The 6 th

International Conference on Humanities and Social Sciences

on "Strengthening Academic Networks to Enhance Community Management and Development"



March 19-22, 2026

at **National University of Laos, Lao PDR.**


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This publication constitutes the refereed proceedings of the 6th International Conference on Humanities and Social Sciences, TSU-HUSOiCON 2026, under the theme of "Strengthening Academic Networks to Enhance Community Management and Development". The conference was held at the National University of Laos, Lao PDR, from March 19 to 22, 2026. The 21 full manuscripts in this publication were carefully reviewed and selected. The authors were from at least three countries: Thailand, Indonesia, and Malaysia. The articles were organized in topical sessions as follows: Education, Management, Social Sciences, and Cooperative and Work-Integrated Education.

Please note that the published articles in this publication underwent a quality review by two experts who were in certain or relevant fields from various institutions and who were not affiliated with the same university as the manuscript's author(s). The review was conducted in a double-blinded manner. All contents in the manuscript were the personal opinions of the authors and did not reflect the views or responsibilities of the Faculty of Humanities and Social Sciences, Thaksin University, or those of the editorial board. The author guidelines explicitly stated that the manuscript must adhere to ethical standards for publication. That is to say, plagiarism, data fabrication, or data falsification were to be avoided. The manuscript must not have been previously published elsewhere, submitted to other journals, or under consideration elsewhere.

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Preface

The 6th International Conference on Humanities and Social Sciences (TSU-HUSOiCON 2026) was organized by the World University Association for Community Development (WUACD) in collaboration with the Faculty of Humanities and Social Sciences, Thaksin University, Thailand and the Faculty of Economics and Business Management, National University of Laos, Lao PDR.

The event was co-hosted by the following institutions:
- Faculty of Business Administration and Communication Studies, Atma Jaya Catholic University of Indonesia, Indonesia
- Faculty of Language Studies and Human Development, University Malaysia Kelantan, Malaysia
- School of Communication, Universiti Sains Malaysia, Malaysia
- Faculty of Liberal Arts, Rajamangala University of Technology Srivijaya, Thailand
- Faculty of Humanities and Social Sciences, Chiang Rai Rajabhat University, Thailand
- Faculty of Liberal Arts, Huachiew Chalermprakiet University, Thailand

The objectives of TSU-HUSOiCON 2026 were to further the dissemination of research in the fields of humanities and social sciences, with a particular focus on the intersection of social innovation, sustainability, and the role of higher education in addressing global challenges. This conference offered a platform for researchers, academics, and graduate students from across the globe to share their work, engage in meaningful discussions, and forge new international collaborations to consolidate research strengths in such fields, thereby contributing to the development of innovative solutions for sustainable social progress and enhancing the international recognition of participating institutions.

We would like to extend our heartfelt gratitude to all our partners, the distinguished keynote speaker, the dedicated conference organizing committee, the conference organizers, and participating scholars whose contributions ensured the success of this event. It was our hope that the exchanges and collaborations generated during the conference would not only advance the field of humanities and social sciences but also contribute to the global discourse on social innovation and sustainability.

Faculty of Humanities and Social Sciences
Thaksin University
April 2026



Message from the Dean

On behalf of the World University Association for Community Development (WUACD), the Faculty of Economics and Business Management, National University of Laos, Lao PDR, and the Faculty of Humanities and Social Sciences, Thaksin University, Thailand, it is my great honour to extend heartfelt appreciation to all participants of the 6th International Conference on Humanities and Social Sciences (TSU-HUSOiCON 2026) under the theme "Strengthening Academic Networks to Enhance Community Management and Development". This joint annual conference will provide an academic platform for teachers, researchers, scholars, graduates, undergraduates, and others interested to disseminate knowledge and research findings, to exchange research experiences, and to expand international academic networks in the fields of humanities and social sciences. These academic engagements will not only enhance the university's international reputation and recognition for its contributions to social and national development but also promote the international scholarly collaborations of participating institutions to support community management and growth.

Nowadays, strengthening academic networks plays a critical role in enhancing effective community management and sustainable development. This conference has become a testament to the potential and opportunity of scholarly interdisciplinary dialogues among international academic collaborations, contributing to the advancement of knowledge and problem-solving competencies for addressing contemporary community management and sustainable development challenges. With the new insights exchanged, the cutting-edge research shared, and the thought-provoking discussions fostered through TSU-HUSOiCON 2026, innovative approaches can be adopted for more adaptive community management and sustainable development in the fields of humanities and social sciences through such established international scholarly networks.

I would like to extend my sincere gratitude to our co-hosts for their invaluable support, the organizing committee for their dedication and hard work, and the distinguished speakers, presenters, and participants for their active participation and valuable contributions. It is my sincere hope that TSU-HUSOiCON 2026 will provide a golden opportunity to inspire future research collaborations and strengthen international academic networks across diverse institutions and countries. I look forward to welcoming you to future conferences that will further strengthen international academic cooperation.

With warm regards and deepest appreciation,
Asst. Prof. Dr. Parichat Thudam
Dean, Faculty of Humanities and Social Sciences
Thaksin University

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SESSION 1:

Distinguished Honorary Presenters

From Local Wisdom to Global Network: The Role of Digital Humanities for Fostering Youth Leadership through Indigenous Knowledge-Based Education and Humor-Leadership for Community Development in the Era of Society 5.0: A Systematic Literature Review

Moses Glorino Rumambo Pandin[1*]

Abstract - This systematic literature review synthesizes and analyzes existing research on the intersection of digital humanities, indigenous knowledge-based education, humor-leadership, and youth leadership development within the context of Society 5.0. The study develops an integrated conceptual framework explaining how digital humanities can facilitate indigenous knowledge transmission to youth through humor-based pedagogical approaches, fostering glocal leadership competencies for community development. Following PRISMA guidelines, a comprehensive literature search was conducted across multiple databases. Eighteen studies meeting inclusion criteria were synthesized using thematic analysis. The findings reveal five major themes: (1) Digital humanities has evolved from preservation-focused to participatory, community-engaged methodologies prioritizing indigenous knowledge sovereignty; (2) Ethnopedagogy provides theoretical foundations for integrating indigenous knowledge into education with demonstrated effectiveness in Society 5.0; (3) Humor functions as a pedagogical bridge through anxiety reduction, memory enhancement, and social bonding, though its application to indigenous knowledge transmission remains understudied; (4) Youth leadership development requires culturally-grounded approaches fostering *Glocal-Leadership*, the capacity to navigate between global digital networks and local communities, with empirical studies highlighting the importance of active role empowerment, capacity building, and quality leader-member relationships; (5) Significant research gaps exist, particularly regarding humor-based indigenous education and longitudinal leadership outcomes. The review provides theoretical foundations for future empirical research and practical guidance for communities, educators, and policymakers.

Keywords: Digital Humanities, Glocal Leadership, Humor-Leadership, Indigenous Knowledge-Based Education, Youth Leadership

Introduction

The Society 5.0 era, conceptualized by the Japanese government as a human-centered society that balances economic advancement with the resolution of social problems through cyber-physical systems, presents both unprecedented challenges and opportunities for indigenous communities worldwide (Narvaez Rojas et al., 2021; Potočan, Mulej, & Nedelko, 2021). On one hand, the digital technologies central to Society 5.0 threaten to accelerate cultural homogenization and erode local knowledge systems. On the other hand, these same technologies offer powerful tools for documenting, preserving, and disseminating indigenous knowledge to new generations and global audiences.

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Indonesia, with approximately 1,340 ethnic groups and over 700 living languages, represents one of the world's richest repositories of indigenous knowledge. Yet this heritage faces accelerating erosion as younger generations migrate toward urban centers, adopt global digital cultures, and lose connection with ancestral wisdom traditions. The challenge of preserving indigenous knowledge is not merely archival but fundamentally pedagogical and developmental. It requires engaging the generations who will determine whether indigenous traditions survive and thrive.

Beyond preservation, indigenous knowledge systems contain sophisticated understandings of ecological sustainability, social cohesion, conflict resolution, and ethical decision-making, precisely the competencies needed for effective leadership in an era of climate change, social fragmentation, and rapid technological transformation. Dei et al. (2025) systematically documented indigenous knowledge's contributions to all 17 Sustainable Development Goals, demonstrating its relevance to agriculture, health, education, climate action, and peace-building.

