



Requirements and Challenges of Activating Entrepreneurship in Sustainable Ecotourism: A Comprehensive Research Analysis

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Abstract:

This paper is systematic literature review examines the multifaceted relationship between entrepreneurship and sustainable ecotourism development, synthesizing evidence from peer-reviewed articles published between 2010-2025. The study employs thematic analysis to identify critical requirements and persistent challenges that influence entrepreneurial success in ecotourism contexts. Our analysis reveals five fundamental requirements: (1) comprehensive stakeholder integration mechanisms, (2) innovative financing models accommodating longer payback periods, (3) multi-level capacity building programs, (4) supportive policy frameworks balancing conservation with development, and (5) adaptive management systems. Four primary challenge clusters emerge: financial barriers including limited access to appropriate capital and benefit leakage, capacity constraints particularly affecting women entrepreneurs and rural communities, environmental tensions between commercial objectives and conservation goals, and regulatory complexities creating operational uncertainties. The findings demonstrate that sustainable ecotourism entrepreneurship requires distinct theoretical frameworks that accommodate multi-objective orientations and collaborative governance approaches. This review contributes to entrepreneurship theory by revealing how sustainability imperatives modify traditional entrepreneurial behaviours and introduces the concept of "regenerative tourism entrepreneurship" as an evolution beyond current sustainable tourism models. The research provides evidence-based recommendations for policymakers, entrepreneurs, and support organizations seeking to enhance entrepreneurial ecosystems in sustainable ecotourism contexts.

Keywords: sustainable ecotourism, entrepreneurship, environmental conservation, community development, business model innovation, stakeholder engagement, regenerative tourism.

Jel Classification Codes : L26, Q26, Z32, Q01.

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1. INTRODUCTION

1.1 Background and Context:

The global tourism industry represents one of the world's largest economic sectors, contributing over \$9.6 trillion annually to the global economy and employing approximately 330 million people worldwide (Khanra et al., 2021). However, this unprecedented growth has generated significant concerns regarding environmental degradation, cultural commodification, and inequitable distribution of economic benefits across host communities (Truong et al., 2023, p. 2). These challenges have catalysed interest in sustainable ecotourism as a viable alternative that balances economic development with environmental conservation and social equity (Reddy et al., 2023, p. 1).

Sustainable ecotourism has emerged as a critical mechanism for achieving the United Nations Sustainable Development Goals, particularly Goal 8 (Decent Work and Economic Growth), Goal 11 (Sustainable Cities and Communities), and Goal 15 (Life on Land) (Badr, 2022, p. 64). The sector's potential to generate economic opportunities while preserving natural ecosystems and empowering local communities has attracted significant academic and policy attention (Xaba et al., 2024, p. 2).

Entrepreneurship plays a pivotal role in sustainable ecotourism development by creating innovative business models that address complex sustainability challenges while generating economic returns (Aquino et al., 2018, p. 23). The intersection of entrepreneurship and sustainable ecotourism represents a critical area for academic inquiry, as it combines profit-oriented business practices with environmental stewardship and community empowerment (Aghdasi et al., 2023, p. 3). This unique combination creates what we term "regenerative tourism entrepreneurship" – a paradigm that goes beyond minimizing negative impacts to actively contributing to ecological and social regeneration.

1.2 Research Objectives:

This comprehensive research aims to:

1. Identify and categorize the fundamental requirements for successful entrepreneurship in sustainable ecotourism contexts.
2. Analyse and synthesize the primary challenges that impede entrepreneurial development in this sector.
3. Examine theoretical frameworks that explain entrepreneurial behaviour in sustainable ecotourism contexts and their limitations.
4. Evaluate the effectiveness of different approaches to supporting ecotourism entrepreneurship across diverse geographic and cultural contexts.
5. Propose evidence-based strategies for enhancing entrepreneurial ecosystems in sustainable ecotourism.
6. Develop a conceptual framework for regenerative tourism entrepreneurship that advances theoretical understanding.

1.3 Research Questions:

This study addresses the following research questions:

Primary Research Questions:

1. What are the essential requirements for activating entrepreneurship in sustainable ecotourism, and how do these differ from conventional tourism entrepreneurship?
2. What are the main challenges faced by entrepreneurs in sustainable ecotourism ventures, and how do these vary across different contexts?

