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INNOVATING HERITAGE: DIGITAL ENTREPRENEURSHIP IN REVITALISING TRADITIONAL WEAVING FOR SUSTAINABLE COMMUNITY-BASED TOURISM

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Abstract:

Traditional *mengkuang* weaving, locally known as *Anyaman Suri*, represents an important cultural heritage in Kelantan, yet faces declining continuity due to rapid urbanisation, mass production, and the decreasing number of skilled artisans. This paper examines how innovation, design modernisation, and digital entrepreneurship can revitalise traditional weaving through a community-based tourism (CBT) model. Using a Participatory Action Research (PAR) approach, the study engaged women weavers in Pulau Suri through needs assessments, co-creation workshops, prototype development, and digital skills training. Early outcomes highlight the successful development of three new product categories—home décor, fashion accessories, and cultural souvenirs—together with the activation of Instagram

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and Facebook platforms to expand market access. Findings demonstrate that heritage-driven innovation, when complemented with digital marketing and e-commerce, enhances economic resilience, strengthens cultural preservation, and supports SDG-aligned community empowerment. This research contributes academically by integrating innovation theory, CBT principles, and digital entrepreneurship into a rural Malaysian context and provides practical implications for policymakers, MSMEs, and cultural tourism stakeholders.

Keywords:

Traditional Weaving, Digital Entrepreneurship, Community-Based Tourism, Cultural Heritage, Rural Women Empowerment

Introduction

Traditional handicrafts remain an important asset within Malaysia's cultural tourism landscape, particularly in rural regions where heritage crafts contribute to local identity and tourism attractiveness. In Kelantan, *mengkuang* weaving has long been practiced as an artisanal craft passed down through generations. However, the continuity of this cultural heritage is increasingly threatened by urban migration, limited youth interest, and competition from mass-produced goods. These challenges have resulted in reduced visibility, minimal income generation, and declining participation among artisans.

Community-based tourism (CBT) offers a strategic pathway to preserve and revive rural cultural heritage by placing local communities at the centre of tourism development. CBT emphasises local ownership, value retention within the community, and the preservation of cultural authenticity. Integrating digital entrepreneurship within this framework presents new opportunities to enhance product visibility, storytelling, market reach, and income diversification, particularly for rural women.

This study explores how innovation and digital transformation can strengthen the sustainability of traditional weaving in Pulau Suri, Tumpat, Kelantan, through a community-driven, participatory approach. This study was guided by three interrelated objectives:

- (i) to enhance innovation capability in traditional *mengkuang* weaving through design modernisation,
- (ii) to strengthen digital entrepreneurship among rural women artisans, and
- (iii) to integrate heritage crafts into a sustainable community-based tourism (CBT) framework.

The project outcomes demonstrate a clear alignment with these objectives. First, the development of diversified woven products directly reflects enhanced innovation capability, as artisans translated traditional techniques into contemporary product categories aligned with market demand. Second, the activation of social media platforms and the delivery of structured digital skills training addressed the objective of strengthening digital entrepreneurship by expanding market access and improving digital confidence. Third, increased community participation and the positioning of *Anyaman Surias* a cultural tourism asset support the broader CBT objective of local ownership, cultural preservation, and livelihood enhancement.

This alignment indicates that innovation, digitalisation, and CBT principles can be operationalised simultaneously within a heritage craft revitalisation initiative, rather than treated as isolated development interventions.

Heritage Crafts and Community-Based Tourism (CBT)

Heritage crafts form a cornerstone of rural cultural tourism, serving not only as economic assets but also as symbols of local identity, collective memory, and community pride. According to Basu (2022), traditional handicrafts contribute significantly to destination distinctiveness, allowing rural regions to differentiate themselves within competitive tourism markets. However, many heritage crafts across Southeast Asia face existential threats due to industrialisation, globalised consumer behaviour, and declining intergenerational transmission of skills. This erosion of cultural craftsmanship underscores the need for strategic revitalisation mechanisms that balance authenticity with contemporary market relevance (Sharma & Gupta, 2021). The preservation of heritage crafts therefore requires innovation, targeted capacity building, and the integration of sustainable tourism strategies.