The question, therefore, is not simply how to preserve indigenous knowledge but how to activate it. This requires educational approaches that resonate with digital-native generations while maintaining the integrity and depth of traditional knowledge. Digital humanities have evolved significantly from its origins in text encoding and statistical analysis. Contemporary digital humanities encompass participatory methodologies, community-based design, and ethical frameworks for working with indigenous communities. However, technology alone cannot solve what is fundamentally a pedagogical and psychological challenge. The effectiveness of digital humanities for indigenous knowledge transmission depends critically on how content is presented, how learners are engaged, and whether emotional connections are forged between young people and their cultural heritage.

Humor-based pedagogy offers a promising but underexplored approach. Research in educational psychology demonstrates that humor reduces anxiety, creates psychological safety, enhances memory retention, and builds social bonds (Deneire, 1995; Souto-Otero, et al., 2013). These mechanisms are directly relevant to indigenous knowledge transmission, where learners may feel intimidated by cultural expectations or disconnected from traditional content.

Research Objectives

This systematic literature review addresses the following questions: (a) How is digital humanities conceptualized and applied in the context of indigenous knowledge preservation and transmission?; (b) What theoretical frameworks and empirical evidence exist for indigenous knowledge-based education (ethno-pedagogy) in the Society 5.0 era?; (c) What is known about humor's role in education and leadership development, particularly regarding cultural and intergenerational learning?; (d) How is youth leadership development conceptualized in indigenous and culturally-grounded contexts?; and (e) What integrated framework can be synthesized from these literatures to guide research and practice at their intersection?

Literature Review

The literatures of digital humanities and indigenous knowledge reveal a significant evolution in how digital humanities approaches indigenous knowledge. Dei et al. (2025), in their systematic review of indigenous knowledge characteristics, identified that indigenous knowledge is fundamentally "local, community-owned, intergenerational, holistic, and largely tacit." This has profound implications for digital humanities: if knowledge is community-owned, digital initiatives must be governed by communities; if knowledge is intergenerational, digital platforms must facilitate transmission across age groups; if knowledge is holistic, digital representations must preserve context and connection.

Sucidha (2025), studying Banjar oral literature preservation in South Kalimantan, demonstrated that successful digital heritage initiatives require robust participatory methodologies. The Lamut storytelling tradition was preserved not through top-down digitization but through participatory action research engaging traditional storytellers, technology developers, educators, and youth in collaborative knowledge creation. Tella, et al., (2025) advanced this argument through their work training Kichwa language models using the Meta Llama framework, emphasizing ethical AI development where technology provides access without diminishing community authority. Liew, Yeates, and Lilley (2021) confirmed that digitized indigenous knowledge collections positively impact intergenerational knowledge transmission, strengthen social connections, and reinforce cultural identity. Oladokun et al. (2024) explored how immersive technologies, such as virtual reality, augmented reality, and the metaverse, can create new modalities for experiencing cultural heritage.

Ethnopedagogy, defined as culture-based educational approaches, has emerged as a significant framework for integrating indigenous knowledge into formal and informal learning contexts. Wardani et al. (2024) conducted a literature review on ethnopedagogy for civic education in Society 5.0, finding that this approach enables educators to create a curriculum that honors the cultural values of their students, while leveraging technology for more individualized and interactive learning experiences. Hidayat et al. (2023) reviewed ethnopedagogy for science learning in Society 5.0, concluding that technology can support ethnopedagogical approaches by enabling teachers to develop content reflecting students' cultural values.

Hendrawan, et al., (2025) examined the Cireundeu Traditional Village in West Java, revealing that cassava-based food independence embodies comprehensive cultural values: self-sufficiency, environmental stewardship, and communal solidarity. Derlicki (2004) provided nuanced findings on ethnopedagogy among Yukaghir people in Yakutia, showing that introduction of "ethnic subjects" could either revitalize or distort traditional culture depending on implementation. Hashim, et al., (2026), Apriyadi, et al., (2025), Juwanti, et al., (2026) demonstrated that ethnopedagogical interventions positively shaped future attitudes toward students values. Putro and Kustini (2022) found that combining cultural learning with scientific content increased both student engagement and cultural awareness.

The literatures of Humor in Education and Leadership supported several researches, such as Deneire (1995) identified multiple mechanisms through which humor enhances learning: capturing attention, creating positive emotional states, facilitating social bonding, and providing mnemonic hooks for information retrieval. Klöcker, S. (2009) developed a toolbox of non-formal learning activities using comedy techniques for the Salto-Youth platform, building young people's communication skills, confidence, and capacity for active citizenship. Stewart, (2016) and Hill, (2022) developed programes, using improv to build self-awareness, resilience, and collaboration skills.

Meanwhile, Den Hartog et al. (1999), in their landmark Globe study, found that charismatic or transformational leadership elements were universally endorsed across cultures while other dimensions showed significant variation. Roche, et al., (2022) emphasizing university’s curriculum transformed the students. Walsh, L., & Black, R. (2023) demonstrated the power of cultural engagement. Luqmi et al. (2025) identified three outcomes of technology integration supporting youth leadership: cultural digitalization strengthens identity; technology adoption increases socio-economic resilience; and integration of traditional ecological knowledge with modern technology creates sustainable development models.

Mochammad et al. (2023) found that effective leadership emerges from active role empowerment, capacity building through training, and multi-stakeholder collaboration. Arrasyid et al. (2019), through Leader-Member Exchange theory, highlighted that the quality of relationships between leaders and members significantly influences performance outcomes.

Research Methodology

This systematic literature review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) 2020 guidelines (Page et al., 2021). A comprehensive literature search was conducted across multiple electronic databases: Scopus (Elsevier), Web of Science (Clarivate Analytics), Google Scholar, Directory of Open Access Journals (DOAJ), ERIC (Education Resources Information Center), JSTOR, and ProQuest Dissertations & Theses Global.

Boolean search logic combined terms: ("digital humanities" OR "digital preservation" OR "digital archive") AND ("indigenous knowledge" OR "local wisdom" OR "traditional knowledge" OR "ethnopedagogy") AND ("youth" OR "adolescent" OR "young people") AND ("leadership" OR "leader development" OR "glocal leadership") AND ("humor" OR "humour" OR "comedy") AND ("Society 5.0" OR "Society 5"). The search covered publications in English and Indonesian.

Inclusion criteria: (a) Peer-reviewed journal articles, conference proceedings, and book chapters; (b) Empirical studies (quantitative, qualitative, mixed-methods); (c) Publications addressing at least two core domains; (d) Focus on youth or intergenerational contexts; (e) Published 2015-2026; and (f) Theoretical papers and systematic reviews.

From an initial pool of records, 18 studies met all inclusion criteria and were included in the final synthesis. Data were extracted using a standardized form capturing: author(s), year, publication source; research aims; theoretical framework; methodology; key findings; and gaps identified. Thematic synthesis followed Braun and Clarke's (2021) reflexive thematic analysis approach.

Results

Of the 18 studies included in the final synthesis show in the Table 1.

No	Author(s), Year	Research Aims	Theoretical Framework	Methodology	Key Findings
1	Dei, et al. (2025).	To synthesize the characteristics and applications of indigenous knowledge for sustainable development	Indigenous knowledge theory, SDGs framework	Systematic review	Indigenous knowledge contributes to all 17 SDGs; is local, community-owned, intergenerational, holistic, and tacit
2	Sucidha, I. (2025).	To document the digital preservation of Banjar oral literature (Lamut) in South Kalimantan	Participatory action research, digital preservation theory	Mixed-methods	Participatory digital platform increased users from 250 to 1,200 with 68% retention; success requires involvement of all stakeholders
3	Oladokun, et al.(2024)	To explore immersive technologies (VR/AR/metaverse) for cultural preservation	Immersive technology theory, cultural preservation	Literature review	Immersive technologies allow young people to "visit" ancestral sites and participate in virtual rituals

No	Author(s), Year	Research Aims	Theoretical Framework	Methodology	Key Findings
4	Wardani, et al. (2024)	To examine ethnopedagogy for civic education in the Society 5.0 era	Ethnopedagogy, civic education theory	Literature review	Ethnopedagogy enables curricula that honor students' cultural values; technology supports personalized and interactive learning experiences
5	Hidayat, et al.(2023).	To review ethnopedagogical approaches for science learning in the Society 5.0 era	Ethnopedagogy, science education theory	Literature review	Technology supports ethnopedagogical approaches; teachers can develop content reflecting students' cultural values
6	Hendrawan, et al., (2025)	To examine ethnopedagogy and local wisdom of Cireundeu Village in social transformation strategies	Ethnopedagogy, local wisdom theory	Qualitative case study	Cireundeu community maintains cultural identity while adapting to modernity; values of food self-sufficiency, environment, solidarity
7	Derlicki, J. (2004)	To examine the role of school in cultural transmission among Yukaghir youth in Yakutia	Ethnopedagogy, cultural transmission theory	Ethnography	Introduction of "ethnic subjects" can revitalize or distort culture depending on implementation; community teachers more effective
8	Putro, M., & Kustini, K. (2022)	To examine Cireundeu ecotourism and the Sundanese way of life	Ethnopedagogy, ecotourism	Case study	Combining cultural learning with scientific content increases student engagement and cultural awareness

