

# Synergy between Customary Villages and Administrative Villages in the Implementation of Information Technology Based on Tri Hita Karana in Duda Timur Village, Selat, Karangasem

I Gede Pawana<sup>1</sup>; I Gusti Ngurah Sudiana<sup>2</sup>; I Wayan Wastawa<sup>3</sup>

1,2,3: Universitas Hindu Negeri I Gusti Bagus Sugriwa Denpasar  
Email: [igedepawana7@gmail.com](mailto:igedepawana7@gmail.com)

**Abstract:** *This study aims to analyze the forms, functions, and implications of the synergy between Customary Villages (Desa Adat) and Administrative Villages (Desa Dinas) in the implementation of information technology based on Tri Hita Karana in Duda Timur Village, Selat District, Karangasem Regency. This research employs a qualitative approach with a descriptive-exploratory design. Data were collected through observation, in-depth interviews, and documentation studies, and then analyzed using interactive analysis techniques. The results show that the synergy between Customary Villages and Administrative Villages is manifested in institutional integration, policy coordination, and collaborative information system management. This synergy functions to strengthen transparent village governance, enhance community participation, and maintain a balance between technological modernization and the preservation of local cultural values. Furthermore, the implementation of information technology based on Tri Hita Karana has positive implications for improving the quality of public services, strengthening social cohesion, preserving culture, and supporting environmental and economic sustainability at the village level. Thus, this synergy represents a model of village development that is adaptive to technological advancements while remaining rooted in local wisdom.*

**Keywords:** village synergy, Customary Village, Administrative Village, information technology, *Tri Hita Karana*, sustainable development

## Introduction

The development of information technology in the digital era has brought significant changes in various aspects of life, including governance down to the village level. Digital transformation has become one of the main strategies to improve the quality of public services, transparency, and bureaucratic efficiency. The Indonesian government, through policies such as the Electronic-Based Government System (SPBE) and digital village programs, encourages the utilization of information technology as an essential instrument in village development (Ministry of Communication and Information Technology of the Republic of Indonesia, 2020). In this context, villages are no longer viewed merely as objects of development but as active subjects utilizing technology to enhance community welfare.

However, the implementation of information technology at the village level does not always run optimally, particularly in regions with distinctive socio-cultural characteristics such as Bali. One of Bali's unique features lies in its dual village governance system, namely the Administrative Village (*Desa Dinas*) and the Customary Village (*Desa Adat*), which coexist side by side. The Administrative Village functions as a formal governmental institution based on the state system, while the Customary Village plays a role in regulating social, cultural, and religious life based on customary law that has evolved over generations (Ministry of Home Affairs of the Republic of Indonesia, 2014; Bali Provincial Government, 2019).

The existence of these two systems reflects the richness of Balinese socio-cultural life, yet it also poses challenges in village governance. Differences in functions, authority, and orientation between Administrative Villages and Customary Villages often lead to issues of coordination and policy integration. In practice, the relationship between these two institutions greatly determines the success of village development, including in the implementation of information technology. Without proper synergy, technological implementation tends to be partial and unintegrated.

The application of information technology in villages often faces various obstacles, such as limited infrastructure, low human resource capacity, and inadequate institutional readiness. A study by the World Bank (2016) indicates that the success of digitalization at the local level is strongly influenced by institutional readiness and the community's ability to adapt to technology. This highlights the crucial role of social and cultural aspects in determining the success of technological implementation.

The application of information technology cannot be separated from local wisdom values deeply rooted in community life. One fundamental concept underlying Balinese society is *Tri Hita Karana*, which refers to the three causes of well-being and harmony in life: the harmonious relationship between humans and God (*parahyangan*), among humans (*pawongan*), and between humans and the environment (*palemahan*) (I Wayan Buda, 2012; UNESCO, 2012). This concept is not only a philosophy of life but has also gained international recognition as part of cultural practices supporting sustainability.

*Tri Hita Karana* is highly relevant in the context of information technology-based development. In this perspective, technology is not merely seen as a tool for modernization but also as a means to strengthen social harmony and environmental sustainability. The integration of *Tri Hita Karana* values into the implementation of information technology is expected to create systems that are not only technically efficient but also aligned with local cultural values.

