-reliance and fostering the realization of inclusive and competitive villages in the context of contemporary development.

The recommended follow-up actions include the continuous development of the Digides-based Smart Village system to ensure integration with district-level databases, as well as the regular implementation of digital literacy training for village officials and youth. In addition, the utilization of Digides as an instrument for public service delivery and village data management requires ongoing mentoring to ensure optimal implementation. Sustained synergy among local governments, higher education institutions, and community members is a key prerequisite for maintaining the continuity of the implemented programs. Accordingly, the successful implementation of the Digital Village–based Smart Village in Burau Village has the potential to serve as a model for the development of other smart villages in Indonesia, grounded in technological utilization, strengthened community self-reliance, and the preservation of local wisdom.

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