No	Author(s), Year	Research Aims	Theoretical Framework	Methodology	Key Findings
9	Luqmi, et al. (2025)	To examine integration of local wisdom and modern technology in the Society 5.0 era	Technology integration, local wisdom	Literature review	Three outcomes: cultural digitalization strengthens identity; technology adoption increases socio-economic resilience; integration of ecological knowledge with technology creates sustainable development models
10	Narvaez, et al. (2021)	To examine the concept of Society 5.0 as a super-intelligent society	Society 5.0 framework	Literature review	Society 5.0 balances economic advancement with social problem-solving through cyber-physical systems
11	Liew, et al. (2021)	To examine impact of digitized indigenous knowledge collections on knowledge transmission, social connections, and cultural identity	Digital humanities, indigenous knowledge	Mixed-methods	Digital collections positively impact intergenerational knowledge transmission, strengthen social connections and cultural identity
12	Mochamad, et al., (2023)	to determine the impact of leadership, stakeholders' roles, tourist actors' competence, and the implementation of the Tourism Development Master Plan (RIPPARDA) on the governance of tourist destinations		Quantitative research	Leadership can be achieved by increasing the mayor's active role, while stakeholders can help by providing information through travel services or selling souvenirs at tourist attractions. The competence of tourism actors must also be

No	Author(s), Year	Research Aims	Theoretical Framework	Methodology	Key Findings
					improved through extensive training.
13	Arrasyid, et al. (2019)	To examine the relationship between employee commitment and supply chain integration dimensions by Leader-Member Exchange (LMX) to explain several performance measures, such as flexibility, delivery, quality, inventory and customer satisfaction	Leader-Member Exchange (LMX) theory	Literature review	the effect of LMX quality on performance is determined by the characteristics of the task as antecedent LMX in the company.
14	Tella, et al., (2025)	To explore how digital technology and artificial intelligence can be leveraged to preserve indigenous knowledge.	A framework focusing on the integration of traditional knowledge systems with modern technology. The article likely discusses concepts such as *digital preservation*, *knowledge management*, and the role of AI in cataloging and translating orally transmitted knowledge.	Literature review or conceptual study.	Digital technologies (databases, digital archives) and AI (machine learning, natural language processing) offer significant opportunities to document, store, and provide access to indigenous knowledge.
15	Souto-Otero, et al., (2013)	To study the impact of Non-Formal Education (NFE) within youth organizations on young people's employability.	A framework linking the concepts of *non-formal education*, *employability*, and *lifelong learning*. *Human capital theory* likely serves as a foundation, where investment in education and training (including NFE) enhances an individual's productivity and value in the job market.	Mixed-methods study.	Non-Formal Education has a significant positive impact on developing various skills, especially *soft skills* such as leadership, teamwork, communication, and problem-solving.

No	Author(s), Year	Research Aims	Theoretical Framework	Methodology	Key Findings
16	Stewart, C. P. (2016)	To investigate the effects of improv comedy classes on college students.	A framework rooted in positive psychology and *experiential learning theory*. Improvisation is seen as an intervention that can train spontaneity, acceptance, collaboration (the "yes, and..." principle), and reduce social anxiety.	Quantitative and Qualitative	Participation in improvisation classes significantly increased students' self-confidence and oral communication skills.
17	Walsh, L., & Black, R. (2023)	To critique the concept of "empowerment" in the context of indigenous youth leadership.	*Social ecology* framework (Bronfenbrenner) to understand the influence of various environmental layers (family, community, society, policy) on individual development. Additionally, uses postcolonial or critical theory to deconstruct how the term "empowerment" often comes from a Western perspective and may overlook existing power structures.	Qualitative study.	The concept of "empowerment" is often problematic because it assumes power is given by an external entity, whereas indigenous communities already possess their own forms of leadership and resilience.
18	Hashim, et al., (2026)	To conduct a scoping review to identify the impacts and main components of ethnopedagogy practice in cultural literature.	Rooted in the concept of *ethnopedagogy*, which is a learning approach that integrates local wisdom and cultural knowledge into pedagogical practices. This article seeks to map the research landscape on how cultural values are taught.	Scoping Review	The main components of ethnopedagogy include integrating local cultural values, mother tongue, folklore, oral traditions, and artistic cultural practices into the teaching and learning process.

The study reveals an evolution from preservation-focused to participation-engaged paradigms. Successful initiatives are characterized by community ownership, participatory design, capacity building, and appropriate infrastructure. Sucidha (2025) demonstrated that participatory design yields sustained engagement, with the Lamut platform growing from 250 to 1,200 active users with 68% retention. Tella, et al., (2025) established the principle of technology supporting rather than supplanting community authority. Liew et al. (2021) confirmed that digital collections positively impact intergenerational knowledge transmission

when communities maintain control. Oladokun et al. (2024) explored immersive technologies for experiencing cultural heritage.

Ethnopedagogy provides robust foundations for indigenous knowledge-based education. Wardani et al. (2024) and Hidayat et al. (2023) confirmed its relevance to Society 5.0's personalized, technology-enhanced learning. Hendrawan et al. (2025) demonstrated how the Cireundeu community maintains cultural identity while adapting to modernity. Derlicki (2004) highlighted the critical role of community authority in implementation. Hashim, et al., (2026), Apriyadi, et al., (2025), Juwanti, et al., (2026) showed that formal education can transmit indigenous knowledge when properly designed. Putro and Kustini (2022) found that combining cultural learning with scientific content increases engagement.

Deneire (1995) documented humor's mechanisms: attention capture, anxiety reduction, memory enhancement, social bonding. Stewart, (2016) and Hill, (2022) demonstrated humor-based leadership programs' effectiveness. However, no studies examine humor's application to indigenous knowledge transmission.

Den Hartog et al. (1999) established that while charismatic leadership elements are universally endorsed, cultural context shapes leadership expressions. Walsh, L., & Black, R. (2023) demonstrated that cultural engagement strengthened identity and confidence. Luqmi et al. (2025) identified how technology integration supports leadership through cultural digitalization, socio-economic resilience, and knowledge integration.

Mochammad et al. (2023) found that effective leadership emerges from active role empowerment, capacity building through training, and multi-stakeholder collaboration. Arrasyid et al. (2019), through LMX theory, highlighted that relationship quality between leaders and members significantly influences outcomes, a principle directly applicable to intergenerational mentorship.

Connections identified that digital humanities provides infrastructure for knowledge access, ethnopedagogy provides pedagogical frameworks, leadership provides purpose for engagement, and cultural identity strengthening emerges across domains.

Discussion and Conclusion

The literature reveals a clear evolution from preservation-focused to participation-engaged paradigms. Contemporary digital humanities for indigenous knowledge, as demonstrated by Sucidha (2025) and Tella, et al., (2025), is characterized by community ownership, participatory design, ethical protocols, and attention to knowledge sovereignty. Technology is positioned as supporting rather than supplanting community authority. Liew et al. (2021) confirm that when communities maintain control, benefits extend beyond preservation to active cultural revitalization. However, the literature focuses predominantly on preservation rather than how digital platforms might actively foster youth engagement or leadership development.

Ethnopedagogy provides robust theoretical foundations, with Wardani et al. (2024) and Hidayat et al. (2023) confirming its relevance to Society 5.0's technology-enhanced learning. Hendrawan et al. (2025) show how communities maintain cultural values while adapting to modernity, while Derlicki (2004) provides important nuance about community authority in implementation. Key principles include honoring cultural values, integrating local wisdom, leveraging technology, and maintaining community authority. However, the literature focuses primarily on formal schooling, with limited attention to community-based, intergenerational contexts crucial for indigenous knowledge transmission.

Humor's educational mechanisms are well-documented and humor-based leadership programs demonstrate effectiveness (Deneire, 1995). However, a complete gap exists regarding humor's application to indigenous knowledge transmission. This represents the most significant opportunity for future research, particularly given the natural affinity between oral traditions, storytelling cultures, and humor-based engagement strategies.

Leadership development in indigenous contexts emphasizes cultural grounding, community connection, and ethical orientation alongside universal competencies. Den Hartog et al. (1999) established that cultural context significantly shapes leadership expressions, providing theoretical foundation for "glocal leadership"—the capacity to navigate global networks while maintaining local rootedness.

