

Research Article

Innovation in the Development of the Cempalagi Historical Tourism Area Based on a Digital Ecosystem in Bone Regency

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Abstract.

This study analyzes innovation strategies for developing the Cempalagi historical tourism area based on a digital ecosystem in Bone Regency, South Sulawesi. Located in Mallari Village, Awangpone District, Cempalagi Hill holds significant historical value as the site where Arung Palakka, the 15th King of Bone, made his oath of liberation in the 17th century. Despite its cultural importance, the area faces major challenges, particularly in technology integration and community involvement in digital tourism initiatives. Employing a qualitative case study approach, data were collected through in-depth interviews, participatory observation, and document analysis. Data were analyzed thematically based on the models of Miles and Huberman as well as Braun and Clarke. The theoretical framework draws from Rickard and Raymond's theory of community-based tourism (CBT) innovation, digital destination ecosystem concepts and the CBT approach. Findings reveal that innovation in the Cempalagi tourism area remains limited, with minimal technological adoption and weak community engagement. The absence of specific local government policies and underdeveloped digital infrastructure pose significant barriers. However, there are promising opportunities for multistakeholder collaboration, youth participation, and the creative use of digital media to revitalize historical and cultural tourism. This study recommends integrating local historical narratives into digital platforms, strengthening community capacities, and formulating supportive local tourism policies. Through collaborative and innovative efforts, Cempalagi has the potential to become a digital-based historical tourism icon that reinforces Bone's cultural identity and broadens its global outreach.

Keywords: tourism innovation, historical tourism, digital ecosystem, Cempalagi, Arung Palakka, community-based tourism

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1. Introduction

Cempalagi is a hilly area located along the coast of the Bone Bay, specifically in Mallari Village, Awangpone District, Bone Regency, South Sulawesi, approximately 14 kilometers north of Watampone City. This area offers an exotic natural landscape while also holding significant historical value in the history of the Bone Kingdom. One of the most monumental moments remembered in this area is the struggle of the 15th King of



Bone, La Tenritatta Arung Palakka, who in the 17th century vowed to liberate the people of Bone from the domination of the Gowa Sultanate.

At the top of Cempalagi Hill, Arung Palakka not only declared his determination, but also left physical traces that have become important historical heritage:

1. Akkarebbeseng – claw-like hand marks on the wall of a cave,
2. Attuddukeng – a heel imprint on a rock at the shoreline,
3. Assingkerukeng – a symbolic knot representing his vow to liberate his people.

These three relics stand as symbols of resistance and the spirit of independence that are deeply embedded in the identity of the Bone people. The tradition of retracing the historical journey of Arung Palakka, held annually by the Bone Regency Government in collaboration with the Baubau City Government as part of Bone Anniversary celebrations, serves as a means of preserving these historical values. This event also reflects the historical bond between Bone and Buton since 1660, a connection that remains culturally and emotionally intact to this day—embodied in the expression, “Buton is Bone from the east, and Bone is Buton from the west.”

Nevertheless, the development of Cempalagi as a historical tourism destination still faces serious challenges in terms of innovation, management, and digital transformation. According to data from the Bone Regency Department of Culture and Tourism (2022), the number of visitors to this area remains low—under 1,000 visits per year—and is mostly concentrated around the Bone Anniversary period. Furthermore, digital infrastructure, including internet connectivity, digital information boards, and online reservation systems, is still inadequately available in the area. This highlights a significant gap between the area’s rich historical-cultural potential and its actual capacity to attract modern tourists who increasingly rely on digital technologies.

Amid the global digital transformation, adopting a digital ecosystem approach in the development of historical tourism destinations has become an urgent need. This concept involves not only the digitalization of historical content and online promotion but also the development of technology-based infrastructure such as interactive applications, augmented reality (AR), virtual reality (VR), online booking systems, visitor data tracking, and the use of social media as a marketing channel. This approach also creates space for local community participation through digital training, strengthening of the creative economy, and inclusive revitalization of cultural identity.

Theoretically, studies on innovation in historical tourism destinations in underdeveloped regions remain scarce. Drawing on Rickard and Raymond's theory of community-based tourism innovation [1] and the digital destination ecosystem concept proposed by [2], this study addresses that gap by exploring innovative development based on a digital ecosystem within the local context of Bone, which represents an underdeveloped region with rich historical resources that have yet to be fully leveraged. Most literature tends to focus on urban heritage areas [3], mainstream destinations in developed countries [4], or regions already integrated with smart tourism systems. This study addresses that gap by exploring innovative development based on a digital ecosystem within the local context of Bone, which represents an underdeveloped region with rich historical resources that have yet to be fully leveraged.