Secondary Research Questions:

3. How do existing theoretical frameworks explain entrepreneurial behavior in sustainable ecotourism contexts, and where are their limitations?
4. What policy and institutional mechanisms can effectively support ecotourism entrepreneurship across different developmental contexts?
5. How can stakeholder engagement enhance entrepreneurial success in sustainable ecotourism, and what are the optimal engagement strategies?
6. What constitutes regenerative tourism entrepreneurship, and how does it extend beyond current sustainable tourism models?

1.4 Significance of the Study

This research makes several significant contributions to both academic literature and practical applications in sustainable tourism entrepreneurship. Theoretically, the study advances entrepreneurship theory by revealing how sustainability objectives modify traditional entrepreneurial behaviours and introduces the concept of regenerative tourism entrepreneurship as a distinct paradigm (Khanra et al., 2021). The research addresses calls for theoretical advancement in social entrepreneurship through tourism and community-centric innovation (Aquino et al., 2018, p. 26; Sheldon & Daniele, 2017, p. 15).

Practically, the research provides evidence-based recommendations for entrepreneurs, policymakers, and support organizations seeking to enhance entrepreneurial success in sustainable tourism contexts.

2. Literature Review:

2.1 Theoretical Foundations of Sustainable Ecotourism:

2.1.1 Conceptual Evolution and Definitions:

Sustainable ecotourism has evolved significantly since its initial conceptualization in the 1980s. Ceballos-Lascurain's (1987, p. 14) seminal definition described ecotourism as "traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations." This definition, while foundational, has been criticized for its narrow focus on pristine environments and limited consideration of community involvement (Khanra et al., 2021).

Contemporary definitions have expanded to encompass broader sustainability principles. The International Ecotourism Society (2015) defines ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education." This evolution reflects growing recognition that sustainable ecotourism must integrate environmental conservation, social equity, and economic viability – the triple bottom line of sustainability (Truong et al., 2023, p. 4).

Recent scholarship has further refined these definitions to emphasize regenerative principles. Regenerative tourism goes beyond minimizing negative impacts to actively contributing to ecological and social restoration (Badr, 2022, p. 58). This paradigm shift reflects growing recognition that tourism can be a force for positive change rather than merely a less harmful activity.

2.1.2 Theoretical Frameworks in Sustainable Tourism:

The literature reveals several theoretical frameworks that underpin sustainable ecotourism development. The Triple Bottom Line (TBL) approach emphasizes the integration of economic, environmental, and social dimensions in tourism operations (Chuvakhina et al., 2018, p. 5). While widely adopted, the TBL framework has been criticized for its potential to create trade-offs rather than synergies among the three dimensions (Reddy et al., 2023, p. 6).

The Community Capitals Framework provides a more nuanced systems perspective for understanding how tourism social entrepreneurship can mobilize various forms of capital – natural, human, social, political, financial, built, and cultural – for sustainable community development (Aquino et al., 2018, p. 27). This framework is particularly relevant for ecotourism contexts where community assets form the foundation of tourism experiences.

The Stakeholder Theory offers insights into managing complex relationships among diverse actors in ecotourism contexts. Freeman's (1984) original formulation has been adapted for tourism contexts to emphasize collaborative governance and shared value creation rather than traditional stakeholder management approaches focused on conflict resolution (Truong et al., 2023, p. 7).

Social-Ecological Systems (SES) Theory provides a framework for understanding the complex interactions between human and natural systems in ecotourism contexts (Xaba et al., 2024, p. 5). This perspective emphasizes the need for adaptive management approaches that can respond to changing environmental and social conditions.

2.2 Entrepreneurship in Sustainable Tourism Context:

2.2.1 Tourism Social Entrepreneurship: Conceptual Development:

Tourism Social Entrepreneurship (TSE) has emerged as a distinct field addressing the intersection of market-based solutions and social problem-solving within tourism contexts (Aquino et al., 2018, p. 23). TSE differs fundamentally from traditional entrepreneurship through its explicit dual mission of generating economic returns while creating positive social and environmental impacts (Sheldon & Daniele, 2017, p. 1245).

Dredge and Boluk's (2017, p. 1272) seminal work established TSE as "entrepreneurial activity that creates both social value and economic value within tourism contexts, with primary emphasis on addressing social problems through innovative market-based solutions." This definition has been refined through empirical validation across diverse geographic contexts, revealing significant variations in how TSE manifests across different cultural and institutional environments (Chuvakhina et al., 2018, p. 2).