Walsh, L., & Black, R. (2023) demonstrates the transformative power of cultural engagement for youth leadership. Luqmi et al. (2025) identify how technology integration supports leadership development by strengthening cultural identity, creating economic opportunities, and positioning youth as knowledge bridges.

Mochammad et al. (2023) demonstrate that effective leadership emerges from active role empowerment, structured capacity building, and multi-stakeholder collaboration. These insights have direct implications: programs must position youth in roles where they can exercise leadership, provide training in cultural and digital competencies, and create opportunities for collaboration with elders and external stakeholders.

Arrasyid et al. (2019), through LMX theory, highlight that the quality of relationships between leaders and members critically determines outcomes. Translated to intergenerational contexts, this suggests that the effectiveness of knowledge transfer and leadership development is mediated by the quality of relationships between youth and their mentors—elders, community leaders, educators.

Based on synthesis of all studies, we propose the Digital Humor-Based Indigenous Leadership Framework with five core components: Ethical Digital Infrastructure, Indigenous Knowledge Curation, Humor-Based Pedagogical Design, and Interactive Digital Engagement, Glocal Leadership Incubation. These provide: a) interdisciplinary synthesis integrating digital humanities, ethnopedagogy, and leadership development; b) conceptual integration through the DHB-ILF framework; c) glocal leadership articulation for indigenous contexts; d) humor-indigenous knowledge gap identification; and e) extension of LMX theory and structured leadership development models to indigenous youth contexts.

Based on these, the practical implications can be suggested: 1) For indigenous communities through establishing youth-elders working groups for digital content creation; develop community protocols; create recognition systems for youth contributions; design structured mentorship programs building high-quality relationships; 2) For educators by integrating local wisdom into curricula through digital modalities; partner with communities for authentic transmission; assess leadership outcomes; and create opportunities for student leadership roles; 3) For policymakers by funding digital infrastructure with community governance; support participatory digitization; protect indigenous intellectual property; recognize indigenous knowledge in education standards; 4) For technology developers thorugh designing platforms with community participation features; ensure accessibility; incorporate engagement elements; develop tools facilitating intergenerational communication; and 5) For researchers by prioritizing participatory methodologies; conduct studies testing humor-based interventions; undertake longitudinal research tracking leadership outcomes; investigate cross-cultural applicability; and apply LMX theory to study intergenerational mentorship.

Limitations

This review is limited to 18 studies, which may not capture full research breadth. Language restrictions to English and Indonesian may exclude relevant research. Publication bias may overrepresent positive findings. Geographic imbalance limits global generalizability.

Conclusion

The review confirms evolution toward participation-engaged paradigms in digital humanities, robust theoretical foundations of ethnopedagogy, and well-documented yet underutilized potential of humor.

The concept of *Glocal Leadership* emerges as a framework for developing youth who navigate between global digital networks and local indigenous communities. This integration enriches the framework by highlighting structured capacity building, active role empowerment, and high-quality leader-member relationships as critical for effective leadership incubation.

The proposed Digital Humor-Based Indigenous Leadership Framework offers conceptual foundation for future research and practice. However, significant gaps remain: the complete absence of research on humor-based indigenous knowledge transmission represents the single most significant opportunity for future inquiry.

For indigenous communities, educators, policymakers, and technology developers, this review provides guidance for creating digital platforms and pedagogical approaches that activate indigenous knowledge as a living resource for developing the next generation of Glocal Leaders.

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From Pity to Respect: A Case Study of Digital Advocacy and Social Perceptions of Cerebral Palsy in Penang

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Abstract

Children with cerebral palsy (CP) are often positioned in public discourse through narratives of pity, dependency, and limitation. In Malaysia, discussions of CP remain relatively limited and are frequently framed through medical or charitable perspectives, leaving the socio-cultural dimensions of disability underexplored. This paper presents a qualitative case study of *Sprout Up!*, a three-month digital advocacy campaign conducted in collaboration with a CP centre in Penang. Adopting an anthropological perspective on disability and stigma, the study examines how social media platforms function as spaces where meanings of disability are negotiated. The analysis draws on social media content, audience comments, participatory features such as anonymous public questions, and reflective documentation from the campaign's implementation. Particular attention is given to how narratives, visual representations, and interactive engagement on Instagram and Facebook shaped public responses to CP. Findings indicate a gradual discursive shift from pity-based representations toward narratives emphasising respect, capability, and social inclusion. Participatory interaction enabled audiences to articulate uncertainty, reconsider assumptions, and engage with alternative representations of disability. The study contributes to discussions on disability and digital culture by demonstrating how social media can function as a site of symbolic negotiation where dominant representations are challenged and more inclusive narratives emerge.

Keyword: Cultural Representation, Digital Advocacy, Disability, Social Perception, Stigma

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Introduction

Disability is not solely a medical condition; it is also a cultural category shaped by social meanings, moral expectations, and everyday practices. Contemporary disability scholarship increasingly recognises the shift from a purely medical model to a social and relational understanding of disability, where environmental and attitudinal barriers shape lived experiences (Qi et al., 2023; Skyum-Jensen, 2025). Across many societies, including Malaysia, children with cerebral palsy (CP) are frequently positioned within public discourse through narratives of pity, dependency, and limitation. Cultural beliefs and traditional interpretations of disability, alongside biomedical explanations, continue to influence how impairments are understood in Malaysian society (Qi et al., 2023). These representations do not simply describe physical differences; they construct social identities that influence how individuals are treated, included, or excluded in daily life. Stigma theory further suggests that such socially constructed identities extend beyond the individual to affect family members, shaping social interactions and opportunities (Zakaria et al., 2022). While medical research on CP has expanded in recent decades, less attention has been given to the socio-cultural processes through which disability is understood, represented, and negotiated in contemporary Malaysian society.

In Malaysia, discussions surrounding cerebral palsy remain relatively limited in mainstream public discourse compared to other developmental conditions. When present, such discussions often emerge through charitable appeals, medical explanations, or fundraising initiatives. Although these efforts are important, they may unintentionally reinforce deficit-oriented frameworks by centring vulnerability rather than agency. From an anthropological perspective, the issue is not only access to services but also the symbolic positioning of children with CP within broader cultural narratives about normality, productivity, and social value. Research on caregiver experiences highlights how socioeconomic structures and institutional arrangements further shape the lived realities of families raising children with CP (Ismail et al., 2022; Ying et al., 2021). Social stigma, everyday interactions, and public assumptions therefore become central to understanding how disability is lived and experienced within Malaysian cultural contexts (Qi et al., 2023; Zakaria et al., 2022).

With the rise of digital platforms, social media has become a key arena in which cultural meanings are constructed, circulated, and contested. Instagram and Facebook are no longer merely communication tools; they function as socio-digital environments where identities are performed, moral values are expressed, and collective attitudes are negotiated. Contemporary scholarship demonstrates that digital spaces shape participation not simply through access, but through socially situated practices that enable users to appropriate technological affordances in ways that reflect their capacities and constraints (Smit et al., 2025). Rather than assuming digital literacy as a prerequisite for engagement, research shows that participation can occur through relational support structures, visual communication, and tactical adaptation, thereby redefining what inclusion means in digital societies (Smit et al., 2025).

Digital environments enable participatory interaction, allowing users not only to consume content but also to comment, question, reinterpret, and co-produce meaning. From an anthropological standpoint, these platforms may be understood as sites of mediated knowledge production and multimodal meaning-making (Westmoreland, 2022), where dominant representations can be reinforced or challenged. Within this context, the present study contributes to research on media communication and social development by examining how digital advocacy reshapes cultural perceptions of disability.

Research Objectives

This paper examines how digital advocacy can intervene in the cultural framing of disability. It presents a qualitative case study of *Sprout Up!*, a three-month digital advocacy campaign conducted in collaboration with a cerebral palsy centre in Penang. The campaign was developed by final-year Digital Communication students at the School of Communication, Universiti Sains Malaysia, with the aim of leveraging digital platforms to raise awareness and promote more inclusive perceptions of children with cerebral palsy (CP).

Rather than focusing on medical rehabilitation, the campaign foregrounded social attitudes, everyday interaction, and the language used to describe disability. Through short-form videos, educational posts, and participatory features, the initiative sought to shift public perception of children with CP from narratives of pity toward narratives emphasising dignity, respect, and inclusion.

Adopting an anthropological perspective on stigma and representation, this study investigates how social media content and audience interaction contributed to renegotiating the social meanings attached to CP. The analysis draws on campaign content, audience comments, participatory features such as anonymous public questions, and reflective documentation from the campaign's implementation. Particular attention is given to discursive shifts in language, tone, and moral framing evident in public engagement.