Community-Based Tourism (CBT) offers a participatory model that positions local residents as primary decision-makers and beneficiaries of tourism development. Giampiccoli and Saayman (2018) argue that CBT fosters local empowerment, strengthens cultural preservation, and supports equitable economic distribution. In Malaysia, CBT has been increasingly adopted to enhance rural livelihoods, encourage women's participation in income-generating activities, and safeguard cultural traditions from commercial homogenisation (Omar & Karim, 2020). When heritage crafts are embedded into CBT initiatives, they create meaningful visitor engagement, enhance cultural authenticity, and reinforce local ownership of tourism products (Goodwin, 2019). Thus, CBT provides a conducive platform to integrate traditional weaving into sustainable tourism experiences, provided that communities possess adequate skills, resources, and market access.

Innovation Capability in Traditional Crafts

Innovation within traditional crafts encompasses the integration of contemporary design elements, product modernisation, and the strategic repositioning of heritage products to align with current consumer preferences. Montanes-Del-Rio and Medina-Garrido (2023) highlight that design innovation, colour experimentation, and product diversification enhance the commercial value of crafts without compromising cultural integrity. At the same time, innovation must be introduced sensitively to avoid over-commercialisation, which risks diminishing cultural authenticity and alienating traditional custodians (Basu, 2022).

Within the weaving context, innovation capability includes the ability to adapt patterns, modernise aesthetics, develop new product categories, and collaborate with designers and tourism stakeholders. When coupled with digital entrepreneurship, these innovations can reposition traditional weaving as both a cultural asset and a viable economic activity within community-based tourism.

Digital Entrepreneurship and Cultural Industries

Digital entrepreneurship plays a transformative role in expanding the visibility and economic sustainability of rural artisans. Ndou et al. (2022) emphasise that digital tools particularly social media, storytelling, and e-commerce enable artisans to reach broader markets, communicate product authenticity, and cultivate long-term customer engagement. Recent studies show that

digital literacy, online branding capabilities, and platform-specific marketing strategies significantly enhance artisans' competitiveness in cultural tourism markets (Ahmad et al., 2024; Lee & Lee, 2022).

In Malaysia, the digitalisation of rural tourism MSMEs has been identified as a key driver of income diversification and resilience, particularly post-pandemic (Murniati, 2021). Digital entrepreneurship thus acts as a mediating mechanism that strengthens the relationship between heritage-based tourism products and market performance. However, disparities in digital skills particularly among older artisans remain a persistent barrier to inclusive participation.

Hypotheses development

Based on the literature, the relationship between innovation capability, digital entrepreneurship, and CBT outcomes is theoretically supported. Innovation capability enhances product attractiveness and differentiation, while digital entrepreneurship enables wider market access and heritage storytelling, both of which contribute to stronger CBT performance.

Therefore, the following hypotheses are proposed:

H1: *Innovation capability has a positive influence on digital entrepreneurship among rural artisans.*

H2: *Digital entrepreneurship positively influences community-based tourism outcomes related to heritage crafts.*

H3: *Digital entrepreneurship mediates the relationship between innovation capability and heritage-based community-based tourism performance.*

These hypotheses are aligned with existing theoretical perspectives within cultural economics, digital entrepreneurship, and sustainable tourism development (Ahmad et al., 2024; Ndou et al., 2022; Goodwin, 2019).

Methodology

This study employed a Participatory Action Research (PAR) design to ensure that the development of heritage-based tourism products and digital initiatives was community-driven and contextually grounded. The methodological process was operationalised through five structured phases.

Phase 1: Needs Assessment

The research commenced with a systematic needs assessment, during which in-depth interviews were conducted with weavers, community leaders, and tourism officers. This phase aimed to identify existing skill gaps, map cultural assets, understand local aspirations, and determine the community's readiness for innovation-driven initiatives. The information gathered served as the foundational dataset guiding subsequent interventions.

Phase 2: Co-Creation Workshops

Following the needs assessment, the study implemented a series of co-creation workshops that utilised collaborative design techniques. These workshops brought together artisans and

researchers to merge traditional *mengkuang* weaving skills with contemporary design elements, including modern colour palettes and innovative pattern adaptations. This participatory approach ensured that product modernisation remained aligned with cultural authenticity while fulfilling evolving market preferences.