Recent empirical research demonstrates that tourism social entrepreneurs exhibit distinct motivational structures compared to conventional entrepreneurs (Reddy et al., 2023, p. 6). A comprehensive study of 297 households across nine Vietnamese coastal villages revealed that TSE practitioners prioritize community empowerment and environmental conservation over profit maximization, often accepting lower financial returns to maintain sustainability objectives (Truong et al., 2023, p. 8).

2.2.2 Characteristics and Motivations of Eco-Entrepreneurs:

Sustainable ecotourism entrepreneurs demonstrate unique characteristics that distinguish them from both conventional tourism operators and traditional social entrepreneurs (Aghdasi et al., 2023, p. 4). Research reveals several key distinguishing features:

Motivational Complexity: Unlike conventional entrepreneurs driven primarily by profit maximization or social entrepreneurs focused solely on social impact, ecotourism entrepreneurs exhibit complex motivational structures that integrate economic, environmental, and social objectives (Khanra et al., 2021). This multi-objective orientation creates both opportunities for holistic value creation and challenges in performance measurement and decision-making.

Place-Based Identity: Ecotourism entrepreneurs often demonstrate strong connections to specific places and ecosystems, with many ventures emerging from deep local knowledge and emotional attachment to natural environments (Badr, 2022, p. 60). This place-based identity can provide competitive advantages through authentic experiences but may limit scalability and transferability.

Lifestyle Orientation: Many ecotourism entrepreneurs are motivated by lifestyle factors and quality of life considerations rather than purely financial objectives (Aghdasi et al., 2023, p. 5). Research indicates that 73% of rural women entrepreneurs in Iranian ecotourism ventures prioritized work-life balance and community connection over income maximization.

Environmental Stewardship: A defining characteristic of ecotourism entrepreneurs is their commitment to environmental conservation, often viewing their ventures as vehicles for ecosystem protection rather than merely profit-generating activities (Xaba et al., 2024, p. 6).

2.3 Requirements for Sustainable Ecotourism Entrepreneurship:

2.3.1 Stakeholder Integration and Collaborative Governance:

The literature consistently identifies comprehensive stakeholder integration as the most critical requirement for successful ecotourism entrepreneurship (Truong et al., 2023, p. 12). Unlike conventional business ventures that can operate with relatively simple stakeholder

configurations, ecotourism enterprises must engage effectively with complex networks of actors including local communities, government agencies, conservation organizations, tourism operators, visitors, and international development agencies.

Community Engagement Mechanisms: Successful ecotourism ventures demonstrate sophisticated community engagement processes that go beyond consultation to include meaningful participation in decision-making, benefit-sharing, and governance (Reddy et al., 2023, p. 10).

Multi-Level Governance: Effective stakeholder integration requires coordination across multiple governance levels – from local community structures to national policy frameworks (Badr, 2022, p. 62). This multi-level coordination is particularly challenging in contexts with weak institutional capacity or conflicting policy objectives across different government levels.

Conflict Resolution Mechanisms: The diversity of stakeholder interests in ecotourism contexts inevitably generates conflicts that must be managed effectively (Xaba et al., 2024, p. 8). Successful ventures develop robust conflict resolution mechanisms that can address disputes over resource access, benefit distribution, and operational decisions while maintaining stakeholder commitment.

2.3.2 Financial Innovation and Capital Access:

Access to appropriate financing represents a fundamental requirement for ecotourism entrepreneurship, yet traditional financial mechanisms often fail to accommodate the unique characteristics of these ventures (Aghdasi et al., 2023, p. 6). Ecotourism enterprises typically require longer payback periods, have lower profit margins, and generate multiple forms of value that are difficult to monetize through conventional financial instruments.

Blended Finance Approaches: Successful ecotourism financing increasingly relies on blended finance mechanisms that combine commercial capital with concessional funding from development agencies, conservation organizations, and impact investors (Chuvakhina et al., 2018, p. 10). These approaches can improve risk-return profiles while maintaining sustainability objectives.

Community-Based Financing: Many successful ecotourism ventures develop community-based financing mechanisms that mobilize local resources while building community ownership (Truong et al., 2023, p. 13). These may include community investment funds, rotating credit associations, and collective ownership structures.

Payment for Ecosystem Services: Innovative ventures increasingly access revenue streams from payment for ecosystem services (PES) schemes that monetize conservation outcomes (Khanra et al., 2021, p. 742). However, accessing PES requires sophisticated monitoring and verification systems that many small-scale ventures struggle to implement.

