

An integrative model of smart rural tourism development: harmonizing community-based green economy and local wisdom in Sukasetia village, Indonesia

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Abstract

This study aims to develop an integrative model for smart rural tourism development by leveraging a community-based green economy and local wisdom in the Sukapulung Agrotourism Area, Sukasetia Village, Indonesia. Amidst accelerating digitalization, this research argues that socio-cultural foundations are key determinants for sustainable development. Using a qualitative case study design, data were gathered through in-depth interviews with ten key informants (village officials, Pokdarwis managers, and MSME actors), participant observation, and documentation. Data analysis was conducted through thematic coding, categorizing the dimensions of empowerment, green practices, and cultural values, and was validated through source triangulation. The findings indicate that smart tourism in Sukasetia is driven by the spirit of "Gotong Royong" (mutual cooperation) and an agrarian cultural heritage that serves as an ethical filter for green economy implementation. This study proposes an integrative model in which local wisdom serves as the foundation, community empowerment as the primary driver, and digitalisation as the accelerator. The novelty of this research lies in repositioning the "smart" paradigm from mere technological adoption to a governance approach grounded in cultural sovereignty.

Keywords: Green economy; Local wisdom; Smart rural tourism; Community empowerment; Village governance

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INTRODUCTION

(The transformation of rural tourism in the contemporary era has positioned villages not merely as tourist objects, but as strategic epicentres for socio-economic innovation. Amidst massive digitalization, the discourse on smart villages often gets trapped in technocentric ambitions that ignore intrinsic local values. In fact, the success of smart rural tourism depends heavily on how technology is synergized with environmental sustainability and the social resilience of local communities (Gretzel et al., 2020). Within this framework, the green economy paradigm emerges as a prerequisite for efficient resource management to minimize ecosystem degradation in tourist destinations (Gössling et al., 2018).

Several previous studies have explored the role of technology in advancing rural tourism, yet most continue to separate digital modernity from traditional values (Lane & Kastenholz, 2015). There is an academic tendency to view local wisdom solely as a complementary element rather than as the primary foundation of a smart tourism ecosystem (Buhalis & Amaranggana, 2015). This research gap is crucial, as village development driven by technological adoption without strengthening social capital often triggers governance vulnerabilities and low community participation (Scheyvens, 1999). Therefore, a policy reconstruction is needed that can place cultural identity as a central actor in every technological intervention.

The Sukapulung Agrotourism Area in Sukasetia Village presents an interesting phenomenon representing these dynamics. Although community-based tourism elements have been formed, the implementation of smart concepts and the green economy in this area remains partial and has not been integrated into a systematically institutionalized governance model. The gap between the ideal expected conditions and the field reality in Sukasetia Village can be identified in the following table:

Table 1. Identification of Tourism Development Issues in Sukasetia Village

Dimension	Ideal Condition	Existing Condition	Primary Issue
Governance	Institutionalized and professional strategic management.	Management is still embryonic and adaptive.	Absence of a formal governance model.
Green Economy	Systematic circular economy practices and integrated waste management.	Green awareness exists, but practices remain sporadic.	Green implementation is not yet system-integrated.
Digitalization	Data-driven smart tourism ecosystem.	Limited to using social media for promotion.	Still at the digital presence stage.
Local Wisdom	Culture is the core spirit of tourism development.	Local values exist but are not yet used as a basis for smart innovation.	Culture is still viewed as an object rather than a subject in the model.

The fundamental issue that arises is how to align green economy practices with local value systems to prevent "culture shock" at the grassroots level (Dangi & Jamal, 2016). The absence of an integrative model potentially causes tourism development in Sukasetia to lose its socio-cultural orientation, making the strengthening of local actor capacity through empowerment an urgent necessity (Zhang et al., 2022).

The urgency of integrating local wisdom into smart tourism stems from the argument that cultural values act as an "ethical filter," protecting the community from the negative impacts of tourism industrialization (Higgins-Desbiolles, 2018). Local wisdom, such as traditional environmental ethics and the spirit of collectivity, has proven effective in increasing village resilience amid global market fluctuations. By utilizing local wisdom as a developmental foundation, the implemented green economy model will grow organically as a manifestation of existing traditions rather than a mere administrative burden on villagers. This aligns with the principles of inclusive government governance, where multi-stakeholder collaboration is the key to the success of policy innovation (OECD, 2020).