By examining this case, the paper contributes to discussions on disability and digital culture by illustrating how participatory digital media can challenge deficit-oriented representations and encourage more inclusive narratives surrounding disability.

Literature Review

Participatory interaction in digital environments, which enables users to comment, question, reinterpret, and co-produce meaning, compels these platforms to operate as spaces that generate emotional energy and symbolic value (Rizk & Hillier, 2022). Digital engagement can therefore operate as a form of cultural capital, shaping visibility and credibility within networks (Rizk & Hillier, 2022). At the same time, online spaces may reproduce subtle forms of stigma and benevolent ableism, where "inspirational" or charitable framings reinforce hierarchies of normality and dependence (McQuillan & Sorte, 2025; Smith et al., 2025). As digital participation increasingly structures public discourse, understanding how disability is represented and negotiated within these environments becomes an important area of inquiry.

Disability scholarship has consistently challenged biomedical reductionism by emphasising the social and cultural dimensions of impairment. In many societies, including Malaysia, cultural beliefs and religious interpretations significantly influence how disability is understood and responded to in everyday contexts (Qi et al., 2023). This perspective aligns with the social model of disability, which locates disadvantage within relational, environmental, and structural conditions rather than solely within the body (Skyum-Jensen, 2025). Within this framework, stigma emerges not simply as individual prejudice but as a socially embedded process that operates through everyday categorisation and moral evaluation.

Research with adults living with CP documents persistent stereotypes, interpersonal discomfort, and systemic barriers that shape lived experience (Smith et al., 2025). Studies of ableism further identify forms of "benevolent" discrimination i.e., well-intentioned but infantilising practices that subtly reinforce assumptions of incapacity and dependency (McQuillan & Sorte, 2025). Importantly, individuals with CP are not passive recipients of stigma; scholarship highlights strategies of resistance, including narrative reframing and public self-advocacy that challenge deficit-oriented representations (Dahl & Dammeyer, 2024; Gaskin et al., 2026).

Stigma surrounding disability is also intertwined with broader structural and socioeconomic conditions. Families raising children with CP frequently navigate both symbolic and material challenges that shape everyday life. In Malaysia, caregiver well-being has been shown to be influenced by socioeconomic status, child health conditions, and access to institutional support (Ying et al., 2021). Economic analyses further demonstrate the substantial financial burden associated with caregiving, particularly indirect costs that affect household stability and employment opportunities (Ismail et al., 2022). These findings illustrate how representation, stigma, and structural vulnerability intersect. Cultural interpretations of disability are often embedded within moral and religious narratives that shape expectations of independence, productivity, and social contribution. As a result, disability is not merely understood as a medical condition but as a social identity negotiated within broader moral frameworks.

Anthropological scholarship provides additional tools for interrogating these normative assumptions. Critical disability studies argue that ableism is embedded within institutional and disciplinary norms themselves, including implicit assumptions about the autonomous and hypermobile "normate" bodymind (Durban, 2022). Such assumptions naturalise independence as a moral standard and position disability as deviation from the expected human condition. Alternative perspectives challenge this hierarchy by emphasising relationality and interdependence as fundamental aspects of human life.

For instance, theological anthropology conceptualises dependence not as deficiency but as an inherent condition of human existence, thereby destabilising productivity-based hierarchies of value (Iozzio, 2025). Evolutionary anthropology similarly complicates idealised narratives of childhood by demonstrating that across much of human history children were exposed to variable environmental conditions, with phenotypic plasticity emerging as an adaptive response (Frankenhuis & Amir, 2022). These perspectives collectively challenge culturally specific assumptions that equate normal development with uninterrupted safety, independence, or high resource investment.

Within contemporary societies, digital platforms increasingly mediate how these cultural meanings are produced and circulated. Ethnographic research indicates that marginalised individuals often develop tactical strategies to participate online, drawing on social networks and multimodal communication practices to navigate structural barriers (Smit et al., 2025). Participation in digital environments is therefore not reducible to formal literacy or technical expertise but is shaped by relational resources and adaptive practices. Nevertheless, research on social media in health promotion warns that many campaigns prioritise visibility and engagement metrics without necessarily producing sustained shifts in belief or behaviour (Ghahramani et al., 2022). This highlights the importance of examining discursive transformation, particularly changes in language, tone, and moral framing, rather than relying solely on quantitative indicators of engagement.

From a multimodal anthropological perspective, digital platforms are not neutral conduits but mediating infrastructures that reshape knowledge production and social interaction. Visual, textual, and interactive elements operate together to produce layered meanings that influence how identities and social categories are understood (Westmoreland, 2022). In this sense, digital advocacy can be conceptualised as a cultural practice that mobilises multimodal resources to contest dominant representations and introduce alternative narratives. By circulating images, stories, and interactive exchanges, digital campaigns may create opportunities for the renegotiation of stigma and the rearticulation of disability within more inclusive cultural frameworks.

Research Methodology

This study adopts a qualitative case study approach to examine how digital advocacy may intervene in the cultural framing of disability. The case focuses on *Sprout Up!*, a three-month digital advocacy initiative conducted in collaboration with a CP centre in Penang. Rather than evaluating campaign effectiveness through performance metrics alone, this research analyses the campaign as a site of discursive negotiation within digitally mediated public space.

Data were drawn from multiple sources generated during the campaign period. These include: (1) publicly available Instagram and Facebook posts produced by the campaign team; (2) audience comments and replies; (3) interactive features such as story polls and anonymous public question submissions ("Open Heart Corner"); (4) user-generated content (UGC) submissions; (5) influencer collaboration posts; and (6) reflexive documentation maintained by the campaign team during implementation. Offline components, including street interviews and a physical pop-up booth, were also incorporated where they intersected with digital circulation. The data sources analysed in this study are summarised in Table 1.

Table 1 Data Sources Used in the Study

Data Source	Description	Purpose in Analysis
Social media posts	Instagram and Facebook posts published during the three-month Sprout Up! campaign	Examined narrative framing and visual representation of cerebral palsy
Audience comments	Public responses and discussion threads on campaign posts	Analysed public attitudes, language use, and discursive patterns
Street interviews	Short interviews conducted with members of the public in Penang	Identified baseline awareness and common misconceptions about CP
Participatory features	Anonymous questions submitted through the "Open Heart Corner"	Examined moral uncertainty and interactional concerns about disability
User-generated content	Visual and textual contributions from participants	Observed participatory engagement and narrative co-production
Campaign documentation	Reflective notes and records from campaign implementation	Provided contextual understanding of content development

A qualitative thematic and discursive analysis was conducted. Attention was paid to patterns in language use, moral framing, affective tone, and shifts in audience response across the campaign timeline. Rather than treating engagement numbers as indicators of success, the analysis focused on how meanings were articulated, reinforced, questioned, or reframed in interaction. Ethical considerations included anonymising audience comments and ensuring that no identifiable information of children with CP was disclosed beyond content already publicly shared with consent through the collaborating organisation.

By treating the campaign as an ethnographic site, this study examines digital advocacy not merely as communication strategy, but as a cultural practice embedded within local moral worlds and mediated publics.

Results

This section presents the empirical findings from the *Sprout Up!* case study. Rather than evaluating the initiative through marketing performance indicators, the analysis examines how meanings surrounding CP were articulated, reproduced, and reframed within digital interaction. By tracing patterns in audience comments, participatory submissions, influencer engagement, and multimodal storytelling, this section identifies how stigma and moral assumptions surfaced and how alternative representations were negotiated over time.

The findings are organised thematically, reflecting key dimensions identified in the literature on stigma, ableism, and digital participation.

Pity, Sympathy, and Benevolent Ableism

Early audience engagement revealed that children with CP were frequently positioned within a charitable or pity-based frame. Public street interviews conducted during the awareness phase showed that many respondents associated CP primarily with “kesian” (pity), dependency, and limitation. Online comments similarly included expressions of sympathy framed in protective or infantilising tones.