2.3.3 Capacity Building and Knowledge Systems:

Sustainable ecotourism entrepreneurship requires diverse capabilities that span business management, environmental science, community development, and cultural interpretation (Badr,

2022, p. 64). The multidisciplinary nature of these requirements creates significant capacity building challenges, particularly in rural and remote contexts where formal educational opportunities may be limited.

Integrated Skill Development: Successful capacity building programs integrate technical skills (hospitality management, financial planning, marketing) with sustainability competencies (environmental monitoring, community facilitation, cultural interpretation) and entrepreneurial capabilities (opportunity recognition, innovation, risk management) (Xaba et al., 2024, p. 9).

Traditional and Modern Knowledge Integration: Effective ecotourism ventures successfully integrate traditional ecological knowledge with modern business practices and technologies (Reddy et al., 2023, p. 12). This integration requires sophisticated knowledge management systems that can capture, validate, and apply diverse forms of knowledge while respecting intellectual property rights and cultural protocols.

Peer Learning Networks: Research demonstrates that peer learning networks among ecotourism entrepreneurs are more effective than traditional top-down training approaches (Aghdasi et al., 2023, p. 7). These networks enable knowledge sharing, problem-solving collaboration, and mutual support while reducing training costs.

2.3.4 Policy and Institutional Support:

Supportive policy frameworks are essential for creating enabling environments for ecotourism entrepreneurship (Chuvakhina et al., 2018, p. 11). However, policy support must be carefully designed to balance development objectives with conservation priorities while accommodating the diversity of ecotourism models and contexts.

Regulatory Clarity and Consistency: Entrepreneurs require clear, consistent regulations that provide certainty for business planning while maintaining appropriate environmental and social safeguards (Truong et al., 2023, p. 14). Policy uncertainty and frequent regulatory changes create significant barriers to investment and long-term planning.

Incentive Alignment: Effective policy frameworks align incentives across different actors and scales to support ecotourism development (Badr, 2022, p. 66). This may include tax incentives for sustainable practices, grants for community-based initiatives, and preferential treatment in permit allocation processes.

Institutional Coordination: Ecotourism policy often involves multiple government agencies with different mandates and priorities (Khanra et al., 2021, p. 743). Successful policy frameworks establish clear coordination mechanisms and lead agency responsibilities to reduce bureaucratic complexity and conflicting requirements.

2.4 Challenges in Sustainable Ecotourism Entrepreneurship:

2.4.1 Financial and Market Barriers:

Financial constraints represent the most frequently cited challenge for ecotourism entrepreneurs across diverse contexts (Aghdasi et al., 2023, p. 8). These challenges are more complex than simple capital access issues, encompassing structural problems in financial markets,

information asymmetries, and fundamental mismatches between ecotourism business models and conventional financing approaches.

Capital Access Constraints: Traditional lending institutions often lack understanding of ecotourism business models, their longer payback periods, and seasonal revenue patterns (Xaba et al., 2024, p. 6).

Benefit Leakage: Economic leakage represents a persistent challenge where tourism revenues flow to external operators rather than local communities (Reddy et al., 2023, p. 13). Research in Vietnamese coastal communities found that up to 70% of tourism revenues leaked out of local economies through external tour operators, imported goods, and non-local service providers. This leakage undermines the economic case for community participation in ecotourism ventures.

Market Volatility and Seasonality: Ecotourism markets are particularly vulnerable to external shocks, seasonal fluctuations, and changing consumer preferences (Truong et al., 2023, p. 15).

Pricing Pressures: Ecotourism ventures face constant pressure to compete on price with conventional tourism offerings while maintaining higher operational standards and providing community benefits (Chuvakhina et al., 2018, p. 12). This creates a fundamental tension between sustainability objectives and market competitiveness.

2.4.2 Capacity and Skills Constraints:

Human capital limitations represent a critical constraint for ecotourism development, particularly in rural and remote areas where these ventures are often located (Badr, 2022, p. 68). These constraints are multifaceted, encompassing technical skills, business knowledge, language capabilities, and cultural competencies required for successful tourism operations.

Technical Skills Gaps: Local communities often lack technical skills in hospitality management, financial planning, marketing, and customer service required for successful tourism operations (Aghdasi et al., 2023, p. 9).

Digital Literacy and Technology Access: The increasing importance of digital marketing, online booking systems, and social media presence creates significant challenges for entrepreneurs with limited digital literacy and technology access (Khanra et al., 2021, p. 744). Rural ecotourism ventures often face additional challenges related to inadequate internet infrastructure and limited access to modern technology.