However, field realities indicate that the integration of information technology with local values has not been fully realized. Technological implementation often remains focused on administrative aspects and has yet to deeply address socio-cultural dimensions. In the context of Bali's dual village system, this becomes increasingly complex due to the differing characteristics of the two institutions. Administrative Villages tend to be more responsive to government digitalization policies, whereas Customary Villages are more cautious in adopting technology to ensure alignment with traditional values.

This condition is also evident in Duda Timur Village, Selat District, Karangasem Regency. As a village that strongly upholds tradition, Duda Timur faces challenges in integrating information technology into its adat-based social system. The implementation of information technology has begun, particularly in administration and public services. However, integration between the Administrative Village and Customary Village systems remains suboptimal. Data and information held by both institutions are often not integrated, resulting in duplication and inefficiency.

Human resource capacity is another significant challenge. Not all village officials possess adequate skills to operate information technology. This is consistent with findings from Statistics Indonesia (2022), which indicate that digital literacy levels in rural areas remain relatively low compared to urban areas. This condition requires strategies that focus not only on technological provision but also on improving human resource capacity.

There is also concern that the implementation of information technology may erode local cultural values if not properly managed. Uncontrolled modernization has the potential to cause social disruption and weaken cultural identity. Therefore, a local wisdom-based approach is essential to ensure that technology can be adopted without undermining the values that define community identity.

From a sustainable development perspective, the synergy between Administrative Villages and Customary Villages in implementing information technology based on *Tri Hita Karana* is highly strategic. This synergy not only enhances the effectiveness of public services but also strengthens social cohesion and maintains environmental balance. This concept aligns with the sustainable development approach, which emphasizes the balance between economic, social, and environmental aspects (United Nations, 2015).

To date, studies specifically examining the synergy between Administrative Villages and Customary Villages in the context of *Tri Hita Karana*-based information technology implementation remain limited. Most research focuses on village governance or digitalization in general, without deeply exploring the integration of these two institutional systems within a local value framework. Therefore, this study is important to fill this research gap.

The challenges faced are not only technical but also involve institutional, social, and cultural dimensions. The synergy between Administrative Villages and Customary Villages is key to creating an integrated and sustainable information technology system. Through a *Tri Hita Karana*-based approach, it is expected that a model of information technology implementation can be developed that is not only technically effective but also capable of maintaining harmony and balance in community life.

## Method

This study employs a qualitative approach with a descriptive-exploratory design, aiming to gain an in-depth understanding of the dynamics of synergy between Administrative Villages (*Desa Dinas*) and Customary Villages (*Desa Adat*) in the implementation of information technology based on *Tri Hita Karana* in Duda Timur Village, Selat District, Karangasem Regency. A qualitative approach was chosen because it is capable of exploring meanings, perceptions, and social practices that develop contextually within the community (Creswell, 2014). Informants were selected using purposive sampling, involving Administrative Village officials, Customary Village leaders (*prajuru adat*), community leaders, and stakeholders involved in the management of information technology in the village. Data were collected through participant observation, in-depth interviews, and documentation studies to obtain comprehensive and triangulated data (Denzin & Lincoln, 2011).

Data analysis was conducted interactively through the stages of data reduction, data display, and conclusion drawing/verification as proposed by Miles, Huberman, and Saldaña (2014). To ensure data validity, this study employed triangulation of sources, methods, and time, as well as member checking with informants to confirm the accuracy of data interpretation. Furthermore, the analysis was carried out by linking empirical findings with the concept of *Tri Hita Karana* as an interpretative framework to understand the relationship between technological, institutional, and cultural value aspects. Thus, this method is expected to produce in-depth and contextual findings regarding an effective synergy model between Administrative Villages and Customary Villages in the implementation of information technology based on local wisdom.

## Discussion

### Forms of Synergy between Customary Villages and Administrative Villages in the Implementation of Information Technology Based on *Tri Hita Karana*

The synergy between Customary Villages and Administrative Villages in the implementation of information technology (IT) in Duda Timur Village is an inevitable necessity in responding to the demands of digital transformation in the modern era. The existence of two village institutional systems in Bali, Administrative Villages as formal administrative structures and Customary Villages as guardians of traditional values, constitutes both a strength and a challenge in technology-based development. In this context, the *Tri Hita Karana*-based approach serves as an important foundation to ensure that technological implementation is not solely oriented toward efficiency but also maintains social, spiritual, and environmental harmony.