Phase 3: Prototype Development

In the third phase, the research team facilitated the development of prototype products and experiential tourism elements based on insights generated during co-creation sessions. These prototypes were subsequently tested in limited offline and online markets to observe consumer responses, feasibility, and market viability. This iterative prototyping process allowed for rapid refinement and evaluation of product attractiveness and tourism potential.

Phase 4: Digital Skills Training

The fourth phase involved structured digital capacity-building activities targeting rural women artisans. Training modules were delivered to enhance participants' competencies in social media branding, product photography, basic e-commerce operations, and digital storytelling. This phase functioned as a core component of the digital entrepreneurship element of the study, equipping local participants with essential tools for online market engagement.

Phase 5: Monitoring and Refinement

The final phase focused on ongoing monitoring and refinement. Feedback was systematically collected from artisans, consumers, and tourism stakeholders to assess the effectiveness of the prototypes and digital interventions. This continuous evaluation process allowed the research team to adjust design features, pricing strategies, branding elements, and digital marketing approaches to strengthen overall project outcomes.

Results and Findings

The implementation of the project generated several notable outcomes related to product innovation, digital engagement, community participation, and capacity-building milestones.

Product Innovation

This study resulted in the development of three distinct product categories: home décor items (e.g. table mats and wall art), fashion accessories (e.g. bags, clutches, keychains), and culturally inspired souvenirs. These outputs signify more than aesthetic diversification; they reflect an enhanced innovation capability among artisans, particularly in translating heritage knowledge into market-responsive designs.

From a practical perspective, product diversification reduces income dependency on a single product line and increases adaptability to tourism and retail markets. Theoretically, these findings support the notion that innovation in heritage crafts does not necessitate cultural dilution, provided that core production techniques and symbolic meanings are retained. This reinforces innovation-as-adaptation rather than innovation-as-replacement within heritage craft contexts.

Digital Platform Activation

Two digital platforms, Instagram and Facebook were strategically activated to support digital entrepreneurship outcomes. Instagram functioned primarily as a visual storytelling channel, highlighting weaving processes and artisan narratives, while Facebook facilitated community

engagement, product promotion, and tourism-related communication. Early engagement indicators showed consistent growth in follower interactions and inquiries, suggesting that even basic digital adoption can significantly enhance market visibility for rural artisans. Analytically, this finding demonstrates the mediating role of digital entrepreneurship in transforming innovation outputs into CBT-relevant economic opportunities. Digital platforms thus function not merely as marketing tools, but as enablers of cultural visibility and narrative control within heritage tourism.

Community Participation and Capacity Building

A total of women artisans from Pulau Suri participated in co-creation workshops and digital training sessions, resulting in observable improvements in confidence, collaborative engagement, and skill acquisition. While younger participants adapted more quickly to digital tools, older artisans demonstrated gradual but meaningful improvements, particularly in content creation and online communication. This outcome highlights capacity building as a critical enabler of inclusive CBT development. Rather than positioning digital literacy gaps as deficits, the findings suggest that participatory and paced training approaches can mitigate generational disparities and strengthen collective resilience within artisan communities.

Implementation Timeline Achievements

All project phases were completed according to schedule, enabling iterative feedback loops between needs assessment, product development, and digital deployment. The structured timeline was instrumental in maintaining community momentum and ensuring continuity between physical craft innovation and digital engagement. This underscores the importance of temporal coherence in participatory heritage projects, where prolonged gaps between activities can weaken community commitment and project sustainability.

Discussion

This study provides several critical insights into how innovation capability, digital entrepreneurship, and community-based tourism (CBT) interact within a rural heritage craft context. The findings demonstrate that while digital and design innovations can significantly enhance the visibility and economic potential of traditional *mengkuang* weaving, their effectiveness is shaped by structural, cultural, and capability-related constraints.

This study found that digital entrepreneurship enhanced the visibility and commercial reach of *Anyaman Suri* through social media engagement and online storytelling. However, persistent digital literacy gaps—particularly among older artisans—limited the depth and consistency of digital participation. These findings highlight that digital inclusion in rural heritage communities remains uneven and capability-dependent, rather than uniformly accessible. This supports earlier observations by Murniati (2021) that age, exposure, and educational background continue to influence digital readiness among rural MSMEs. Importantly, the findings suggest that one-off digital training initiatives are insufficient to achieve sustained digital engagement. Instead, literacy-sensitive and iterative capacity-building approaches are necessary to ensure equitable participation across generational groups. From a CBT perspective, this underscores that community empowerment through digital entrepreneurship must be treated as a long-term process rather than a short-term intervention.