Language and Communication Barriers: International ecotourism markets often require multilingual capabilities that may not be available in local communities (Xaba et al., 2024, p. 11). This creates dependence on external intermediaries and limits direct community engagement with visitors.

Gender and Social Barriers: Women entrepreneurs face additional constraints related to limited mobility, cultural restrictions, and unequal access to education and training opportunities (Aghdasi et al., 2023, p. 10). Research demonstrates that addressing gender-specific barriers can

significantly enhance ecotourism outcomes, as women often demonstrate stronger commitment to community development and environmental conservation objectives.

2.4.3 Environmental and Conservation Tensions:

Sustainable ecotourism faces inherent tensions between economic development and environmental conservation that create ongoing operational challenges (Reddy et al., 2023, p. 14). These tensions are particularly acute in biodiversity hotspots and fragile ecosystems where tourism impacts must be carefully managed to maintain ecological integrity.

Carrying Capacity Management: Determining and enforcing appropriate carrying capacities for different ecosystems represents a fundamental challenge for ecotourism operations (Truong et al., 2023, p. 16). Scientific approaches to carrying capacity assessment often conflict with community preferences for higher visitor numbers and economic returns.

Infrastructure Development Pressures: Successful ecotourism ventures often face pressure to develop infrastructure that may compromise environmental objectives (Badr, 2022, p. 69). Balancing visitor comfort and accessibility with environmental protection requires sophisticated planning and significant financial resources.

Climate Change Impacts: Climate change creates increasing challenges for ecotourism operations through shifting weather patterns, ecosystem changes, and increased frequency of extreme events (Chuvakhina et al., 2018, p. 13). These impacts are particularly challenging for ventures that depend on specific natural phenomena or seasonal patterns.

Wildlife and Habitat Disturbance: Even well-managed ecotourism can create disturbance to wildlife and habitats, requiring ongoing monitoring and adaptive management (Khanra et al., 2021, p. 745). The costs and technical requirements of effective environmental monitoring often exceed the capacity of small-scale ventures.

2.4.4 Regulatory and Institutional Barriers:

Complex and often contradictory regulatory frameworks create significant operational challenges for ecotourism entrepreneurs (Xaba et al., 2024, p. 12). These challenges are particularly acute in contexts with overlapping jurisdictions, weak institutional capacity, and frequent policy changes.

Permitting Complexity: Ecotourism ventures often require multiple permits from different agencies with varying requirements and timelines (Aghdasi et al., 2023, p. 11). Research in developing countries reveals that permit acquisition can take 6-18 months and require navigation of multiple bureaucratic processes with unclear requirements.

Policy Inconsistency: Conflicts between tourism promotion policies and environmental protection regulations create operational uncertainties for entrepreneurs (Reddy et al., 2023, p. 15). These inconsistencies are particularly problematic when different government levels or agencies have conflicting objectives and requirements.

Weak Enforcement and Corruption: Weak enforcement of environmental and social regulations creates unfair competition from operators who cut costs by ignoring sustainability

requirements (Truong et al., 2023, p. 17). Corruption in permit allocation and enforcement creates additional costs and uncertainties for legitimate operators.

Limited Technical Support: Government agencies responsible for ecotourism often lack technical expertise to provide effective support to entrepreneurs (Badr, 2022, p. 70). This creates a gap between policy intentions and implementation capacity that limits the effectiveness of government support programs.

3. Methodology:

This study employs a systematic literature review methodology following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to examine entrepreneurship requirements and challenges in sustainable ecotourism contexts. The systematic approach ensures reproducible and comprehensive coverage of existing knowledge while minimizing selection bias and enabling rigorous synthesis of diverse research findings across interdisciplinary literature.

The research design integrates elements of both narrative and meta-analytical approaches to capture the complexity of sustainable ecotourism entrepreneurship while maintaining methodological rigor. This hybrid approach enables identification of patterns across diverse contexts while preserving important nuances related to geographic, cultural, and institutional variations.

4. Results and Discussion:

4.1 Key Requirements for Sustainable Ecotourism Entrepreneurship:

4.1.1 Business Planning and Management Requirements:

Sustainable ecotourism entrepreneurs must develop comprehensive business plans that integrate multiple sustainability considerations (Best & Stein, 2007, p. 15). The business structure should align with environmental protection goals and community development objectives beyond profit maximization. Essential planning components include clear mission and vision statements that incorporate environmental stewardship, detailed financial projections with break-even analysis, and management structures that ensure all business functions are covered without duplication (Best & Stein, 2007, p. 20).

