



Synthesizing Embodied Tourist Experience with Indigenous Epistemology: A Grounded Theory Approach to Sustainable Surf Tourism Development at Parangtritis

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ABSTRACT

This study addresses theoretical fragmentation in surf tourism scholarship through systematic integration of embodied experience theory, sustainable livelihood frameworks, and indigenous knowledge systems. A comprehensive theoretical model was developed synthesizing affective tourist dimensions with indigenous epistemology in community based sustainable surf tourism management at Parangtritis Beach, Yogyakarta, Indonesia. Grounded theory methodology guided six month ethnographic fieldwork comprising semi structured interviews, focus group discussions, participant observation, and documentary analysis with diverse stakeholders including domestic and international surfers, instructors, community leaders, and destination managers. Three stage coding procedures utilizing MAXQDA2020 achieved theoretical saturation through rigorous data triangulation, member checking, and peer debriefing protocols. Analysis yielded the SEMO (Sensory Emotional Mystical Oneness) model, a substantive theoretical framework explicating how sensory engagement, emotional responses, mystical cultural dimensions rooted in Nyi Roro Kidul cosmology, and ecological oneness converge to constitute transformative surf tourism experiences while advancing local sustainability objectives. This investigation provides the inaugural theoretical integration of embodied experience with Indonesian indigenous epistemology in adventure tourism contexts, extending extant frameworks through incorporation of mystical spiritual dimensions heretofore absent from surf tourism scholarship.

The SEMO model furnishes novel analytical perspectives for destination management that simultaneously optimize experiential quality and preserve Javanese cultural heritage, thereby bridging adventure tourism development imperatives with ecosystem sustainability through indigenous knowledge valorization.

INTRODUCTION

The sustainable livelihood concept has emerged as a critical framework bridging economic development and conservation imperatives, particularly in coastal tourism contexts where local livelihoods must be supported while preserving natural resources (Buckley 2002). This approach has gained increasing urgency given the documented negative socio cultural impacts associated with tourism development in coastal communities (Towner and Davies 2019). The application of sustainable livelihood principles in surf tourism development provides a practical framework for measuring socio economic and environmental impacts while optimizing tourist experiences and ensuring the sustainability of local resources and community livelihoods (Ponting, McDonald, and Wearing 2005). Such frameworks enable the identification of strategic interventions that can enhance economic benefits from surf tourism activities while maintaining ecological and social balance (Ntloko and Swart 2008).

Despite substantial research on surf tourism in established Indonesian destinations such as the Mentawai Islands (Buckley 2002; Ponting, McDonald, and Wearing 2005; Towner and Milne 2017), significant knowledge gaps persist regarding other coastal destinations. The theoretical aspects of surf tourist behavior remain underexplored in many Indonesian beach destinations, particularly concerning the dynamics of interaction between local communities and sustainable surf tourism development (Ponting and McDonald 2013). This gap is particularly pronounced in understanding how tourist behavior patterns influence sustainable tourism development outcomes. While surf tourism demonstrably increases local community income (Ntloko and Swart 2008; Ponting and O'Brien 2014), considerable challenges persist in balancing economic benefits with socio cultural impacts. Evidence suggests that surf tourism management in various regions has failed to achieve sustainability benchmarks (Ponting 2008), highlighting the need for innovative approaches that address both ecological and social sustainability dimensions.

The integration of emotional dimensions in adventure tourism has recently emerged as a critical research frontier, with embodied experience theory offering novel insights into how physical engagement mediates tourist experiences (Zhang and Chen 2022). This theoretical perspective emphasizes emotions as primary drivers of adventure tourism behavior, yet its application in surf tourism contexts remains limited. Concurrently, the Sustainable Livelihood Model (SLM) has demonstrated utility in analyzing how adventure tourism contributes to community sustainability (Towner and Davies 2019), though comprehensive integration with experiential dimensions remains incomplete. Furthermore, indigenous knowledge systems represent adaptive intergenerational knowledge that can enrich tourism experiences while supporting ecosystem sustainability (Berkes 2017; Hendry 2014; Prasetyo 2019), yet their incorporation into surf tourism frameworks has received minimal scholarly attention.

Despite documented significant economic benefits of surf tourism (Gough 1999; Lazarow, Miller, and Blackwell 2025), local community income generation remains constrained in numerous locations (Ponting 2007). Small scale surf tourism operations have been implicated in adverse environmental, socio cultural, and economic impacts (Ponting and O'Brien 2014), while theoretical research on surf tourist behavior remains notably neglected. The recent paradigmatic shift brought by embodied theory development has created new opportunities for tourism experience research (Moore et al. 2021), particularly in contexts where physical skill, risk taking, and immersion in natural environments create opportunities for self challenge and meaning construction (Prasetyo 2019; Lazarow, Miller, and Blackwell 2025).