Conceptually, synergy can be understood as a form of collaboration that generates added value through the integration of roles and functions of each party. In the context of Duda Timur Village, the synergy between Administrative Villages and Customary Villages in IT implementation can be observed in several main forms: institutional synergy, information system synergy, human resource synergy, and cultural value-based synergy.

First, institutional synergy is reflected in the coordination and collaboration between Administrative Village officials and Customary Village leaders in decision-making related to information technology implementation. Administrative Villages have authority in carrying out governmental administration, including the implementation of digital systems such as population administration services and village data management. Meanwhile, Customary Villages hold authority in regulating social and cultural life. Institutional synergy occurs when both parties coordinate in determining policies related to technology utilization, thereby preventing overlapping authority or conflicts. This is in line with regulatory frameworks recognizing Customary Villages as entities with original rights and local-scale authority (Ministry of Home Affairs of the Republic of Indonesia, 2014; Bali Provincial Government, 2019).

In practice, this form of institutional synergy may take the form of joint deliberation forums, collaborative policy-making, and clear division of roles in managing information technology. For example, the Administrative Village may be responsible for managing digital administrative systems, while the Customary Village ensures that the use of such technology does not contradict customary values and social norms. Thus, institutional synergy not only enhances efficiency but also maintains social legitimacy in technological implementation.

Second, information system synergy refers to the integration of data and information between Administrative Villages and Customary Villages. One of the main challenges in village governance is data duplication due to unintegrated information systems. Administrative Villages typically manage administrative data such as population records, while Customary Villages hold equally important social and religious data. Information system synergy can be achieved through the development of a shared digital platform capable of integrating both types of data.

This integration is crucial for improving the effectiveness of public services and data-driven decision-making. According to the World Bank (2016), the use of digital technology in local governance can enhance efficiency and data accuracy, provided it is supported by integrated and collaborative systems. In the context of Duda Timur Village, such integration enables the creation of a more comprehensive database that includes not only administrative aspects but also socio-cultural dimensions characteristic of Balinese society.

Third, human resource (HR) synergy is a key factor in the success of information technology implementation. Differences in HR characteristics between Administrative Villages and Customary Villages often pose challenges in digitalization processes. Administrative Village officials are generally more accustomed to modern administrative systems, while Customary Village leaders tend to focus more on traditional aspects. Therefore, efforts to enhance HR capacity through training, mentoring, and knowledge transfer are essential.

Improving HR capacity is not only aimed at enhancing technical skills but also at building a shared understanding of the importance of synergy in technological implementation. Data from Statistics Indonesia (2022) indicate that digital literacy in rural areas remains relatively low, necessitating inclusive strategies in HR development. In the context of *Tri Hita Karana*, this development is related to the *pawongan* aspect, which emphasizes harmonious relationships among humans, where learning and collaboration strengthen social solidarity.

Fourth, cultural value-based synergy (*Tri Hita Karana*) distinguishes technological implementation in Bali from that in other regions. As a philosophy of life, *Tri Hita Karana* provides a normative framework for integrating technology with local values. In this context, the implementation of information technology is not only assessed based on efficiency but also on its ability to maintain balance among humans, God, and the environment.

In the parahyangan aspect, technology can support religious activities, such as disseminating information about traditional ceremonies, schedules of religious events, and documentation of rituals. This demonstrates that technology does not necessarily conflict with spiritual values but can instead strengthen religious practices. UNESCO (2012) emphasizes that Balinese cultural systems, including *Tri Hita Karana*, are part of world cultural heritage with universal value.

In the pawongan aspect, information technology can enhance communication and social interaction among village members. For instance, the use of messaging applications or digital platforms for coordinating village activities can increase community participation. This aligns with participatory development concepts emphasizing community involvement in development processes (United Nations, 2015).

In the palemahan aspect, technology can support environmental management, such as information systems related to waste management, cleanliness, and natural resource conservation. Thus, information technology contributes not only to economic and social aspects but also to environmental sustainability.