4.1.2 Certification and Standards Compliance:

Meeting established sustainability standards is crucial for credibility and market access. The Global Sustainable Tourism Council (GSTC) provides internationally recognized criteria organized around four main themes: effective sustainability planning, maximizing social and economic benefits for local communities, enhancing cultural heritage, and reducing negative environmental impacts (GSTC, 2025, p. 1). The ASEAN Ecotourism Standard includes 65 criteria across three levels: 35 mandatory criteria, 22 optional criteria, and 8 specific criteria for specialized activities (ASEAN, 2024, p. 12).

4.1.3 Community Engagement and Cultural Sensitivity:

Successful ecotourism ventures require meaningful engagement with local communities from the planning stage through operation. Abdullah et al. (2025, p. 485) emphasize that "sustainable business performance relates to competencies" and that entrepreneurs with a strong social focus are well-positioned to implement sustainable practices. Community-based ecotourism (CBET) models demonstrate that higher degrees of local control and ownership correlate with better conservation outcomes and greater socio-economic benefits (Auksondee & Darawong, 2024, p. 177).

4.1.4 Financial and Infrastructure Requirements:

Entrepreneurs need adequate capital for initial infrastructure development, ongoing operations, and marketing. Start-up cost estimations should cover several months of operational expenses, including both fixed costs like utilities and insurance, and variable expenses such as equipment and personnel (Best & Stein, 2007, p. 8). Many ecotourism destinations require sustainable infrastructure development, including eco-friendly accommodations, waste management systems, and sustainable transportation options.

4.2 Primary Barriers and Challenges in Sustainable Ecotourism Entrepreneurship:

4.2.1 Financial and Investment Obstacles:

Limited access to financial resources stands out as one of the most significant barriers to rural and ecotourism entrepreneurship. High initial costs combined with a lack of suitable funding options create substantial hurdles (Humeniuk et al., 2020, p. 5). Traditional financing mechanisms often fail to understand the unique characteristics of ecotourism ventures, which may prioritize environmental and social benefits alongside economic returns. Market volatility also poses challenges, as demand for ecotourism can fluctuate based on economic conditions.

4.2.2 Regulatory and Bureaucratic Challenges:

Complex regulatory frameworks create significant obstacles for entrepreneurs. Bureaucratic barriers include complicated procedures for obtaining permits, accessing government funding, and complying with multiple regulatory requirements. Research findings indicate that "the bureaucratic nature of development programs, particularly in the European Union context, has significantly limited rural tourism entrepreneurs' ability to benefit from available resources" (Koyana & Mason, 2017, p. 48).

4.2.3 Infrastructure and Accessibility Limitations:

Poor infrastructure represents a fundamental barrier to ecotourism development. Auksondee and Darawong (2024, p. 175) identified that "many of the communities that participate in this type of tourism showed a lack of infrastructure and resources in nearby areas," including insufficient transportation alternatives, restricted healthcare and education accessibility, and inadequate tourist accommodations. These limitations make destinations difficult to reach for tourists while compromising sustainability goals.

4.2.4 Capacity and Skills Constraints:

Local communities often face skills limitations that restrict their participation in high-value tourism activities. However, Abdullah et al. (2025, p. 489) found unexpected results where "a positive attitude towards sustainability emerges as a pivotal factor in achieving long-term success," challenging conventional wisdom that prioritizes skills and knowledge over mindset. Professional knowledge gaps also affect venture management, as many ecotourism operators lack business expertise necessary for efficient operations.

4.2.5 Market and Awareness Challenges:

Insufficient awareness among tourists about ecotourism principles and practices can lead to irresponsible behaviour that undermines conservation goals. Research indicates that "there may be a lack of awareness and education among tourists and travelers about the importance of ecotourism and its impact on the environment" (Modern Agriculture Journal, 2022, p. 67). Market demand uncertainty and seasonal variations create additional challenges for business sustainability.[6]

4.3 Potential Solutions and Success Strategies:

4.3.1 Financial Support Mechanisms:

Developing specialized financing instruments tailored to ecotourism ventures is essential. This includes establishing micro-financing programs through public-private partnerships between governments, local banks, and private investors (Koyana & Mason, 2017, p. 50). Government incentives such as tax breaks, subsidies, and grants can significantly support green businesses and reduce initial investment costs. Financial literacy training for entrepreneurs enables better fund management and wider access to financial services.

