

Assistance in the Implementation of a BUMDes Information System as an Effort to Strengthen Legal Compliance and Village Governance in Wirogunan Village, Kartasura, Sukoharjo

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Abstract

The management of Village-Owned Enterprises (BUMDes) in Wirogunan Village, Kartasura, Sukoharjo, is still predominantly conducted using manual systems, with limited utilization of information technology, low digital literacy among village officials, and suboptimal legal and administrative accountability. This condition creates a gap between the demands of digital-based good governance and existing practices at the village level. This community service program aims to enhance the institutional capacity of BUMDes through the implementation of an integrated information system to strengthen legality, transparency, and the effectiveness of village business management. The method used is a participatory-empirical approach, including needs assessment, system design, hybrid implementation (offline and online training), and evaluation through pre-test and post-test. The results show a significant improvement in participants' understanding, where the average pre-test score of 45% increased to 82% in the post-test. This indicates that the mentoring program effectively improves digital literacy, legal awareness, and governance quality of BUMDes. The program contributes to the development of a digital-based BUMDes governance model that is more transparent, accountable, and sustainable.

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1. INTRODUCTION

The development of information technology in village governance has driven the transformation of Village-Owned Enterprises (BUMDes) management toward more transparent, accountable, and digital-based systems [1], [2]. From a good governance perspective, information systems serve as essential instruments to ensure that all institutional activities at the village level are properly documented and legally accountable [3], [4]. This digital transformation also represents part of the broader modernization of public governance, which demands efficiency and transparency in managing village resources [5].

In practice, however, the management of BUMDes in many villages in Indonesia is still conducted manually, with limited utilization of information technology in administration, financial management, and business reporting [6], [7]. From a *das sollen* perspective, BUMDes should have implemented integrated digital information systems to support transparency, accountability, and legal certainty in their operations [8]. The gap between this ideal condition

and the existing reality reflects the relatively weak implementation of modern governance at the village level [9].

The partner's problem in Wirogunan Village, Kartasura, Sukoharjo, is evident in the suboptimal implementation of information systems in BUMDes management, particularly in administrative processes and business legality aspects [10]. In addition, limited human resource capacity in the field of information technology constitutes a major barrier to the digitalization of BUMDes governance [11]. This situation has resulted in low management effectiveness and suboptimal institutional accountability of BUMDes at the village level [12]. These conditions highlight the need for structured intervention through assistance in implementing an information system tailored to legal and modern management requirements [13].

The proposed solution is the development of an information system capable of integrating administrative, financial, and business legality aspects into a single digital platform [14]. This approach is expected to strengthen BUMDes governance while enhancing efficiency and transparency in managing village enterprises [5].

The urgency of this initiative is further emphasized by the strategic role of BUMDes in improving rural economic development and community welfare through the management of local potential [2], [6]. Weaknesses in governance systems may lead to decreased public trust and increased legal risks in village business activities [7], [8]. Moreover, national policies on village digitalization require adaptive transformation in BUMDes management systems in response to advancements in information technology [3].

Therefore, the objective of this community service activity is to enhance the institutional capacity of BUMDes through the implementation of an integrated information system aimed at strengthening business legality, improving transparency, and promoting effective and accountable village governance in Wirogunan Village, Kartasura, Sukoharjo [13], [14]. Ultimately, this initiative is expected to serve as a model for strengthening digital-based BUMDes governance that can be replicated in other villages across Indonesia [9], [15].

2. IMPLEMENTATION METHOD

The implementation of this community service activity adopts a participatory-empirical approach, emphasizing the active involvement of partners at every stage of the process, from problem identification and system design to implementation and evaluation. This approach is selected to ensure that the proposed solutions are aligned with the actual needs of BUMDes in Wirogunan Village and can be sustainably implemented.

The first stage involves observation and needs assessment, conducted through interviews, focus group discussions (FGDs), and direct observation of administrative governance and BUMDes management systems. This stage aims to map key issues, including manual recording systems, weak documentation of business legality, and limited utilization of information technology in managing village enterprises.

The second stage consists of designing the BUMDes information system, which includes the development of core features such as financial administration, business unit management, asset recording, and modules for legal compliance and reporting. This design process adopts a user-centered approach to ensure that the system is compatible with the capacity of village-level users and can be easily operated by BUMDes personnel.

The third stage is system implementation and assistance, which includes the installation of the information system, training for BUMDes operators, and simulation of system usage in daily operational activities. This stage also involves knowledge transfer related to digital data management, information security, and system-based administrative governance.

The fourth stage focuses on evaluation and monitoring, aimed at assessing the effectiveness of the information system in improving BUMDes performance. Key aspects evaluated include administrative efficiency, financial transparency, and the strengthening of business legality.

Evaluation indicators include improvements in the quality of reporting, the speed of administrative services, and the level of user understanding and system utilization.

As a final stage, sustainability assistance is carried out to ensure that the implemented information system operates consistently and continues to evolve in accordance with the future needs of BUMDes. This approach is expected to produce a digital-based governance model for BUMDes that is adaptive, accountable, and replicable in other villages.

3. RESULTS AND DISCUSSION

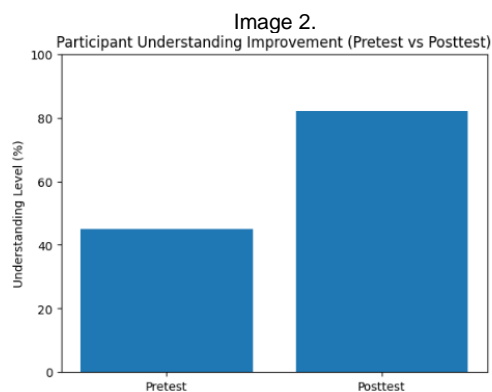
Results

The Community Service Activity (PkM) entitled “*Assistance in the Implementation of a BUMDes Information System as an Effort to Strengthen Legal Compliance and Governance in Wirogunan Village, Kartasura, Sukoharjo*” was conducted on Saturday, May 16, 2026, from 18:00 to 21:00 WIB at the Wirogunan Village Hall. The activity was attended by 20 village officials, consisting of representatives from the village government, BUMDes management, and administrative operators. The session was conducted in an interactive and participatory manner.