The synergy between Administrative Villages and Customary Villages in implementing information technology based on *Tri Hita Karana* also reflects the integration of modernity and tradition. On one hand, technology introduces modern values such as efficiency, transparency, and accountability. On the other hand, Customary Villages preserve traditional values that form the identity of the community. This synergy creates a development model that is both adaptive to change and rooted in local wisdom.

However, the implementation of this synergy is not without challenges. One major challenge is resistance to change, particularly from those who strongly adhere to tradition. Additionally, limitations in technological infrastructure and funding hinder the development of integrated information systems. Therefore, strong commitment from all stakeholders is required to overcome these challenges.

From a theoretical perspective, the synergy between Administrative Villages and Customary Villages in information technology implementation can be understood as a form of multi-level governance involving both formal and informal actors in development processes (Ansell & Gash, 2008). This approach emphasizes the importance of dialogue, trust, and shared commitment in achieving common goals.

In conclusion, the forms of synergy between Customary Villages and Administrative Villages in implementing information technology based on *Tri Hita Karana* in Duda Timur Village encompass four main aspects: institutional synergy, information system synergy, human resource synergy, and cultural value-based synergy. This synergy not only enhances the effectiveness of technological implementation but also maintains social harmony and cultural sustainability. Therefore, developing a synergy model based on local wisdom is essential in achieving sustainable and equitable village development.

### **The Functions of Synergy between Customary Villages and Administrative Villages in the Implementation of Information Technology Based on *Tri Hita Karana***

The synergy between Customary Villages (*Desa Adat*) and Administrative Villages (*Desa Dinas*) in the implementation of information technology (IT) in Duda Timur Village is not only structural in nature but also performs various strategic functions in supporting effective, harmonious, and sustainable village governance. These functions cannot be separated from the dual institutional context of villages in Bali and the philosophy of *Tri Hita Karana* as a foundational value system. From this perspective, synergy is not merely a coordination mechanism but also serves as an integrative instrument between modern and traditional systems. In general, the main functions of synergy between Customary Villages and Administrative Villages can be categorized into several dimensions: integrative, coordinative, participatory, cultural, technological adaptive, and sustainability functions.

First, the integrative function is the primary function of synergy, connecting two different institutional systems. Administrative Villages function as implementers of formal governmental administration, while Customary Villages serve as guardians of social, cultural, and religious values in Balinese society. In the context of information technology implementation, this integrative function is reflected in efforts to unify digital administrative systems with adat-based social systems. Without such integration, technological implementation may lead to dualism in data and policies. Studies indicate that synergy between Administrative Villages and Customary Villages can create role alignment through effective communication and coordination, allowing each institution to complement the other (Angga & Pradana, 2021).

Second, the coordinative function ensures that every policy and program based on information technology can be implemented harmoniously between the two institutions. This function is realized through deliberation forums, coordination meetings, and intensive communication between village officials and customary leaders. Coordination is essential because both institutions have different authorities but are interrelated in community life. In practice, effective coordination prevents overlapping authority and accelerates the implementation of technology-based programs. This aligns with findings that the success of village synergy is largely determined by the intensity of communication and mutual understanding between institutions (Angga & Pradana, 2021).

---

Third, the participatory function plays an important role in increasing community involvement in the use of information technology. Customary Villages have strong influence in fostering community participation due to their close connection with the social and cultural life of residents. In this context, Customary Villages act as mediators that encourage the community to accept and utilize information technology. Research by Ernawati (2019) shows that Customary Villages play a dominant role in enhancing community participation because they are based on trust and local values. Thus, synergy between Administrative Villages and Customary Villages functions as a bridge between technological policies and social acceptance within the community.

Fourth, the cultural function is particularly significant in the Balinese context, where information technology must align with local cultural values. Customary Villages play a crucial role as custodians of *Tri Hita Karana* values, which encompass harmonious relationships between humans and God, among humans, and between humans and the environment (Suarmini, 2018). In the implementation of information technology, this cultural function ensures that technology does not erode traditional values but instead strengthens them. For instance, technology can be used to document customary activities, disseminate information about religious ceremonies, and sustain traditions. Therefore, synergy functions as a cultural filter in the digitalization process.