4.3.2 Streamlined Regulatory Processes:

Simplifying bureaucratic procedures and creating one-stop support centres can significantly improve entrepreneurs' access to resources. Online application systems, simplified documentation requirements, and local support centers with trained personnel can reduce regulatory barriers (Koyana & Mason, 2017, p. 49). Clear regulatory frameworks with adequate enforcement mechanisms are essential for ensuring compliance with sustainable practices.

4.3.3 Infrastructure Development and Partnerships:

Strategic partnerships between public and private sectors can address infrastructure limitations. Auksondee and Darawong (2024, p. 177) emphasize that "government support is equally vital, providing necessary legal frameworks, resources, and infrastructure improvements," while "partnerships with the private sector further bolster CBT initiatives". Collaborative efforts should focus on developing sustainable transportation systems, renewable energy sources, and effective waste management solutions.

4.3.4 Capacity Building and Education:

Comprehensive training programs are crucial for building local capacity. Abdullah et al. (2025, p. 489) recommend that "targeted training initiatives and skill development endeavours are essential for improving the competencies of homestay entrepreneurs," while emphasizing the need

for "cultivating a sustainability mindset over mere skill acquisition". Educational initiatives should target both tourists and local communities to foster a culture of sustainability.

4.3.5 Community-Centered Development Approaches:

Implementing participatory planning processes ensures community needs and aspirations are incorporated into tourism development. Auksondee and Darawong (2024, p. 176) found that "community involvement stands out as a crucial factor for the success of CBT," ensuring that "tourism activities are aligned with local values and needs". Successful models include collaborative decision-making frameworks, community ownership structures, and participatory monitoring systems that empower local stakeholders.[15][4]

4.3.6 Technology and Innovation Integration:

Leveraging digital technologies can improve marketing reach and operational efficiency. Abdullah et al. (2025, p. 480) note that "digital skills are now essential across public and private sectors" and that "entrepreneurial and digital competencies allow entrepreneurs to remain competitive in the dynamic online tourism landscape". Innovation in sustainable technologies, including renewable energy systems and waste management solutions, can differentiate ecotourism ventures in competitive markets.

4.3.7 Certification and Quality Assurance:

Pursuing recognized sustainability certifications enhances credibility and market access. Programs like EarthCheck, Biosphere Responsible Tourism, and Travelife provide frameworks for implementing and verifying sustainable practices (BeCause.eco, 2025, p. 2). These certifications often include personal coaching, online training courses, and ongoing assessment processes that support continuous improvement.

5. Conclusion:

5.1 Synthesis of Key Findings:

This comprehensive systematic review of peer-reviewed studies reveals the complex landscape of requirements and challenges that characterize sustainable ecotourism entrepreneurship. The research identifies five fundamental requirements that consistently emerge across diverse contexts: comprehensive stakeholder integration, financial innovation and capital access, adaptive management systems, comprehensive capacity building, and enabling policy frameworks. Simultaneously, the analysis reveals four persistent challenge clusters: financial and market barriers, capacity and skills constraints, environmental and conservation tensions, and regulatory and institutional barriers.

The findings demonstrate that sustainable ecotourism entrepreneurship represents a distinct form of entrepreneurial activity that requires theoretical frameworks capable of accommodating multi-objective orientations, collaborative governance approaches, and place-based innovation strategies. This research contributes the concept of "regenerative tourism entrepreneurship" as an evolution beyond current sustainable tourism models that actively contributes to ecological and social regeneration rather than merely minimizing negative impacts.

5.2 Practical Implications and Recommendations:

5.2.1 For Entrepreneurs and Venture Developers:

The research provides evidence-based guidance for current and aspiring ecotourism entrepreneurs:

1. **Prioritize Stakeholder Integration:** Invest significant time and resources in developing comprehensive stakeholder engagement processes that create genuine partnerships rather than merely consulting with affected parties.
2. **Develop Adaptive Capabilities:** Build dynamic capabilities that enable continuous learning and adaptation to changing environmental, social, and market conditions.
3. **Pursue Financial Diversification:** Develop diversified financing strategies that combine multiple funding sources with different risk-return profiles and sustainability requirements.
4. **Integrate Innovation Strategically:** Adopt technological and social innovations that enhance sustainability performance while remaining aligned with community values and local contexts.
5. **Measure Success Holistically:** Implement comprehensive performance measurement systems that track environmental, social, and economic outcomes rather than focusing solely on financial returns.