Parangtritis Beach presents a distinctive case study characterized by challenging yet accessible wave conditions combined with unique cultural dimensions centered on the Nyi Roro Kidul belief system. This convergence creates experiential dimensions that differentiate Parangtritis from other surf tourism destinations, yet remain scientifically unexplored. The absence of an integrated theoretical framework that synthesizes embodied experience, sustainable livelihood, and indigenous knowledge perspectives represents a critical gap in surf tourism scholarship. Existing research has examined these dimensions in isolation, but their interaction and mutual reinforcement in shaping sustainable surf tourism development remains untheorized.

This study addresses these gaps by developing an integrated theoretical model that bridges tourist emotional experiences with indigenous wisdom values in surf tourism contexts. Specifically, this research proposes the SEMO (Sensory Emotional Mystical Oneness) model as a comprehensive framework for community based sustainable surf tourism management. The model conceptualizes how sensory engagement, emotional responses, mystical cultural dimensions, and ecological oneness interact to shape tourist experiences while supporting local sustainability. By integrating embodied experience theory, sustainable livelihood frameworks, and indigenous knowledge systems, this research offers a novel analytical lens for understanding the nexus between tourist experiential dimensions and ecosystem sustainability. The Parangtritis context, with its distinctive wave characteristics and cultural landscape, provides an ideal setting for examining how these theoretical dimensions converge in practice. This integration addresses the theoretical fragmentation characterizing current surf tourism research while offering practical insights for destination management that simultaneously considers tourist emotional dimensions and the preservation of unique Javanese cultural values.

LITERATURE REVIEW

Embodied Experience Theory in Surf Tourism

Embodied experience theory has brought a paradigmatic shift in understanding tourism experiences, particularly in adventure tourism contexts such as surfing. Zhang and Chen (2022) developed a comprehensive framework of bodily experience in surf tourism through a grounded theory approach in Hainan Province, China. Their research identified five interconnected dimensions of bodily experience: interactive, sensory, skill, reflective, and aesthetic dimensions. A crucial finding from this study demonstrates that emotion serves as the primary factor shaping surf tourists' experiences, with the body functioning as the principal mediator in the process of constructing tourism experience meaning.

The interactive dimension in embodied experience encompasses physical interactions between surfers and waves, surfboards, and the marine environment. The sensory dimension involves all senses in experiencing surfing, from the sensation of seawater and wind to the sound of breaking waves. The skill dimension relates to the mastery of surfing techniques requiring complex body coordination. The reflective dimension refers to the process of contemplation and meaning making regarding physical experiences. Meanwhile, the aesthetic dimension concerns the appreciation of movement beauty, harmony with nature, and artistic expression through surfing (Zhang and Chen 2022).

The development of embodied theory has brought significant implications for tourism experience research as a whole (Moore et al. 2021). This new paradigm emphasizes the importance of understanding how the body functions not merely as a passive object but as an active subject that shapes and is constructed by tourism experiences. In surf tourism contexts, the body becomes the primary instrument for navigating physical challenges, confronting risks, and creating meaningful transformative moments.

Surf tourism, as a form of adventure tourism, requires specialized skills and contains risk elements that provide opportunities for tourists to challenge themselves and immerse in nature

(Lazarow, Miller, and Blackwell 2025). The process of adapting to natural forces and conquering waves represents more than mere physical activity; it constitutes a profound meaning construction process. This experience can be further enriched when integrated with indigenous wisdom values present at tourism destinations (Prasetyo 2019).

However, Zhang and Chen's (2022) research exhibits limitations in exploring local socio cultural dimensions. Their strong focus on bodily aspects and individual experiences has not comprehensively integrated how local cultural contexts and interactions with host communities enrich or transform embodied experiences. This gap opens opportunities for developing more holistic theoretical frameworks.

Sustainable Livelihood Model in Surf Tourism

The sustainable livelihood concept has emerged as a critical framework bridging economic interests and conservation imperatives, particularly in coastal tourism contexts. Buckley (2002) emphasized the importance of approaches supporting local livelihoods while preserving natural resources in Indo Pacific regions. This approach has gained increasing urgency given the potential negative socio cultural impacts that can arise from poorly managed tourism development (Towner and Davies 2019).

Towner and Davies (2019) conducted in depth qualitative research on the relationship between surf tourism and local communities in Indonesia. Their findings demonstrate that surf tourism can contribute significantly to sustainable livelihoods of coastal communities through active local community involvement. The model they developed emphasizes the importance of community participation in decision making, equitable distribution of economic benefits, and preservation of local socio cultural values. This research provides empirical evidence that when local communities are meaningfully engaged, surf tourism can catalyze sustainable development.

The application of sustainable livelihood concepts in surf tourism development provides a practical framework for measuring socio economic and environmental impacts (Ponting, McDonald, and Wearing 2005). This framework enables the development of tourism models that not only optimize tourist experiences but also ensure the sustainability of natural resources and local community livelihoods. Furthermore, this approach can identify strategic interventions that enhance economic benefits from surf tourism while minimizing negative impacts (Ntloko and Swart 2008).