Against this backdrop, this research aims to formulate an innovation model for developing the Cempalagi Historical Tourism Area based on a digital ecosystem. This model is expected not only to enhance the competitiveness of the destination but also to strengthen the interconnection between technology, local culture, institutional capacity, and community involvement. This dissertation aspires to offer both theoretical and practical contributions to the development of inclusive and sustainable digital-based historical tourism destinations, particularly in the local context of Bone Regency.

2. Methods

This study employs a descriptive qualitative approach with an instrumental case study design [5], aiming to gain an in-depth understanding of the dynamics in developing the Cempalagi Historical Tourism Area based on a digital ecosystem. The study not only focuses on describing the situation but also intends to explain a conceptual model that can be replicated in similar contexts in other regions.

Research Location and Focus: The research was conducted in the Cempalagi historical tourism area, Mallari Village, Awangpone District, Bone Regency, selected due to its high historical potential that has not yet been fully optimized through digital approaches. The primary focus is the relationship between historical values, local cultural potential, and the integration of digital technology in the development of the historical tourism destination.

Subjects and Data Collection Techniques: Data were collected from 18 key informants, purposively sampled based on their relevance and direct involvement in the

issues studied. The composition of informants is as follows: (a) 5 individuals from local government (Tourism Office, Communication and Information Office, and Mallari Village Government); (b) 6 individuals from the local community (traditional leaders, cultural practitioners, organizers of the historical pilgrimage events); (c) 4 tourists and visitors participating in pilgrimage activities or visiting the historical site; (d) 3 local business actors and tourism digitalization activists.

Data collection techniques included: (a) In-depth interviews, conducted semi-structured with topic guides around historical perception, innovation, digital participation, and expectations regarding destination development; (b) Participatory observation, especially during the annual pilgrimage event, as well as observations of the physical environment, facilities, and digital infrastructure conditions; (c) Document studies, covering regional tourism planning documents, annual reports from offices, local historical publications, and statistics on visitation and internet penetration in Bone Regency.

Data Triangulation and Validity: The study applies source and technique triangulation, namely (a) Source triangulation, comparing information from government, community, and tourists; (b) Method triangulation, comparing findings from interviews, direct observation, and official documents; (c) Member checks with 7 main informants to confirm the alignment of the researcher's interpretation with the informants' intended meanings.

Data Analysis Techniques: Data were analyzed using [6], conducted systematically in six stages:

Data familiarization – all interview results were transcribed, read repeatedly, and manually coded;

Initial code generation – codes were developed based on topics such as “limited digitalization,” “forgotten historical potential,” “community participation,” and “minimal policy support”;

Theme searching – codes were grouped into major themes such as: (1) Digital Infrastructure Gap, (2) Historical Values as the Basis of Innovation, (3) Potential for Community Digital Collaboration, and (4) Institutional and Digital Literacy Constraints;

Theme reviewing – themes were reviewed by comparing across informants and data collection methods;

Theme defining and naming – each theme was defined in the context of the digital ecosystem system, for example, how “community participation” translates into digital initiatives such as online historical content or local digital training;

Thematic report writing – data were organized into an analytical narrative showing the relationship between local history and contextual digital transformation strategies.

This approach allows for the identification of meaningful patterns directly related to the digital ecosystem — namely the interaction between actors (community, government, tourists), platforms (digital technology), and content (historical and local cultural narratives).

3. Discussion

Innovation in the development of historical tourism destinations demands an approach that is not only technology-based but also sensitive to social structures and local cultural values. In this context, the approach of [1] on community-based tourism innovation is highly relevant to the Cempalagi area. The three forms of innovation—product, process, and social—can be contextually recognized in efforts to preserve the narrative of Arung Palakka.

1. Product innovation: Identified in the repackaging of historical narratives as cultural tourism potential, such as historical pilgrimages (napak tilas) and folk performances.
2. Process innovation: Emerging in the form of digital documentation by the community, although not yet standardized.
3. Social innovation: Evident from the initiatives of Mallari Village residents in accompanying tourists, albeit not yet facilitated through formal policies or training.

However, the contextualization of these innovations cannot be separated from the socio-cultural dynamics of Bone, which is known for having a community structure still strongly rooted in customary traditions and local patronage. Community participation tends to be based on social and symbolic relations rather than market or technology-driven incentives. Therefore, adopted innovations must follow a dialogical and adaptive approach, rather than a top-down or overly technocentric one.