Image 1. Implementation of Community Service Activities



This activity involved two speakers: Suratno Pradotodiningrat, who delivered an in-person session focusing on institutional strengthening and the legal aspects of BUMDes within the framework of village governance, and Thinesh A/LR Ganesan, who provided an online session through a video tutorial *addressing* the technical implementation of the BUMDes Information System to enhance digital administration and transparency in village enterprise management. The combination of these two delivery methods provided participants with a comprehensive understanding from both legal and technical perspectives.



At the initial stage, a pre-test was administered to all 20 participants to assess their baseline understanding of the BUMDes information system, business legality, and digital-based

administrative governance. The pre-test results indicated that the majority of participants fell within the low to moderate understanding category, with an average score of approximately 45%. This finding suggests that the initial level of knowledge regarding BUMDes information systems among village officials was relatively limited.

Following the delivery of materials and technical assistance sessions, a post-test was conducted to measure the improvement in participants' understanding. The results demonstrated a significant increase, with the average score rising to approximately 82%, and most participants reaching a high level of understanding. This improvement indicates the effectiveness of the assistance method, which combined direct instruction and system-based video tutorials.

Visually, this improvement can be illustrated through a simple bar chart: the pre-test results show a relatively low level of understanding ($\pm 45\%$), while the post-test results indicate a substantial increase to approximately 82%. This increase reflects a significant enhancement in both digital literacy and institutional understanding of BUMDes following the implementation of the activity.

Based on these findings, it can be concluded that the assistance program in implementing the BUMDes Information System integrating both offline and online learning approaches successfully improved the capacity of village officials in terms of legal awareness, governance practices, and the utilization of information technology. Furthermore, the activity has strengthened the readiness of Wirogunan Village to sustainably implement a BUMDes information system as part of a broader digital transformation in village governance.

Discussion

The results of this Community Service (PkM) activity demonstrate that the implementation of assistance in adopting the BUMDes Information System in Wirogunan Village, Kartasura, Sukoharjo, extends beyond mere technical-administrative intervention, representing a broader process of institutional transformation toward more modern, transparent, and accountable village governance. The activity, conducted on Saturday, May 16, 2026, with the participation of 20 village officials, was carried out in an interactive and participatory manner, reflecting the openness of local actors to technological innovation. The involvement of two speakers with distinct approaches Suratno Pradotodiningrat, who emphasized legal aspects and institutional strengthening through an offline session, and Thinesh A/LR Ganesan, who provided technical guidance through an online video tutorial successfully integrated the normative legal dimension with the practical dimension of technology, resulting in a more comprehensive understanding among participants.

Empirically, the pre-test results indicate that the participants' initial level of understanding was relatively low to moderate, with an average score of approximately 45%. This condition reflects a gap in digital literacy and institutional legal awareness related to BUMDes, which, from a philosophical standpoint, may be interpreted as a limitation in the village's institutional adaptability to the development of modern administrative technology. However, following intensive assistance through a combination of conceptual explanations and tutorial-based training, a significant improvement was observed in the post-test results, with the average score increasing to approximately 82%. This improvement is not merely quantitative but also reflects a cognitive transformation and a growing collective awareness among village officials regarding the importance of integrating information systems into BUMDes management.

From both academic and practical perspectives, these findings indicate that a hybrid assistance model combining offline and online approaches is effective in enhancing the capacity of village officials, particularly in the areas of legal compliance, governance, and administrative digitalization. Philosophically, this activity reflects a paradigm shift in village governance, transitioning from conventional practices toward a more adaptive, responsive, and transparency-oriented model based on information technology. Therefore, the implementation of the BUMDes Information System should not be viewed solely as a technical tool, but rather as a strategic instrument for strengthening village institutions in achieving sustainable good village governance.

4. CONCLUSIONS

Based on the results of this Community Service (PkM) activity, it can be concluded that the assistance in implementing the BUMDes Information System in Wirogunan Village, Kartasura, Sukoharjo has proven effective in enhancing the capacity of village officials across multiple dimensions, including institutional legality, village business governance, and the utilization of information technology. The significant increase in participants' understanding from an average pre-test score of 45% to 82% in the post-test indicates a substantial improvement in both digital literacy and institutional awareness. This outcome was supported by the application of a hybrid learning approach, combining offline and online methods through the integration of normative legal materials and practical system-based training. More broadly, this activity not only improved the technical competencies of village officials but also reflected a paradigm shift toward more modern, transparent, and accountable village governance, thereby strengthening the readiness of Wirogunan Village to sustainably implement a BUMDes information system as part of good village governance.

Based on these findings, it is recommended that village governments and BUMDes management continuously optimize the implementation of the BUMDes Information System, not merely as an administrative tool, but as a strategic instrument for promoting transparency, accountability, and efficiency in village enterprise governance. Furthermore, periodic advanced training is necessary to strengthen human resource capacity, particularly in digital literacy and legal understanding of BUMDes institutions, in order to prevent competency gaps among system operators. In addition, collaboration among academics, village governments, and information technology practitioners should be further strengthened through sustainable mentoring models, ensuring that the implementation of the information system extends beyond the installation phase and becomes fully integrated into daily governance practices.

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6. BIOGRAFFY

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