Fifth, the technological adaptive function highlights the role of synergy in helping rural communities adapt to technological advancements. Not all community members possess equal ability to access and use information technology. In this regard, Administrative Villages provide technological infrastructure and systems, while Customary Villages assist in socialization and education processes. Studies on the use of technology in customary villages indicate that technology facilitates access to information and improves the effectiveness of community activities, although its utilization remains suboptimal in some areas (Darmaastawan et al., 2021). Therefore, synergy serves as a means to gradually enhance digital literacy among community members.

Sixth, the sustainability function relates to maintaining balance between technological development and the preservation of environmental and cultural values. In the *Tri Hita Karana* framework, sustainability is not only viewed from an economic perspective but also from social and ecological dimensions. The synergy between Customary Villages and Administrative Villages enables the application of technology in environmental management, such as waste management information systems, natural resource monitoring, and the preservation of sacred areas. Customary Villages play a significant role in maintaining environmental balance through customary regulations (*awig-awig*), while Administrative Villages support these efforts through policies and development programs (PUPRKIM Bali, 2024).

The function of synergy can also be understood from the perspective of socio-cultural resilience. In the era of globalization and digitalization, rural communities face various challenges, including shifts in values and lifestyles. Synergy between Customary Villages and Administrative Villages acts as a mechanism to protect local values, ensuring that communities maintain strong cultural identities. *Tri Hita Karana* as a philosophy of life strengthens socio-cultural resilience through balanced relationships among humans, God, and the environment.

Additionally, synergy serves a social legitimacy function in the implementation of information technology. Policies or programs initiated solely by Administrative Villages often face limited acceptance if not supported by Customary Villages. Conversely, when Customary Villages are involved, public trust in such programs increases. This indicates that synergy functions as a legitimacy mechanism that strengthens policy implementation.

In the context of Duda Timur Village, these functions are interrelated and form a holistic system. The synergy between Customary Villages and Administrative Villages not only enhances the effectiveness of information technology implementation but also maintains a balance between modernization and tradition. This is in line with the concept of *Tri Hita Karana*, which emphasizes harmony in spiritual, social, and environmental aspects of Balinese life.

However, these functions do not always operate optimally. Several challenges frequently arise, including differences in perception between institutions, limited human resources, and inadequate integration of technological systems. Therefore, strengthening synergy requires efforts such as improving human resource capacity, developing integrated information systems, and reinforcing regulations that support collaboration between Customary Villages and Administrative Villages.

In conclusion, the functions of synergy between Customary Villages and Administrative Villages in the implementation of information technology based on *Tri Hita Karana* in Duda Timur Village encompass integrative, coordinative, participatory, cultural, technological adaptive, sustainability, socio-cultural resilience, and social legitimacy functions. These functions demonstrate that synergy is not merely administrative cooperation but a strategic mechanism for achieving harmonious, sustainable, and locally grounded village development.

### **Implications of the Synergy between Customary Villages and Administrative Villages in the Implementation of Information Technology Based on *Tri Hita Karana***

The synergy between Customary Villages (*Desa Adat*) and Administrative Villages (*Desa Dinas*) in the implementation of information technology (IT) based on *Tri Hita Karana* in Duda Timur Village generates multidimensional implications, encompassing aspects of governance, socio-cultural life, economic development, and environmental sustainability. These implications not only reflect the direct outcomes of institutional collaboration but also indicate broader transformations in how rural communities adapt to modernization without losing their cultural identity.

First, the most evident implication is the improvement in the quality of village governance (*good governance*). The synergy between Administrative Villages and Customary Villages enables the establishment of governance systems that are more transparent, accountable, and participatory. The implementation of information technology, such as digitalization of administration and public services, becomes more effective when supported by the social legitimacy of Customary Villages. In this context, collaboration between the two institutions strengthens the principles of good governance, particularly in terms of transparency and community participation (Organisation for Economic Co-operation and Development, 2016). Through this synergy, the community is not only the object of services but also an active subject in decision-making processes.