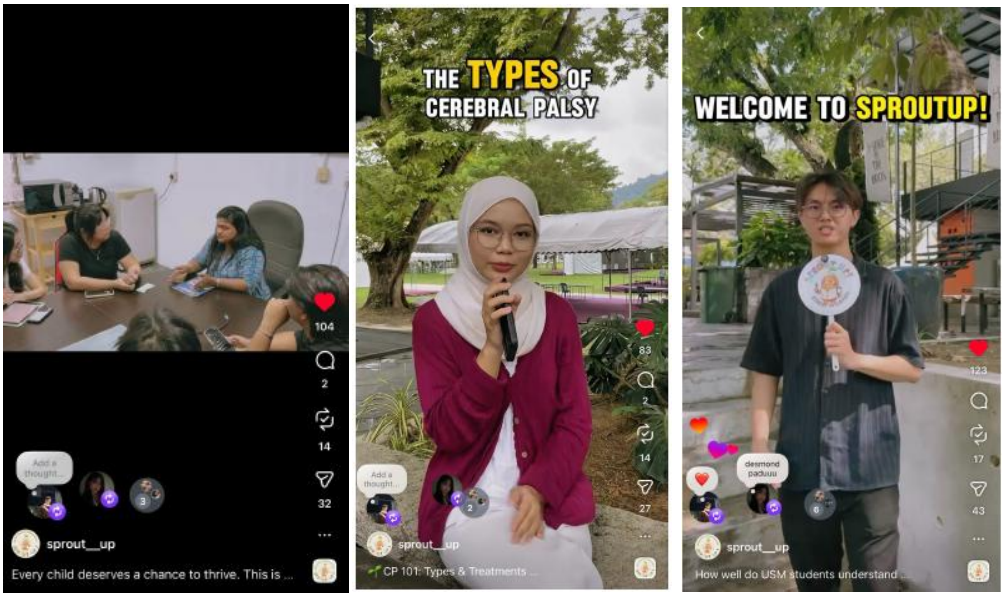


Figure 1 Example of social media content in the form of educational videos on Instagram and TikTok.
Source: The project’s social media platform.

Such responses reflect what disability scholarship describes as benevolent ableism; forms of care and compassion that nonetheless reinforce assumptions of incapacity and difference. Rather than overt hostility, the dominant early narrative positioned children with CP as objects of sympathy rather than social actors. This moral framing subtly reproduced hierarchies of normality by centring perceived deficit.

These findings are consistent with broader research showing that stigma operates not only through exclusion but through everyday categorisation and moral evaluation. The digital space did not eliminate these assumptions; rather, it made them visible.

Ignorance, Curiosity, and Moral Distance: Insights from Street Interviews

The street interviews conducted during the early phase of the campaign functioned as an elicitation tool, revealing baseline public understanding of CP, as seen in Figure 2. A recurring response across participants was uncertainty or lack of knowledge, frequently expressed through statements such as "don't know" or visible hesitation before answering. Rather than articulating overtly negative attitudes, respondents often displayed unfamiliarity with the condition and uncertainty about appropriate interaction.



Figure 2 Street interview around Penang to examine the local public awareness of CP.
Source: The project's social media platform.

This pattern is significant. The absence of explicit hostility suggests that stigma in this context may stem less from rejection than from social distance. Responses such as "don't know" reflect informational gaps but also limited exposure to children with CP and few opportunities for meaningful interaction. Such distance aligns with research showing that stigma often operates through routine categorisation and lack of contact rather than deliberate exclusion (Smith et al., 2025).

Several respondents also associated CP primarily with visible impairment or difficulty, reinforcing a deficit-oriented lens. This reflects patterns of benevolent ableism in which

disability is framed through sympathy and perceived limitation rather than capability (McQuillan & Sorte, 2025). Even when compassionate in tone, these responses implicitly positioned children with CP outside normative expectations of childhood.

The street interviews also provided a baseline for later campaign materials. Follow-up interviews conducted toward the end of the campaign revealed more nuanced responses, including references to inclusion, respect, and ability. Although this shift cannot be attributed solely to the campaign, the contrast suggests that exposure to reframed narratives may influence how disability is publicly articulated.

In this sense, the street interviews functioned not only as promotional content but as diagnostic material, surfacing latent assumptions and providing a discursive baseline for analysing subsequent engagement.

Moral Uncertainty and Reflexive Questioning

The introduction of participatory features; particularly the anonymous "Open Heart Corner", created structured opportunities for the articulation of uncertainty. Audience members submitted questions such as how to speak to a child with CP without being offensive, whether help should be offered proactively, and how to respond appropriately to visible physical differences. These questions did not express overt prejudice; instead, they revealed anxiety about "doing the wrong thing".

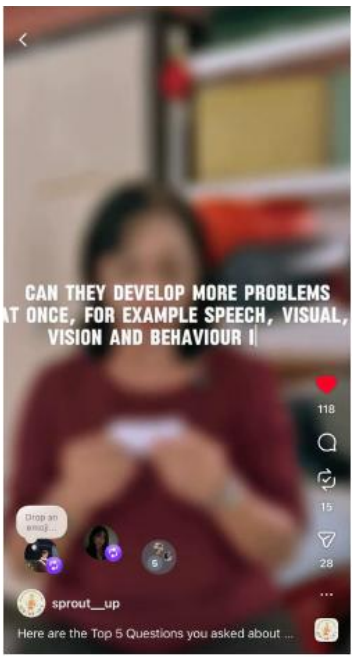


Figure 3 Open Heart Corner answer section video featuring a teacher from the centre and parents with CP child.
Source: The project's social media platform.

This distinction is analytically significant. Research on stigma shows that exclusion often operates through everyday categorisation and interactional discomfort rather than explicit hostility (Smith et al., 2025). In this case, the dominant tone was hesitation and moral self-monitoring, suggesting that stigma was shaped by unfamiliarity and limited exposure rather than deliberate rejection.

Such responses also reflect what has been described as benevolent ableism, where individuals intend to be compassionate yet remain uncertain about how to navigate difference without reinforcing hierarchy (McQuillan & Sorte, 2025). The uncertainty was therefore structured by assumptions about vulnerability, dependence, and normative childhood.

Digital anonymity allowed these tensions to surface. By lowering social risk, the Open Heart Corner enabled participants to articulate questions that might otherwise remain unspoken. Mediated environments with multimodal and interactive affordances can create spaces where socially sensitive issues are expressed and examined collectively (Smit et al., 2025; Westmoreland, 2022). In this sense, the platform functioned as a micro-public where moral boundaries surrounding disability were negotiated.

Figure 3 illustrates how these questions were addressed through response videos featuring a teacher from the centre and parents of a child with CP. These replies did more than correct misinformation; they modelled interactional norms. Educational reels, myth-versus-fact carousels, and short-form videos foregrounding capability translated abstract guidance into practical relational scenarios, shifting the focus from "what is CP?" to "how should we relate?"

In doing so, the campaign contributed to a subtle recalibration of moral positioning. Rather than reinforcing deficit-based assumptions, the responses reframed dependence and difference in relational terms. As scholarship on confronting ableism suggests, such reframing requires intentional narrative intervention rather than passive awareness (Gaskin et al., 2026).

This dynamic transformed the campaign from a one-directional awareness initiative into a dialogic process. Questions generated new content, which in turn shaped subsequent engagement. Through this cycle, assumptions were surfaced and reconsidered, allowing meaning to emerge through exchange rather than institutional instruction.

From an anthropological perspective, the platform functioned as a micro-public where norms governing interaction with children with CP were collectively negotiated. In this space, moral expectations surrounding disability were articulated and, in some instances, gradually reoriented.

Multimodal Reframing and the Politics of Representation

The campaign relied on multimodal storytelling, including short-form videos, carousel infographics, street interviews, voiceover narratives ("See My Ability, Not My Disability"), and visual branding. These formats did more than disseminate information; they shaped how disability was perceived. Visual content highlighting children's activities, such as drawing, participating in events, and daily routines, shifted attention from impairment to agency.

Voiceover narratives written from a child's perspective reframed CP from an external condition to lived subjectivity, while influencer collaborations embedded disability discourse within mainstream digital culture rather than charity-oriented framing.

Through repeated circulation, these representations accumulated symbolic value. Interaction rituals such as liking, sharing, and commenting reinforced narratives of dignity and participation, allowing digital engagement to function not only as visibility but also as validation.



Figure 4 A series of interview and sharing by a successful CP individual based in Penang.
Source: The project's social media platform.

An additional example of multimodal reframing is the profile video featuring Ms Tan Chin Chin (Figure 4), which foregrounded her personal narrative, educational affiliation, and achievements at Universiti Sains Malaysia. Unlike charity-oriented imagery that centres vulnerability, this content positioned a person with CP within institutional and aspirational space. The opening caption "Meet Ms Tan Chin Chin, from challenges to achievements at USM" framed disability not as limitation but as trajectory. The visual format, including direct address, name introduction ("Hi, I am Tan Chin Chin"), and a calm seated interview setting, constructed subjecthood rather than spectacle.