Departing from this reality, this research aims to formulate an integrative model for smart rural tourism development that positions the cultural dimension as the gravitational pole of development. Unlike previous research trends that often position technology as the final achievement (Gretzel et al., 2020), this study repositions digitalization as a strategic accelerator to strengthen local wisdom structures and expand the reach of the green economy. The novelty of this study lies in the proposal of a "Culture-Based Smart Rural Tourism" model that integrates smart pillars into the value ecosystem of Sukasetia Village holistically. Theoretically, this research makes a significant contribution to the discourse on Government Science regarding strategies for reconstructing smart village innovations to remain grounded in cultural sovereignty and local community wisdom.

METHODS

(This research applies a qualitative approach with a case study design to explore the phenomenon of rural tourism development in-depth and contextually. The case study design was chosen to understand the complex interactions between green economy variables, local wisdom,

and digital transformation within the specific village government ecosystem of Sukasetia Village (Yin, 2018).

Informants and Research Location

The research is located in the Sukapulung Agrotourism Area, Sukasetia Village, Cihaurbeuti District, Ciamis Regency, Indonesia. Research informants were determined using a purposive sampling technique to ensure data representation based on competence and strategic roles in village governance. Ten key informants were involved, consisting of: a. Three village officials to represent the perspective of policy and formal regulation. b. Four managers of the Tourism Awareness Group (Pokdarwis) will provide operational data and local wisdom implementation in the field. c. Three agrotourism MSME actors focusing on green economy-based production.

Data Collection

Data were collected using three main techniques to ensure rich information. First, semi-structured in-depth interviews were conducted to explore informants' perceptions of integrating cultural values into digital innovation. Second, participant observation was conducted in the tourism area to verify the actual practices of the green economy and the use of technology by visitors and managers. Third, a documentation study of Village Regulations (Perdes), village profiles, and Pokdarwis annual reports was used to support the validity of the primary data.

Data Analysis and Coding

Data analysis was conducted inductively following the thematic analysis model. All interview results were transcribed in full (verbatim) and analyzed through the following stages: **Coding Stage:** At this stage, raw data were summarized into smaller meaningful units. Researchers conducted open coding to identify initial categories, including "circular practices," "ethics of mutual cooperation," and "digital literacy barriers." Subsequently, axial coding was performed to link these categories into main themes relevant to the culture-based smart tourism model.

Data Validation and Credibility

To ensure the credibility and subjectivity of the research results, source triangulation was performed by comparing data from various groups of informants (government, managers, and business actors). Furthermore, member checks were conducted, in which draft findings were reconfirmed with several informants to ensure that the researchers' interpretations aligned with the realities experienced in the field.

RESULTS AND DISCUSSION

a. The Construction of Culture-Based Smart Village Governance

Research findings indicate that the implementation of the Smart Village concept in Sukasetia Village, Cihaurbeuti District, Ciamis Regency, is not merely technical digitalization, but an effort to strengthen cultural sovereignty through village regulations. The village government acts as a "gatekeeper", ensuring that technological interventions align with social order. Based on interviews with the entire village's official apparatus, there is a consensus that innovation must submit to local norms. The village government actors representatively affirm this:

Informant (Village Secretary): "We realize that digitalization is necessary, but in Sukasetia Village, technology cannot be forced in without 'asking permission' from the culture. Our focus in the village government is to ensure that every 'Smart Village' innovation we adopt must be able to strengthen local wisdom, rather than erode it..."