Second, this synergy contributes to strengthening social cohesion and community integration. Customary Villages play a central role in maintaining social relationships based on values of togetherness and mutual cooperation, while Administrative Villages provide the formal framework for public services. When information technology is implemented collaboratively, communication among community members becomes more effective and inclusive. This reinforces the *pawongan* aspect of *Tri Hita Karana*, which emphasizes harmonious relationships among humans. Studies indicate that the integration of technology within local communities can enhance social interaction and strengthen social networks (Putnam, 2000).

Third, another important implication is the preservation and revitalization of local culture. One of the concerns in digitalization is the potential erosion of traditional cultural values. However, through synergy with Customary Villages, technology can instead be utilized as a tool to document, promote, and preserve culture. For example, customary and religious activities can be digitally documented and disseminated through online platforms. This aligns with the view that digital technology can support the safeguarding of intangible cultural heritage (UNESCO, 2003). Thus, the implications of synergy not only ensure cultural sustainability but also expand its reach.

Fourth, this synergy also has implications for improving digital literacy and human resource capacity. The collaborative process between Administrative Villages and Customary Villages encourages knowledge transfer and shared learning. Communities that were previously unfamiliar with technology become more open and capable of using it in daily life. This is crucial, considering that digital literacy is a key factor in the success of digital transformation at the local level (UNESCO, 2018). Within the *Tri Hita Karana* framework, this enhancement of human resource capacity also relates to strengthening the *pawongan* aspect through more productive social interactions.

Fifth, another implication is the increased efficiency and effectiveness of public services. The integration of information technology enables administrative processes to become faster, more accurate, and more transparent. The synergy between Administrative Villages and Customary Villages ensures that data used in public services are more comprehensive and valid, as they encompass both administrative and socio-cultural aspects. This is consistent with findings from the World Bank (2016), which state that digitalization can improve public service quality when supported by integrated and collaborative systems. As a result, the community directly benefits from improved service delivery.

Sixth, an equally important implication is the strengthening of environmental sustainability. Within the *Tri Hita Karana* concept, the *palemahan* aspect emphasizes the harmonious relationship between humans and the environment. The application of information technology can support better environmental management, such as waste monitoring systems, water resource management, and the preservation of sacred areas. Customary Villages, through customary regulations (*awig-awig*), play a significant role in environmental preservation, while Administrative Villages support these efforts through technology-based policies and programs (United Nations, 2015). This synergy creates a more effective and sustainable environmental management system.

Seventh, this synergy also has implications for strengthening the local economy. The utilization of information technology opens opportunities for rural communities to develop digital-based enterprises, such as marketing local products through online platforms. Customary Villages can help maintain the authenticity and cultural values embedded in these products, while Administrative Villages provide policy support and infrastructure facilitation. Thus, this synergy not only improves economic welfare but also preserves cultural identity within economic activities.

Eighth, another implication is the creation of a development model based on local wisdom. The synergy between Customary Villages and Administrative Villages in implementing *Tri Hita Karana*-based information technology can serve as a unique and contextual development model. This model integrates modern technology with traditional values, resulting in a more holistic development

approach. Academically, this aligns with the concept of culture-based development, which emphasizes the importance of local values in development processes (Soini & Birkeland, 2014).

Ninth, the implications of synergy are also reflected in the increased legitimacy of public policies. Policies formulated through collaboration between Administrative Villages and Customary Villages tend to be more widely accepted by the community because they carry both formal and social legitimacy. Administrative Villages provide legal legitimacy, while Customary Villages provide cultural legitimacy. This combination strengthens policy implementation and reduces community resistance to change, including in the adoption of information technology.

However, these positive implications are accompanied by several challenges. One major challenge is maintaining a balance between modernization and cultural preservation. If not properly managed, technology may disrupt social and cultural harmony. Additionally, the digital divide and limited infrastructure remain obstacles to technology implementation in rural areas. Therefore, comprehensive and sustainable strategies are required to ensure that the established synergy can deliver optimal benefits.

In the context of Duda Timur Village, these implications demonstrate that the implementation of information technology impacts not only technical aspects but also broader social transformations. The synergy between Customary Villages and Administrative Villages is key to achieving a balance between modernity and tradition, as reflected in the philosophy of *Tri Hita Karana*. Thus, the implications of this synergy are not only short-term but also have long-term effects on sustainable village development.