Importantly, this post relocated disability discourse from the realm of caregiving to that of capability and public participation. By associating CP with higher education and professional identity, the campaign disrupted deficit-based expectations of normative adulthood. Rather than isolating disability within therapeutic or charitable contexts, the video embedded it within mainstream markers of social contribution. These reframing challenges implicit assumptions about productivity and competence that underpin ableist hierarchies.

The affective response in the comment section i.e., expressions of admiration and affirmation, further illustrates how multimodal storytelling can recalibrate audience perception. Through repetition and circulation, such narratives accumulate symbolic legitimacy, reinforcing dignity-centred representation rather than pity-based framing.

Participation and the Redistribution of Narrative Authority

As the campaign sought to shift representations of CP from pity to dignity, participation became the mechanism through which this shift occurred. By incorporating user-generated captions, visual submissions, and peer interaction, narrative authority was not confined to institutional

messaging but opened to socially situated contributions. This participatory structure reflects Smit et al.'s argument that participation can emerge through socially embedded practices that allow individuals to bypass structural barriers. In this context, participants did not require professional or medical language to express their perspectives. Everyday expressions such as drawings, captions, and short-form digital posts became legitimate forms of engagement, redistributing narrative visibility across peer networks rather than concentrating it within expert voices.

The campaign's use of visuals, reels, captions, and interactive formats also reflects a multimodal approach to knowledge production. These elements did not simply diversify content but reshaped how knowledge about CP was communicated and circulated. Representation thus became layered rather than singular. This shift is significant within disability discourse, where disability has historically been framed through medical or charitable narratives that emphasise dependency (Shakespeare, 2013). By enabling participants to articulate CP within digital spaces in their own terms, the campaign challenged these inherited frames and moved representation from speaking about individuals with CP toward facilitating discourse alongside lived experience.

Discursive Shifts Over Time

Comparing early street interviews with later engagement patterns reveals a gradual shift in how CP was publicly articulated. Initial responses were marked by uncertainty and pity-based framing, with children with CP described mainly through limitation or vulnerability. Although sympathetic in tone, these responses reflected unfamiliarity and deficit-oriented assumptions.

As the campaign progressed, comments and follow-up interviews increasingly used language of inclusion, respect, and equal treatment. The tone shifted from observational distance ("they are different") toward relational positioning ("we should treat them equally"), suggesting movement from charitable framing toward dignity-centred discourse.

This change is assessed through qualitative shifts in language rather than engagement metrics. Early expressions of ignorance formed a discursive baseline, while subsequent interaction and storytelling enabled rearticulation. This aligns with research showing that stigma is reproduced through everyday language and requires repeated narrative intervention to challenge (Smith et al., 2025; Gaskin et al., 2026).

The campaign's multimodal approach likely facilitated this shift. Visual storytelling, voiceovers, and influencer collaborations embedded alternative representations within everyday digital interaction, gradually disrupting deficit-centred imagery (Rizk & Hillier, 2022). Nevertheless, traces of benevolent framing remained, suggesting that digital advocacy may recalibrate public discourse without fully transforming underlying beliefs (McQuillan & Sorte, 2025).

Discussion

The findings suggest that digital advocacy operates as a site of symbolic negotiation rather than simple information dissemination. Early audience responses reflected benevolent yet hierarchical framings of children with CP, positioning them within narratives of sympathy and limitation (McQuillan & Sorte, 2025; Smith et al., 2025). Rather than explicit hostility,

disability was articulated within a moral register of care that nonetheless reinforced asymmetry and expectations of dependency.

However, these framings were not fixed. Dahl and Dammeyer (2024) note that contemporary care discourses have evolved from charity to medicalisation and more recently toward empowerment. The *Sprout Up!* campaign appears to operate within this transitional space. While initial responses reflected charity-based positioning, participatory engagement gradually introduced language emphasising agency and dignity. Anonymous questions and comment threads revealed uncertainty and lack of exposure rather than rejection, supporting arguments that stigma often emerges through routine categorisation rather than deliberate exclusion (Smith et al., 2025).

Resistance to ableist framing requires intentional narrative intervention (Gaskin et al., 2026). Although *Sprout Up!* was organised by communication students rather than adults with CP, its use of voiceover storytelling and first-person framing echoed such narrative strategies, foregrounding participation and lived experience.

The campaign's multimodal structure—combining video, visual storytelling, and interactive features—also shaped this reframing. As Westmoreland (2022) notes, contemporary knowledge production increasingly operates through multimodal communication. By highlighting everyday activities and capability, the campaign disrupted deficit-oriented imagery and repositioned children with CP within shared social worlds.

At the same time, the findings caution against overly optimistic assumptions about digital transformation. Although shifts in tone and language were observed, traces of charitable framing persisted. This supports critiques that engagement on social media does not necessarily translate into structural change (Ghahramani et al., 2022). Digital advocacy may reshape symbolic representation while leaving broader institutional inequalities largely intact (Skyum-Jensen, 2025; Ismail et al., 2022).

From an anthropological perspective, the case illustrates how disability categories are continually produced through interaction. The "normate" ideal—autonomous, productive, and independent—remains influential in public imagination (Durban, 2022). Yet the shift from pity-centred language toward dignity-centred framing suggests that symbolic boundaries remain negotiable when narrative authority becomes more distributed within digital discourse.

Conclusion

This study examined how digital advocacy may intervene in the cultural framing of CP within a Malaysian context. By analysing the *Sprout Up!* campaign as a qualitative case study, the research moves beyond engagement metrics to focus on discursive transformation within digitally mediated publics.

The findings highlight three key insights. First, stigma in digital environments often appears through benevolent and sympathetic language rather than overt hostility. Such framing can reproduce hierarchies of normality while maintaining a compassionate tone. Second, participatory digital interaction, particularly anonymous questioning and user engagement, can facilitate reflexive discussion in which audiences reconsider assumptions about disability. Third, digital advocacy functions as a symbolic practice embedded within broader cultural and

structural conditions; it can reshape representation but does not in itself eliminate underlying material inequalities.

Anthropologically, the study positions social media platforms as contemporary arenas where social categories such as disability are continuously produced, circulated, and contested. Disability therefore emerges not as a fixed attribute but as a relational identity negotiated through everyday interaction, representation, and moral evaluation. The *Sprout Up!* case demonstrates how localised digital initiatives may contribute to alternative narratives emphasising dignity, participation, and belonging.

At the same time, the campaign highlights the importance of multimodal representation in shaping how disability is perceived. Visual storytelling, voiceover narratives, and participatory media formats did not merely communicate information but structured how capability, agency, and difference were interpreted within digital interaction. Future research may therefore build on this study by examining more closely the role of multimodal communication in reframing disability discourse, particularly the politics of representation through which visual and narrative forms redistribute narrative authority in digital publics.

More broadly, understanding how symbolic transformation in digital discourse relates to structural change in social attitudes and institutional practice remains an important direction for interdisciplinary disability research.

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Analyzing Deceptive Communication in Artificial Intelligence-Based Crime: A Bibliometrics Research

Miharaini Md Ghani[1*]

Abstract

Artificial intelligence (AI) is increasingly shaping today's digital communication environment, making it possible to generate highly convincing synthetic media and automated interactions. While these technological developments bring significant benefits, they also create new opportunities for cyber-enabled crimes that rely on deceptive communication, such as deepfake impersonation, AI-assisted fraud, and automated social engineering. Despite the growing attention given to artificial intelligence ethics and cybersecurity, research that specifically examines deceptive communication within AI-based crime remains scattered across different disciplines. To better understand this emerging research landscape, this study conducts a bibliometric analysis to map global scholarly trends in the field. Using the Scopus database, a total of 430 publications were analysed to explore publication growth, leading contributing countries, major research themes, and international collaboration patterns. It also would benefit from the inclusion of explicit theoretical grounding, particularly by indicating the theoretical or conceptual framework that informed the data collection and analysis process. Integrating theory which is communication theory, deception frameworks, or AI-related models will enhance the scholarly rigor and clarify how the bibliometric approach is anchored within a broader academic perspective. The results show a noticeable rise in research activity, particularly after 2022, with the highest number of publications recorded in 2025, reflecting increasing academic interest in AI-related cyber threats. Keyword analysis highlights several core themes in the literature, including artificial intelligence, cyber security, crime, deepfake, machine learning, and digital forensics, demonstrating the interdisciplinary nature of the field. Advanced techniques such as convolutional neural networks and generative adversarial networks also appear prominently, indicating their importance in detecting manipulated digital content. In terms of geographical contribution, India and the United States emerge as the most productive countries, while collaboration networks reveal strong international partnerships among multiple regions. Overall, this study provides a clearer picture of how research on deceptive communication in AI-based crime is evolving and highlights the importance of interdisciplinary and global collaboration in addressing emerging digital security challenges.