5.2.2 For Policymakers and Government Agencies:

The research identifies several priority areas for policy intervention:

1. **Streamline Regulatory Frameworks:** Develop integrated permitting processes that reduce bureaucratic complexity while maintaining appropriate environmental and social safeguards
2. **Align Incentives:** Design tax policies, grant programs, and support mechanisms that reward sustainable practices, community engagement, and environmental conservation
3. **Invest in Capacity Building:** Provide sustained funding for comprehensive capacity building programs that address technical, business, and sustainability competencies
4. **Facilitate Financial Innovation:** Support development of blended finance mechanisms, impact investment funds, and other innovative financing approaches appropriate for ecotourism ventures
5. **Promote Multi-Level Coordination:** Establish coordination mechanisms that align policies and programs across sectors and governance levels

5.2.3 For Development Organizations and NGOs:

International development organizations and NGOs can enhance their effectiveness in supporting ecotourism entrepreneurship by:

1. Adopting Systems Approaches: Recognize ecotourism ventures as components of complex social-ecological systems requiring holistic support strategies
2. Building Local Capacity: Invest in long-term capacity building that strengthens local institutions and human resources rather than creating dependence on external support
3. Facilitating Knowledge Networks: Create platforms for knowledge sharing and peer learning among entrepreneurs across different contexts
4. Supporting Financial Innovation: Provide patient capital and technical assistance for developing innovative financing mechanisms appropriate for local contexts
5. Advocating for Policy Reform: Use influence and expertise to advocate for policy frameworks that support sustainable ecotourism development

5.3 Future Research Agenda:

The analysis identifies several critical priorities for advancing research in sustainable ecotourism entrepreneurship:

5.3.1 Methodological Innovations:

Future research should employ innovative methodological approaches that can capture the complexity and dynamism of ecotourism entrepreneurship:

- Longitudinal mixed-methods studies that track venture evolution over extended periods
- Participatory action research that involves entrepreneurs and communities as co-researchers
- Experimental and quasi-experimental designs for evaluating interventions and support programs
- Systems-based approaches that examine ventures within their broader social-ecological contexts

5.3.2 Theoretical Development:

Several theoretical areas require further development:

- Refinement of regenerative tourism entrepreneurship theory through empirical validation and application across diverse contexts
- Integration with climate adaptation and resilience theory to understand how ecotourism contributes to broader sustainability objectives
- Development of appropriate performance measurement frameworks that can capture multi-dimensional value creation
- Investigation of scaling and replication mechanisms for successful ecotourism models

5.3.3 Practical Applications:

Research should address critical practical needs:

- Evaluation of capacity building approaches to identify most effective methods for developing entrepreneurial capabilities
- Assessment of financial innovations to understand which mechanisms work best in different contexts
- Analysis of policy interventions to provide evidence-based guidance for government support programs
- Investigation of technology applications that can enhance sustainability while remaining appropriate for local contexts

5.4 Final Reflections:

Sustainable ecotourism entrepreneurship represents both a significant opportunity and a complex challenge for achieving sustainable development objectives while preserving natural ecosystems and empowering local communities. The COVID-19 pandemic has highlighted both the vulnerability of tourism-dependent communities and the growing demand for nature-based, low-impact tourism experiences that align with ecotourism principles.

Success in sustainable ecotourism entrepreneurship requires more than traditional business skills – it demands sophisticated understanding of social-ecological systems, collaborative governance capabilities, and commitment to multi-dimensional value creation. The development of appropriate support systems, including policy frameworks, financing mechanisms, and capacity building programs, is essential for realizing the potential of ecotourism as a pathway to sustainable development.

As global attention to sustainability intensifies and communities seek economic alternatives that preserve their natural and cultural heritage, sustainable ecotourism entrepreneurship will likely become increasingly important. The concept of regenerative tourism entrepreneurship offers a promising framework for advancing both theoretical understanding and practical applications in this critical field.

The research presented in this review provides a foundation for understanding the requirements and challenges involved while identifying pathways for supporting entrepreneurial success in sustainable tourism contexts. However, realizing this potential will require sustained commitment from entrepreneurs, policymakers, development organizations, and researchers working collaboratively to create more effective support systems and more sustainable forms of tourism development.

The ultimate success of sustainable ecotourism entrepreneurship will be measured not only by the financial viability of individual ventures but by their contribution to ecological regeneration, community empowerment, and the transformation of tourism systems toward greater sustainability and resilience. This ambitious vision requires continued research, innovation, and collaboration across all stakeholder groups committed to sustainable development through tourism.

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