This view is validated by other informants from the village official element who consistently state that village regulations must serve as an ethical filter. This analysis confirms that from a Government Science perspective, the success of innovation at the rural level depends heavily on the capacity of local government to negotiate between the demands of modernity and the maintenance of local identity.

b. Integration of Local Wisdom in Tourism Operations

At the implementation level, the "smart" aspect manifests as resource management efficiency grounded in traditional environmental ethics. Through data triangulation from four Pokdarwi

managers, a consistent pattern emerged: the sustainability of Sukapulung agrotourism relies on transforming "Gotong Royong" values into operational capital. This strategy addresses the challenge of sustainable tourism, positioning technology as an accelerator while noble values remain the core spirit of management. As expressed by one member of the tourism awareness group:

Informant (Pokdarwis Chairperson): "For us in the field, the 'Smart' concept is not just about having an application or free WiFi. Our 'smartness' is in how we package farming traditions and the spirit of mutual cooperation into a tourist attraction. For example, waste management... returning to old values; we don't want plastic ruining the land of our ancestors..."

These data show that the use of technology (such as social media for promotion) goes hand in hand with cultural conservation, creating a tourism model that is not only digitally "smart" but also ecologically "wise."

c. Synergy of Green Economy and Local Community Empowerment

The involvement of the micro-scale private sector (MSMEs) indicates that the green economy paradigm has been internalized into community production patterns. Community empowerment in Sukasetia Village, Cihaurbeuti District, Ciamis Regency, Indonesia, is no longer top-down but grows through the utilization of local biodiversity, managed in an environmentally friendly manner.

Informant (Local Food MSME Actor): "Since this area was developed with a green concept, we have been taught to utilize what is in our own gardens. Our food products no longer use single-use packaging... So, the green economy for us is a way to keep the kitchen fires burning without damaging the surrounding nature."

This statement proves that the green economy in Sukasetia Village is not just a market trend, but a survival strategy aligned with environmental preservation. The use of social media by MSME actors strengthens market reach without sacrificing local wisdom principles in their production processes.

Table 2. Integrative Model Framework of Culture-Based Smart Rural Tourism

Model Component	Primary Focus	Role in Ecosystem	Empirical Evidence in the Field
Local Wisdom	Mutual Cooperation & Agrarian Culture	Ethical Foundation: Maintaining village socio-cultural identity.	Tourism land arrangement based on local tradition.
Green Economy	Circular Economy & Local Products	Core System: Ensuring economic and natural sustainability.	Use of local raw materials and eco-friendly packaging.
Empowerment	Actor Capacity & Independence	Primary Driver: Transforming the community into subjects.	Involvement of local MSMEs in the tourism supply chain.
Digitalization	Social Media & Digital Literacy	Accelerator: Expanding market reach and efficiency.	Promotion via Instagram and WhatsApp by local actors.

This model reinforces that the success of smart tourism is not determined solely by the sophistication of digital infrastructure, but by the integrity of the system that connects technology with human values and environmental sustainability. These findings expand the concept of smart tourism from Gretzel et al. (2020) by adding the dimension of local wisdom as a key element in village transformation in developing countries. By placing culture at the centre, tourism development in Sukasetia becomes more inclusive and more resilient to global market fluctuations.

CONCLUSION

(This research proves that the development of smart rural tourism in the Sukapulung Agrotourism Area, Sukasetia Village, Cihaurbeuti District, Ciamis Regency, cannot be realized

through technocentric technological adoption alone. The success of this model relies entirely on the systemic integration between community empowerment, green economy implementation, and digital technology aligned with local wisdom. The research findings show that local wisdom, such as the spirit of "Gotong Royong" and agrarian ethics, serves as an ethical foundation and a filter against the impacts of tourism industrialization. Meanwhile, the green economy provides a framework for environmental sustainability, and digitalization serves as an accelerator of destination competitiveness in the global market.

Limitations and future direction

(The contribution of this research is the formulation of the "Culture-Based Smart Rural Tourism" model, which shifts the "smart" paradigm from mere digital device utilization to a culture-based governance approach. This study recommends that village governments and tourism managers prioritize policies based on community sovereignty and local social capital. Thus, rural tourism development is not only oriented toward short-term economic growth but also toward long-term socio-cultural and ecological resilience.

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Declarations

(The authors are fully responsible for all stages of the research, from the construction of the conceptual design, field data collection, and data analysis, to the finalization of the manuscript. The authors have independently reviewed the integrity of the data and the validity of the findings presented in this article.

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