Although the economic benefits of surf tourism are demonstrably significant (Gough 1999; Lazarow, Miller, and Blackwell 2025), field realities indicate that income for local communities in several locations remains limited (Ponting 2007). This indicates the presence of economic leakage and unequal benefit distribution. The Sustainable Livelihood Model (SLM) can be employed to comprehensively analyze how adventure tourism contributes to various dimensions of community sustainable livelihoods, encompassing human capital, social capital, financial capital, physical capital, and natural capital (Towner and Davies 2019).

Research on surf tourism sustainability across various destinations shows diverse outcomes. Ponting and O'Brien (2014) analyzed the consequences of common pool resource deregulation on the sustainability of Fiji's surf tourism industry, finding that small scale surf tourism can be responsible for detrimental environmental, socio cultural, and economic impacts. Comparative studies in the Asia Pacific region, including Papua New Guinea, Fiji, and Thailand, identified various social sustainability indicators and the importance of community centered approaches in surf tourism development (Martin and Assenov 2014; O'Brien and Ponting 2013).

Ponting (2008) in his dissertation on surfing tourist space found that surf tourism management in several areas has not achieved sustainability standards. This finding underscores the need for more comprehensive tourism management approaches that simultaneously address ecological and social sustainability. The gap between potential economic benefits and the reality of negative impacts indicates that existing sustainable livelihood models

still require further development, particularly in integrating tourist experience dimensions with local community sustainability.

Indigenous Knowledge in Marine Tourism Development

Indigenous knowledge represents adaptive intergenerational knowledge developed by local communities in interacting with their environment. Berkes (2017) in *Sacred Ecology* emphasizes that indigenous wisdom constitutes not merely a collection of traditional knowledge but a holistic knowledge system integrating ecological, social, and spiritual dimensions. In marine tourism contexts, indigenous knowledge possesses potential to enrich tourism experiences while supporting ecosystem sustainability.

Hendry (2014) argues for the importance of learning from indigenous wisdom in efforts to achieve sustainability. Traditional knowledge about natural patterns, ecological cycles, and conservation practices proven sustainable over generations offers valuable insights for sustainable tourism development. In surf tourism contexts, indigenous knowledge can encompass knowledge about wave patterns, surfing seasons, and spiritual values associated with the sea.

Prasetyo (2019) in research on marine ecotourism development in Misool, Raja Ampat, demonstrated how indigenous knowledge and local practices can be integrated into sustainable marine tourism development. The findings indicate that indigenous knowledge as adaptive intergenerational knowledge can enrich tourism experiences while supporting ecosystem sustainability. This integration not only provides added value for tourist experiences but also strengthens local community cultural identity and enhances conservation awareness.

In the Parangtritis Beach context, beliefs about Nyi Roro Kidul represent a unique dimension of indigenous wisdom. This belief functions not only as cultural narrative but also influences local practices related to coastal resource utilization and preservation. The challenging yet accessible wave characteristics, combined with this unique cultural context, create different experiential dimensions that distinguish Parangtritis from other surf tourism destinations.

Nevertheless, indigenous knowledge integration in surf tourism development still faces various challenges. Prasetyo et al. (2024) in their study on self identity construction through surfing activities on Java's southern coast found that surfing functions as a medium for identity formation through social interaction, physical experience, and relationships with natural environments. This research indicates the importance of understanding how local cultural values can be integrated into surfing experiences without experiencing excessive commodification.

Theoretical Integration and Research Gaps

Although the three theoretical perspectives—embodied experience, sustainable livelihood, and indigenous knowledge—have been substantially developed in tourism literature, comprehensive integration of all three in surf tourism contexts remains limited. Zhang and Chen (2022) developed deep understanding of embodied dimensions but inadequately explored local socio cultural aspects. Towner and Davies (2019) provided important contributions in understanding surf tourism relationships with local communities, but their primary focus on economic impacts has not deeply integrated tourists' emotional experience dimensions.

Research on surf tourism impacts (Lazarow, Miller, and Blackwell 2025; Ponting 2008; Ponting and O'Brien 2014) has identified various sustainability factors but tends to focus on negative impacts without exploring how positive identity construction and emotional experiences can contribute to sustainability. Comparative studies in the Asia Pacific (Martin and Assenov 2014; O'Brien and Ponting 2013) provide insights into social sustainability indicators, but the multi country nature of these studies limits deep understanding of Indonesia specific contexts.

Pranoto et al. (2024) found that social factors such as community, group identity, and social support motivate participation in adventure tourism in Indonesia. This finding is

important, but the broad research scope on adventure tourism generally has not provided specific focus on unique surf tourism dynamics. Meanwhile, Prasetyo et al. (2024) explored identity construction through surfing on Java's southern coast, but their research has not comprehensively integrated sustainability aspects and local socio cultural values within a unified theoretical framework.