Using [7] diffusion of innovations framework, qualitative data indicate that most people in the Cempalagi area are at the knowledge and persuasion stages. Information about the digital ecosystem, AR/VR technology, or digital storytelling remains limited to government actors and academics. The decision and implementation stages have not widely spread due to lack of infrastructure support and training. For example, many

residents still lack stable internet access and devices for independent digital content production.

This shows that although the integration of technologies such as AR/VR or interactive digital guides is part of long-term aspirational plans, their implementation still faces realistic constraints in terms of resources (financial, technical, and human resources). Even initiatives like digital storytelling have yet to be systematically utilized for education or promotion.

Meanwhile, the digital ecosystem framework as developed by [2] and [8] remains relevant as a long-term vision. However, its implementation requires a modular and gradual approach. An inclusive digital ecosystem for Bone must be built from the ground up through:

1. Empowerment of local digital communities (training digital guides, culture-based content creators),
2. Facilitation of basic infrastructure (internet access, provision of devices),
3. Inter-institutional partnerships (government, universities, cultural communities),
4. Digitalization of historical narratives with sensitivity to spiritual contexts and local values.

Within the sustainable tourism framework, this approach demands caution. The narrative of Arung Palakka's struggle contains dimensions of collective memory, resistance, and ethnic identity, thus posing potential risks if overly commercialized. Commodification of historical narratives without oversight of cultural values could erode the spiritual meaning embedded in sites such as Akkarebbeseng and Attuddukeng. Therefore, the principle of story sovereignty must be upheld to ensure that the community remains the primary guardian of their historical interpretation.

Additionally, the digital divide also presents a real challenge. There is a gap between actors who have digital access and literacy (e.g., civil servants and academics) and local communities still reliant on traditional media. Hence, development strategies must be inclusive, employing decentralized technology models and directly involving communities in content design and management.

This study demonstrates that the digital ecosystem-based tourism innovation model cannot be uniform but must be contextual and adaptive. The integration of theories from Rickard & Raymond, Rogers, and Gretzel provides a strong framework, but the main

contribution of this study is the emphasis on adapting these theories to the complex socio-cultural reality of Bone, deeply rooted in historical values, spirituality, and collective participation.

Thus, the digital approach to historical tourism is not only about technology but also about 'who holds the voice' in the historical narrative, and the extent to which the local community can access and manage these innovations sovereignly.

4. Conclusion

The development of the Cempalagi Historical Tourism Area requires an innovative approach that integrates digital technology, the preservation of local cultural values, and active community participation. A digital ecosystem-based approach enables the strengthening of connectivity between historical narratives, technological infrastructure, and local actors. However, the success of this transformation depends on the alignment of strategies with the local social, cultural, and resource capacity contexts.

Based on the findings and analysis in this study, development recommendations can be differentiated according to the time scale of implementation. In the implementation phase: (a) Short-term (1–2 years): Digitization of historical narratives and physical sites (e.g., the Cakar Arung Palakka site) through audiovisual documentation, interactive maps, or locally based simple websites; Basic training for youth and local communities in digital content creation and historical interpretation; Utilization of social media for participatory promotion of historical narratives and cultural activities. (b) Medium- and long-term (3–5 years and beyond): Development of AR/VR-based digital applications for immersive historical experiences; Establishment of a local digital policy ecosystem through regulations, incentives, and cross-sectoral integration; Creation of culture-based creative economy incubation centers as part of institutional and community economic empowerment.

This research has several limitations that should be acknowledged reflectively: (a) The study does not quantitatively measure community technological readiness, such as digital literacy levels, availability of devices, or internet access; (b) The creative economy dimension is still positioned as a potential area and has not been elaborated comprehensively in terms of economic data or local business models; (c) The evaluation of community acceptance or effectiveness of digital innovations remains descriptive and requires further empirical testing.

In light of these reflections, future research directions may include: (a) Evaluative studies on the implementation of the digital ecosystem model through experimental or longitudinal research to assess the effectiveness of digital transformation on tourism attractiveness and community engagement; (b) Quantitative studies on the digital capacity of local communities, infrastructure readiness, and the potential for developing a culture-based creative economy; (c) Analyses of digital public policy to identify structural barriers and opportunities for cross-institutional synergy in the development of technology-based destinations in underdeveloped regions.

By combining theoretical and contextual approaches, this dissertation aims to contribute to the development of historical tourism destinations that are not only digitally driven, but also inclusive, sustainable, and rooted in the local values of Bone.

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