Beyond individual capabilities, infrastructural limitations emerged as a structural constraint on digital adoption. Intermittent internet connectivity in Pulau Suri disrupted content posting, customer engagement, and online promotion activities, directly affecting the continuity of digital entrepreneurship efforts. This finding reinforces Ndou et al.'s (2022) argument that reliable digital infrastructure is a prerequisite for successful digital entrepreneurship in tourism-related sectors. The implication is that innovation and entrepreneurship initiatives alone are insufficient if not supported by enabling infrastructure. Addressing these constraints requires coordinated, multi-stakeholder involvement, particularly from government agencies and telecommunications providers, to ensure that rural CBT initiatives are not systematically disadvantaged in the digital economy.

A key contribution of this study lies in its examination of the relationship between innovation and cultural authenticity. The findings demonstrate that innovation and authenticity are not inherently contradictory. Through co-creation workshops, artisans successfully modernised product designs while preserving traditional weaving techniques and symbolic meanings. This indicates that innovation can function as cultural adaptation rather than cultural replacement when artisans retain agency in the design process. These findings extend existing heritage revitalisation literature by positioning co-creation not merely as a design method, but as a governance mechanism that safeguards cultural integrity. Consistent with Basu's (2022) caution against over-commercialisation, this study shows that participatory innovation provides a practical pathway to balance market responsiveness with heritage preservation within CBT frameworks.

Despite infrastructural and capability challenges, the study revealed strong potential for hybrid physical–digital heritage tourism models. The use of Instagram and Facebook enabled digital storytelling that complemented on-site weaving experiences by offering narrative-rich insights into artisanal processes and cultural meanings. This finding aligns with Fahd et al. (2022), who argue that digitally mediated heritage experiences can extend cultural engagement beyond physical destinations.

Analytically, this hybridisation expands the conceptual scope of CBT by demonstrating how digital platforms can function as extensions of place-based tourism rather than substitutes. Such hybrid models enhance destination visibility, support pre-visit and post-visit engagement, and provide alternative revenue pathways for rural communities with limited physical accessibility. Overall, the findings indicate that innovation capability, digital entrepreneurship, and CBT can operate synergistically to revitalise traditional crafts, provided that contextual challenges are actively managed. Digital capacity gaps, infrastructural limitations, and cultural sensitivity are not peripheral issues but central determinants of success. This study therefore reinforces the need for integrated heritage tourism frameworks that simultaneously address skills development, infrastructure readiness, and participatory governance.

Conclusion

This study contributes to community-based tourism and heritage craft literature by demonstrating how innovation capability and digital entrepreneurship can be jointly operationalised within a participatory heritage revitalisation model. Empirically, it provides evidence from a rural Malaysian context that traditional crafts can be economically revitalised without compromising cultural authenticity when artisans are actively involved in design and digital decision-making.

Theoretically, the study extends CBT frameworks by positioning digital entrepreneurship as a mediating mechanism that translates heritage innovation into sustainable tourism outcomes. Practically, it offers policymakers and development agencies an actionable model that integrates product innovation, capacity building, and digital inclusion within heritage-based tourism initiatives.

Future research should examine the long-term economic impacts of digital entrepreneurship on artisan livelihoods and explore scalable hybrid tourism models that combine physical craft experiences with immersive digital storytelling. Strengthening rural digital infrastructure and fostering cross-sector collaboration will be essential to sustaining heritage-based community tourism in an increasingly digital economy. Future initiatives should prioritise literacy-sensitive digital training, the establishment of strategic collaborations with tourism and creative industry stakeholders, and continuous monitoring to refine product design, branding, and tourism experiences. Empowering community leadership and enhancing digital resilience will be key to sustaining the momentum of this heritage revitalisation effort. Collectively, these strategies contribute not only to the preservation of *Anyaman Suri* a cultural legacy but also to the advancement of inclusive, sustainable community-based tourism in Malaysia.

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