These gaps demonstrate the necessity for developing theoretical models that integrate tourists' emotional dimensions (embodied experience), local community livelihood sustainability (sustainable livelihood), and indigenous wisdom values (indigenous knowledge) within one comprehensive framework. Such integration has never been conducted in Indonesian surf tourism contexts, particularly in destinations with unique characteristics like Parangtritis Beach. A model integrating these three perspectives potentially bridges the gap between tourist experiences and local ecosystem sustainability, creating new frameworks in surf tourism destination management that consider tourists' emotional dimensions while preserving unique cultural values.

This research addresses the blue economy challenge in developing marine adventure tourism, with primary focus on exploring interactions between tourists' emotional experiences and indigenous knowledge systems. By integrating these three key theories, this research offers novel perspectives never previously combined in Indonesian surf tourism literature. The proposed development of the SEMO (Sensory Emotional Mystical Oneness) model represents an effort to fill this theoretical gap and provide practical contributions for community based sustainable surf tourism destination development.

METHODS

Research Design

This study adopts a qualitative research approach employing grounded theory methodology to generate a substantive theoretical model of surf tourism experiences. Grounded theory is particularly suited to this investigation as it enables systematic theory development grounded in empirical data through iterative comparative analysis (Clarke 2005; Charmaz and Thornberg 2021). This methodology facilitates the exploration of complex interactions between tourists' emotional experiences and indigenous knowledge systems, allowing theoretical constructs to emerge inductively from the data rather than being imposed a priori.

Study Site

Fieldwork was conducted at Parangtritis Beach, Yogyakarta, Indonesia, over a six month period from May to October 2025. Parangtritis was purposefully selected as the research site due to its distinctive characteristics that create a unique context for examining surf tourism dynamics. The beach features challenging yet manageable wave conditions that attract diverse surfer populations, while the pervasive cultural belief in Nyi Roro Kidul a legendary queen of the southern seas in Javanese cosmology imbues the location with spiritual significance. This confluence of natural and cultural attributes distinguishes Parangtritis from other Indonesian surf destinations and provides an ideal setting for investigating the integration of embodied experience, sustainable livelihoods, and indigenous knowledge. The six month timeframe captures both peak and off peak seasons, ensuring representation of varied conditions and tourist demographics.

Participants

The study engaged multiple stakeholder groups within the Parangtritis surf tourism ecosystem. Participants included local and international surfers, surf instructors, community leaders, tourism operators, and government officials responsible for coastal management. This

multi stakeholder approach was essential for capturing diverse perspectives on surf tourism experiences, impacts, and management practices.

Participants were recruited using combined snowball and purposive sampling techniques (Hibberts, Burke Johnson, and Hudson 2012; Noy 2008; Robinson 2024). Initial key informants were identified through consultation with community leaders and tourism officials. Subsequently, snowball sampling facilitated access to additional participants through referral chains, proving particularly effective for reaching international surf tourists and informal sector actors. Sampling continued until theoretical saturation was achieved—the point at which no new themes or insights emerged from additional data collection. All prospective participants received detailed information sheets explaining the research purpose, procedures, and their rights. Written informed consent was obtained prior to participation, with all materials provided in Bahasa Indonesia for local participants and English for international participants. Participation was entirely voluntary, and individuals could withdraw at any time without consequence.

Data Collection

Semi structured Interviews

In depth semi structured interviews constituted the primary data collection method. Individual interviews lasting 60 90 minutes were conducted with each participant. The semi structured format balanced consistency across interviews with flexibility to pursue emergent themes (Strauss and Corbin 2014). Interview guides addressed key topics including surfing motivations and experiences, perceived connections with the natural environment, interactions with local communities, awareness of and engagement with local cultural beliefs, and perspectives on tourism sustainability. An informal, conversational interview style was employed to establish rapport and encourage candid responses. Probing questions were used strategically to elicit deeper reflection on emotional dimensions of surfing experiences and perceptions of cultural environmental connections. All interviews were audio recorded with participant permission and professionally transcribed verbatim. Transcripts were subsequently verified for accuracy prior to analysis.

Focus Group Discussions

Three focus group discussions (FGDs) were conducted to explore collective perspectives and generate interactive dialogue among stakeholders. Groups comprised: (1) surf tourists (n=7), (2) local community members (n=8), and (3) mixed participants including both tourists and locals (n=8). Each FGD lasted approximately 90 120 minutes and was facilitated by the principal investigator with assistance from a bilingual local moderator. The mixed group FGD proved particularly valuable for surfacing different perspectives on surf tourism's community impacts and cultural dynamics. FGD sessions were audio recorded and transcribed following the same protocols as individual interviews.

Participant Observation

Ethnographic observation provided crucial insights into embodied dimensions of surfing experiences that may not be fully captured through verbal accounts alone. The research team conducted systematic observations of surfing activities at Parangtritis, documenting surfer wave interactions, spatial patterns of beach use, and surfer community interactions. Observations were recorded through detailed field notes capturing behaviors, environmental conditions, social dynamics, and contextual factors.