## Conclusion

Based on the discussion of the three research problems, it can be concluded that the synergy between Customary Villages and Administrative Villages in the implementation of *Tri Hita Karana*-based information technology in Duda Timur Village represents a strategic form of collaboration that integrates formal and traditional institutional systems. This synergy is manifested through policy coordination, information system integration, human resource capacity building, and the internalization of cultural values in the use of technology. By combining the administrative role of Administrative Villages and the cultural authority of Customary Villages, information technology functions not only as a tool of modernization but also as a means to maintain social harmony and the sustainability of local values.

This synergy plays a crucial role in supporting effective and inclusive village governance. Its functions include integrative, coordinative, participatory, cultural, adaptive, and sustainability roles, all of which strengthen the relationship between village government and the community. Through this synergy, the implementation of information technology improves public service quality, expands community participation, and gradually enhances digital literacy. Moreover, the presence of Customary Villages as providers of social legitimacy makes the digitalization process more acceptable to the community, as it remains aligned with cultural values.

The implications of this synergy demonstrate broad and sustainable impacts across governance, socio-cultural, economic, and environmental dimensions. The implementation of *Tri Hita Karana*-based information technology not only enhances efficiency and transparency but also strengthens social cohesion, preserves local culture, and supports sustainable development. Therefore, the synergy between Customary Villages and Administrative Villages in Duda Timur Village can serve as a model of local wisdom-based village development that is adaptive to technological advancement while maintaining a balance between modernity and tradition.

## References

- Angga, I. M. P., & Pradana, G. W. (2021). Sinergi desa dinas dan desa adat dalam penataan konsep Tri Hita Karana sebagai upaya pembangunan desa berkesinambungan. *Publika*, 9(4), 529–544. <https://doi.org/10.26740/publika.v9n4.p529-544>
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571. <https://doi.org/10.1093/jopart/mum032>
- Badan Pusat Statistik. (2022). *Statistik telekomunikasi Indonesia 2022*. Jakarta: BPS.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Darmaastawan, K., Saputra, K. O., & Wirastuti, N. M. A. E. D. (2021). Optimasi peran desa adat di Bali melalui teknologi informasi. *Majalah Ilmiah Teknologi Elektro*, 20(1), 145–152.
- Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research* (4th ed.). Thousand Oaks, CA: Sage Publications.

- Ernawati, D. P. (2019). Analisis sinergi desa pakraman dan desa dinas dalam peningkatan partisipasi masyarakat. *Jurnal Ilmiah MEA*, 3(2). <https://doi.org/10.31955/mea.v3i2.951>
- Kementerian Dalam Negeri Republik Indonesia. (2014). *Undang-Undang Nomor 6 Tahun 2014 tentang Desa*. Jakarta.
- Kementerian Komunikasi dan Informatika Republik Indonesia. (2020). *Indonesia digital roadmap 2021–2024*. Jakarta.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Organisation for Economic Co-operation and Development. (2016). *Open government: The global context and the way forward*. Paris: OECD Publishing.
- Pemerintah Provinsi Bali. (2019). *Peraturan Daerah Provinsi Bali Nomor 4 Tahun 2019 tentang Desa Adat di Bali*. Denpasar.
- PUPRKIM Provinsi Bali. (2024). Atribut desa adat di Bali berdasarkan konsepsi Tri Hita Karana.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- Soini, K., & Birkeland, I. (2014). Exploring the scientific discourse on cultural sustainability. *Geoforum*, 51, 213–223. <https://doi.org/10.1016/j.geoforum.2013.12.001>
- Suarmini, N. W. (2018). Peranan desa pakraman dalam memperkuat ketahanan sosial budaya melalui konsep Tri Hita Karana. *Jurnal Sosial Humaniora*.
- UNESCO. (2003). *Convention for the safeguarding of the intangible cultural heritage*. Paris: UNESCO.
- UNESCO. (2012). *Cultural landscape of Bali Province: The Subak System as a manifestation of the Tri Hita Karana philosophy*. Paris: UNESCO.
- UNESCO. (2018). *A global framework of reference on digital literacy skills*. Paris: UNESCO.
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. New York: United Nations.
- World Bank. (2016). *World development report 2016: Digital dividends*. Washington, DC: World Bank.