Additionally, researchers attended community surfing events and traditional ceremonies associated with the beach, including ritual offerings made to honor Nyi Roro Kidul. These observations illuminated how spiritual beliefs are enacted and integrated with surfing practices. Participant observation occurred throughout the six month fieldwork period, with particular attention during key cultural events and varying surf conditions.

Document Analysis

Secondary data were gathered from online sources including surfer blogs, social media posts, travel review websites, and surf tourism forums. Documents were purposively sampled based on criteria of authenticity, detail, and relevance to Parangtritis surfing experiences. This documentary evidence provided additional perspectives from surfers who were not directly interviewed and served as a form of data triangulation. A total of 43 online narratives meeting inclusion criteria were systematically analyzed

Data Analysis

Data analysis followed the grounded theory approach through three iterative coding phases (Clarke 2005). Initial open coding involved line by line examination of interview transcripts and field notes to identify preliminary concepts and patterns. Codes were assigned to text segments reflecting emotional responses, environmental interactions, cultural perceptions, community relationships, and sustainability concerns (Charmaz and Thornberg 2021). This process remained close to the data while beginning conceptual abstraction.

During axial coding, initial codes were organized into higher order categories representing broader conceptual themes. Relationships between categories were systematically examined, identifying conditions, contexts, interactional strategies, and consequences associated with each category. Constant comparative analysis was employed throughout, with each new data segment compared against existing codes and categories to refine conceptual distinctions and identify patterns. Selective coding focused on identifying the core category that integrated all other categories into a coherent theoretical framework. Through this process, the SEMO (Sensory Emotional Mystical Oneness) model emerged as the central organizing construct, capturing the essential relationship between embodied surf experiences and indigenous knowledge integration. Theoretical memos were written throughout the analysis to document emerging insights, conceptual connections, and theory development progression.

MAXQDA 2020 software was utilized to facilitate data management, coding, and retrieval processes. However, software served as an organizational tool rather than a substitute for interpretive analytical work, which remained grounded in deep engagement with the data.

Rigor and Trustworthiness

Multiple strategies were employed to ensure research quality and credibility. Triangulation was achieved through multiple data sources (interviews, FGDs, observation, documents) and diverse participant perspectives. This multi method approach enabled cross verification of findings across different types of evidence. Member checking involved returning preliminary interpretations to selected participants for validation. This process confirmed that analytical interpretations accurately represented participants' lived experiences and perspectives, strengthening the credibility of findings. Peer debriefing sessions with experienced qualitative researchers provided external scrutiny of analytical processes and interpretations. These critical discussions helped identify potential researcher biases and alternative interpretations of data. A comprehensive audit trail documented all methodological decisions, coding processes, and analytical progressions. This detailed documentation included raw data, coded transcripts, analytical memos, and model development stages, enabling external verification of research procedures. Reflexivity was maintained throughout the research through ongoing critical self examination of researcher positionality, assumptions, and influence on data collection and interpretation. Regular reflexive journaling documented evolving understandings and methodological decisions.

Ethical Considerations

The study adhered to established ethical principles for human subjects research. Institutional review board approval was obtained prior to fieldwork commencement. Informed

consent procedures ensured participants understood research purposes, procedures, potential risks and benefits, and their rights including voluntary participation and withdrawal. Participant confidentiality was protected through pseudonymization in all data reporting and publications. Audio recordings and transcripts were stored securely using encrypted digital systems with restricted access limited to the research team. All research procedures complied with Indonesian research regulations and international ethical standards for social science research.

RESULTS

Data Collection Process

Data collection was conducted through in depth interviews and Focus Group Discussions (FGDs) at Parangtritis Beach, Yogyakarta, from May to October 2025. Using combined snowball sampling (Hibberts, Burke Johnson, and Hudson 2012; Noy 2008) and purposive sampling techniques (Robinson 2024), we obtained 45 in depth interview transcripts and 6 FGD transcripts from various surf tourism stakeholders at Parangtritis. Participants comprised 28 surfers (15 local, 8 domestic, 5 international), 12 surf instruction service providers, 8 local community leaders, and 3 destination managers. Additionally, 32 online experience narratives published on social media platforms and travel blogs were collected. The total dataset of 77 texts was individually coded and entered into MAXQDA2020 qualitative analysis software, with 70 texts used for coding analysis and 7 texts (P5, P12, P23, F3, F6, W8, W15) reserved for theoretical saturation testing.

Table 1. Participant Characteristics

Respondent Code	Gender	Age (Years)	Informant Category	Word Count
P1	Female	25 35	Local Surfer	1,245
P2	Male	18 30	Domestic Surfer	987
P3	Female	31 40	International Surfer	1,567
P4	Male	22 28	Local Surfer	834
P5	Female	35 45	Service Provider	1,123
T1	Male	45 55	Community Leader	2,134
T2	Female	50 60	Community Leader	1,876
F1	Male	28 35	Domestic Surfer	1,456
F2	Female	30 40	International Surfer	1,789
F3	Male	40 50	Destination Manager	2,567

Source: Field research, 2025

Development of the SEMO Model

Open Coding Stage

Following grounded theory methodology (Clarke 2005; Charmaz and Thornberg 2021), the analysis proceeded through three coding stages: open coding, axial coding, and selective coding. During open coding, all texts were thoroughly read to ensure data familiarity. After two rounds of comparison and correction, 892 basic concepts were identified. Through conceptualization, 24 categories were formed based on semantic, logical, and conceptual relationships. These categories included: visual wave perception, audio wave experience, ocean aroma, saltwater taste, surfboard touch, routine escape, surfing technique, body awareness, emotional expression, physical pain, emotional interaction with nature, Nyi Roro Kidul belief, local community relationships, nature closeness, self transformation, behavioral metaphor, identity construction, mental physical strengthening, cognitive enrichment, soul purification, spiritual harmonization, and oneness construction.

Table 2. Open Coding Examples

Code	Original Statement	Conceptualization	Categorization
P1	"I was exhausted from city work and lack exercise. I felt very saturated. This time I came to Parangtritis to experience surfing. I think it's excellent for stress relief."	Escape from routine	Embodied Awakening
P3	"I love adventure and willing to try new things. Before coming here, I watched many guides and followed videos to practice basic movements at home."	Surfing technique	Embodied Awakening
T1	"Here there is an inherited belief about Nyi Roro Kidul. We teach tourists to respect the sea and not be careless. There are special rituals before surfing."	Nyi Roro Kidul belief	Mystical Experience
F2	"After surfing, I found that I have this talent, and I found a sport that makes me feel united with nature and myself."	Oneness construction	Oneness Experience

Source: Field research, 2025

Axial Coding Stage

Through axial coding, the 24 categories were further compressed into six main categories: embodied perception, embodied awakening, embodied emotion, embodied extension, body representation, and meaning construction. This compression was achieved through repeated data reading and conceptual relationship analysis.

Table 3. Main Categories from Axial Coding

Main Category	Related Categories	Representative Codes
Embodied Perception	Visual perception, Audio perception, Ocean aroma, Saltwater taste, Surfboard touch	Parangtritis wave scenery, Distinctive wave sounds, Fresh ocean aroma, Seawater salinity, Surfboard texture
Embodied Awakening	Escape from routine, Surfing technique, Body awareness	Work stress, Relaxation, Leaving monotonous routines; Body fitness, Surfing skills; Active awakening
Embodied Emotion	Emotional expression, Physical pain, Emotional interaction with nature	Spectacular, Wild, Amazing, Diverse, Dangerous; Tired, Difficult, Painful; Positive and negative emotions
Embodied Extension	Body tools, Community relationships, Nature closeness	Surfboard, Camera; Communicating with surfers, Helping others; Close to nature, Feeling the sea
Body Representation	Self transformation, Behavioral metaphor, Identity construction	Discovery, Growth, Challenge, Becoming; Trying, Meaning, Extraordinary; Experienced surfer perspective
Meaning Construction	Mental physical strengthening, Cognitive enrichment, Soul purification, Spiritual harmonization, Oneness construction	Training, Sharpening will, Self challenge; Embodied cognition, Seeing real world; Purifying mind; Integration with Nyi Roro Kidul belief

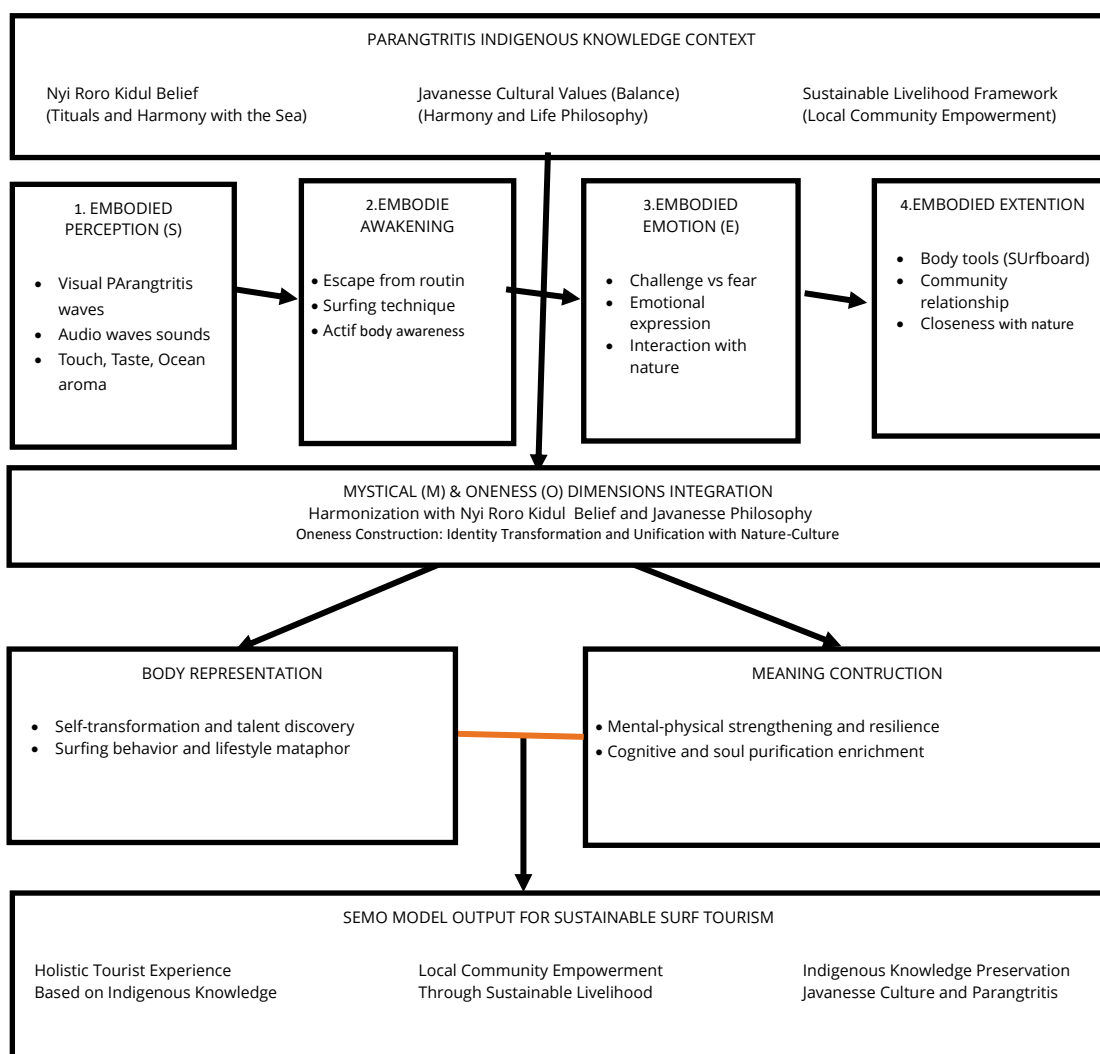
Source: Field research, 2025

Selective Coding Stage

Through selective coding, the core category was identified as the SEMO (Sensory Emotional Mystical Oneness) model. This model represents a comprehensive framework integrating tourists' embodied experiences with Parangtritis indigenous knowledge. The storyline developed around the SEMO core category demonstrates that tourists experience processes of sensory, emotional, mystical, and oneness dimensions in surf tourism experiences.

What distinguishes the SEMO model from conventional embodied experience models is the integration of mystical dimensions through Nyi Roro Kidul beliefs and Javanese cultural values regarding harmony with nature. This mystical dimension is absent in surfing contexts at other destinations but becomes a unique characteristic of Parangtritis that enriches tourists' spiritual experiences.

Figure 1. SEMO Model Structure in Parangtritis Indigenous Knowledge Context.....



SEMO Model: S=Sensory | E=Emotion | M=Mystical | O=Oneness

Integrated with Indonesian Indigenous Knowledge for Sustainable Surf Tourism

Source: Field research, 2025

DISCUSSION

Theoretical Contributions of the SEMO Model

The SEMO model represents a novel theoretical contribution to surf tourism by integrating tourists' embodied experiences with Indonesian indigenous knowledge. This model extends Zhang and Chen's (2022) embodied experience framework by incorporating indigenous wisdom dimensions specific to Indonesia. Unlike conventional embodied experience models focusing primarily on individual and physical aspects, the SEMO model accommodates mystical and oneness dimensions rooted in Nyi Roro Kidul beliefs and Javanese cultural philosophy, aligning with sustainable livelihood frameworks (Towner and Davies 2019) and indigenous knowledge principles (Berkes 2017; Hendry 2014).

The primary contribution of the SEMO model lies in integrating four interrelated dimensions: sensory, emotional, mystical, and oneness. The sensory and emotional dimensions adopt Zhang and Chen's (2022) concepts but are enriched with Javanese cultural context. The mystical dimension represents an innovation not found in surfing research at other destinations, accommodating indigenous spiritual beliefs that remain vibrant and influential in how communities interact with the sea. The oneness dimension represents the peak of transformative experiences integrating individual with collective, physical with spiritual, and modern with traditional aspects.

Dynamic Process of Embodied Experience

This research analyzes surf tourism physical experience into a dynamic developmental perspective rather than limiting analysis to static behavioral perspectives. The fluidity of surf tourism experience proceeds through embodied perception, embodied awakening, embodied emotion, and embodied extension processes. Each category exhibits certain dependencies, with embodied perception providing the foundation for sensory awakening through multi sensory stimulation including visual, auditory, olfactory, gustatory, and tactile elements.

The dynamic process begins with the sensory dimension creating an experiential foundation through multisensory stimulation characteristic of Parangtritis. Wave scenery against karst hills, thundering wave sounds, fresh ocean aroma, seawater salinity, and black volcanic sand texture create a sensorial signature distinct from other surf destinations. This sensory uniqueness is enriched by cultural narratives about southern sea sacredness, providing spiritual meaning to each sensorial element.

Integration of Mystical and Oneness Dimensions

The mystical dimension emerges as the most distinctive element in the SEMO model. Integration of Nyi Roro Kidul beliefs as ruler of the southern seas functions not merely as ornamental cultural element but as fundamental worldview influencing how tourists understand and interact with the marine environment. Traditional rituals before surfing, such as flower offerings and simple prayers, constitute not mere formalities but manifestations of Javanese philosophy viewing nature as entities possessing spiritual essence and power.

The oneness dimension resulting from integration of the four previous dimensions creates holistic transformative experiences. Unlike flow state concepts in positive psychology that are individually focused, the oneness dimension in the SEMO model involves unification with local communities, cultural heritage, and spiritual wisdom contained in Parangtritis traditions, consistent with indigenous knowledge concepts (Berkes 2017; Hendry 2014) emphasizing the importance of local knowledge in creating meaningful and sustainable experiences.

Implications for Sustainable Tourism Development

The SEMO model provides significant practical contributions for sustainable surf tourism destination development. Integration of indigenous knowledge in tourist experiences not only

enriches spiritual dimensions but also creates sustainable competitive advantage difficult to replicate at other destinations. This aligns with differentiation strategy concepts in destination marketing emphasizing the importance of unique selling propositions.

Local community empowerment as cultural transmitters and spiritual guides provides dignified and economically valuable alternative livelihoods. Unlike mass tourism often characterized by exploitation, the SEMO model creates symbiotic relationships between tourists and local communities through mutual and meaningful cultural exchange. Preservation of indigenous knowledge through respectful tourism practices creates positive feedback loops where tourist appreciation strengthens local community pride and commitment to their traditions, crucial in globalization contexts often threatening cultural diversity and indigenous knowledge.

CONCLUSION

This research successfully developed the SEMO (Sensory Emotional Mystical Oneness) model integrating tourists' embodied experiences with Indonesian indigenous knowledge in Parangtritis surf tourism contexts. This model presents significant theoretical contributions by expanding embodied theory scope in tourism experiences and proposing new conceptual categories and models.

Key findings demonstrate that surf tourism behavior fundamentally constitutes embodied physical experience where body perception and awakening play crucial roles in experience quality. The SEMO model shows surf tourism experience as a dynamic process proceeding through embodied perception, embodied awakening, embodied emotion, and embodied extension, subsequently integrating with mystical and oneness dimensions through indigenous knowledge.

Integration of indigenous knowledge, particularly Nyi Roro Kidul beliefs and Javanese cultural philosophy, creates unique experiential dimensions not found at other surf destinations. Mystical and oneness dimensions provide depth and meaning transforming surfing activities from mere sports into spiritual and cultural journeys. The model can be implemented as a framework for sustainable surf tourism destination development integrating economic, socio cultural, and environmental aspects while supporting local community empowerment and cultural preservation.

RECOMMENDATIONS

This research recommends several strategic directions for advancing surf tourism sustainability at Parangtritis. First, destination management organizations should develop comprehensive implementation guidelines translating the SEMO model into operational frameworks for tour operators and guides. These guidelines must include specific protocols for facilitating mystical dimensions without commodifying indigenous spiritual beliefs, ensuring respectful cultural integration that benefits local communities economically while preserving authenticity.

Second, capacity building programs are essential for local communities to function effectively as cultural transmitters. Training should encompass storytelling techniques, entrepreneurial skills, and sustainable tourism principles, enabling community members to capitalize on their cultural knowledge while maintaining agency over how traditions are shared. Third, establishing multi stakeholder collaborative platforms involving government, operators, communities, and academia will ensure coordinated implementation and equitable benefit distribution.

Future Research Agenda

Future research should pursue five critical directions. First, quantitative validation of the SEMO model using structural equation modeling with representative samples ($n > 500$) across multiple destinations is imperative to establish generalizability and identify moderating variables such as cultural intelligence and spiritual orientation. Second, longitudinal studies tracking tourists over 12-24 months post visit are needed to assess lasting impacts on environmental attitudes, cultural sensitivity, and pro conservation behaviors, while simultaneously evaluating long term socio economic effects on host communities.

Third, comparative studies applying SEMO frameworks to other Indonesian surf destinations (Bali, Mentawai, Nias) and international sites with distinct indigenous knowledge systems will test model transferability and identify universal versus context specific elements. Fourth, critical research examining power dynamics, gender inclusion, and potential neo colonial dimensions in spiritual tourism commodification must address ethical concerns about cultural appropriation. Fifth, interdisciplinary collaborations integrating environmental science for ecological impact assessment, anthropology for deeper cultural understanding, and psychology for rigorous investigation of transformational processes will provide holistic insights into sustainable surf tourism development.

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