Keywords: Deceptive Communication, Artificial Intelligence (AI), Synthetic Media, Cyber-enabled Crime, Bibliometric Analysis

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Introduction

The digital landscape is currently undergoing a paradigm shift driven by the rapid maturation of artificial intelligence (AI). Historically, cyber-attacks were characterized by technical exploits code-based vulnerabilities requiring deep engineering expertise to breach static defenses. However, the emergence of sophisticated generative architectures, most notably Generative Adversarial Networks (GANs), Large Language Models (LLMs), and neural voice synthesis, has introduced a more insidious threat: the automation of human-centric deception (Koc, C., Özyurt, F., & Iantovics, L. B., 2025). These technologies have enabled the creation of high-fidelity synthetic media, or "deepfakes," which are indistinguishable from authentic human communication to the untrained eye and ear.

Even these advancements offer unprecedented opportunities for creative expression and industrial automation, they have simultaneously democratized the tools of sophisticated fraud. As noted by Chesney, B., & Citron, D. (2019), the "liar's dividend" and the ability to fabricate realistic personas at scale have fundamentally altered the digital communication ecosystem. AI-enabled crimes have moved beyond simple script-based phishing into a realm of communicative manipulation. This involves the construction of perceived authority, emotional urgency, and social trust through synthetic identities and automated social engineering (Brundage, M., Avin, S., Clark, J., Toner, H., Eckersley, P., Garfinkel, B., ... & Amodei, D., 2018). Unlike traditional malware, these offenses exploit the cognitive biases of the human recipient rather than the technical flaws of a machine.

Despite the growing gravity of this threat, the academic response remains fragmented. Scholarly discourse is currently bifurcated into technical domains focusing on detection algorithms and adversarial robustness and ethical/legal domains, addressing privacy and governance (Tsamados, A., Aggarwal, N., Cowls, J., Morley, J., Roberts, H., Taddeo, M., & Floridi, L., 2022). There is a critical lack of integrated research that systematically maps how "deceptive communication" is conceptualized and studied across these disparate fields. Understanding how scholars define, measure, and analyze these communicative tactics is essential for developing interdisciplinary defenses that are both technically sound and psychologically informed.

To address this gap, the present study employs a bibliometric analysis to explore the global research landscape of AI-based deceptive communication from 2017 to 2026. This decade represents the "golden age" of generative AI, spanning from the initial popularization of GANs to the ubiquitous integration of transformer-based models in everyday life. By analyzing publication trajectories, author productivity, and citation impacts, this research seeks to identify the intellectual gatekeepers of the field. Furthermore, by examining keyword co-occurrence and international collaboration networks, the study aims to visualize the thematic evolution of the discipline, moving from basic technical feasibility to the complex sociological and psychological implications of synthetic deception (Mirsky, Y., & Lee, W., 2021).

Ultimately, this introduction posits that as AI becomes more "human" in its communicative capabilities, the study of AI crime must become more interdisciplinary. By identifying existing research patterns and identifying underserved niches, this bibliometric mapping provides a

foundation for future scholarship to bridge the gap between computer science, linguistics, and criminology.

Research Questions

1) What are the research trends in these studies according to the year of publication?
2) Which are the top 10 countries discussed about the topics?
3) What are the popular keywords related to the study?
4) What are co-authorship countries' collaboration?

Literature Review

The academic discourse surrounding artificial intelligence (AI) and crime has undergone a significant transformation between 2017 and 2026, moving from speculative warnings to empirical analyses of "AI-Crime" (AIC) (Hayward, K. J., & Maas, M. M., 2021). Central to this evolution is the concept of deceptive communication, which has been redefined by the advent of generative AI. Recent scholarship proposes a "quadruple deception" framework, encompassing deceit regarding the ontological status of an interactional counterpart, the perceived capacities of the AI, and the fabrication of trust through synthetic media (Ismail, A. M., Jusoh, M. Y. F., Ghani, M. M., Adnan, S. M., Ubaidillah, N. H. N., Fazel, M. F., ... & Lani, M. N., 2026).

The Shift to Communicative Manipulation

Contemporary literature identifies a critical shift in digital malfeasance: a move away from technical hacking toward "hacking human psychology." While traditional cybercrime relied on code-based exploits, AI-enabled offenses such as deepfake impersonation and automated phishing prioritize communicative manipulation to manufacture authority and emotional urgency (Brundage et al., 2018). Schmitt, M., & Flechais, I. (2024) highlight that generative AI has effectively eliminated the "telltale signs" of fraud, such as poor grammar or generic messaging, by producing context-aware, flawless prose that mimics specific individual writing styles. This "3D-Sec" triad such as Deepfakes, Deception, and Disinformation, it leverages lifelike NLP and synthetic media to disrupt cognitive and socio-psychological behaviors, fundamentally weakening digital trust (Mah, P. M., 2026).

Artificial intelligence-driven deception operates through a set of advanced computational mechanisms that extend beyond surface-level definitions of deepfakes, disinformation, and deceptive communication. Specifically, AI technologies such as generative adversarial networks (GANs) enable the creation of highly realistic synthetic media, including manipulated videos, audio, and images that are often indistinguishable from authentic content (Ramdurai, B., & Adhithya, P., 2023). In addition, natural language processing (NLP) models facilitate the automated generation of persuasive and contextually tailored textual content, which can be used to spread disinformation at scale. These systems are further amplified by algorithmic recommendation engines on digital platforms, which prioritize engagement-driven content and inadvertently accelerate the dissemination of deceptive information. Consequently, AI-driven

deception is not only a product of content manipulation but also of algorithmic amplification and networked distribution, making it a complex socio-technical phenomenon that requires deeper analytical attention.

Theoretical Frameworks and Thematic Clusters

Scholars have increasingly adapted traditional criminological theories to explain these digital transgressions. The Routine Activity Theory (RAT), for instance, has been re-contextualized as "Cyber-RAT" to account for how AI automates the reconnaissance of suitable targets while operating in environments where "capable guardians" (automated detection systems) are often bypassed (Alahmed, T., 2024). Bibliometric analyses of the field reveal three dominant thematic clusters: AI-based fraud detection models, blockchain integration for security, and big data analytics for real-time mitigation. However, a recurring criticism in the literature is that research remains "siloed," with a heavy emphasis on algorithmic precision over the behavioral and linguistic indicators of deception (Gupta, N., 2023).

Global Trends and Research Gaps

A geographic and disciplinary disparity persists in current scholarship. Bibliometric data indicates that while there has been a surge in publication volume, particularly after the popularization of transformer models in 2020 which is the majority of research is concentrated in North America and Europe, with limited engagement from social sciences in emerging economies. Furthermore, while technical detection for deepfakes has advanced, there is a "critical lacuna" in how deceptive communication itself is systematically conceptualized across interdisciplinary boundaries (Ghani, M. M., Mustafa, W. A., Hanafi, H. F., Lah, N. H. C., Al-Dolaimy, F., & Alkhayyat, A., 2023). Future research is increasingly called to bridge the gap between computer science and linguistics to better understand the "intent to deceive" as it filters through AI-generated language (Chisholm, R. M., & Feehan, T. D., 1977).

Research Methodology

The structural framework of this study is grounded in bibliometric analysis, a quantitative method used to extract, manage, and statistically evaluate bibliographic data from scientific literature. Rather than offering a traditional narrative summary, bibliometrics provides a high-level synthesis of a field's architecture. This study moves beyond basic descriptive statistics such as identifying core journals, publication years, and prominent authors to employ more sophisticated techniques, including document co-citation and keyword co-occurrence analysis (Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M., 2021).

Systematic Search Strategy

A rigorous literature review requires a systematic and iterative procedure to ensure the selection of relevant keywords and a comprehensive search of the existing body of knowledge. This approach minimizes bias and ensures that the resulting bibliography is both representative and reliable. To maintain a high standard of data integrity, the study focused exclusively on high-

impact publications, as these works provide the most significant insights into the theoretical frameworks currently shaping the discourse on AI-based deceptive communication (Derviş, H., 2019).

Data Source and Selection Criteria

To ensure maximum data accuracy and breadth, Scopus served as the primary repository for data collection (Pradana, M., Elisa, H. P., & Syarifuddin, S., 2023). Scopus was selected over other databases due to its expansive coverage of interdisciplinary research, particularly at the intersection of computer science, linguistics, and criminology.

Strict eligibility criteria were applied to maintain the quality of the dataset:

Document Type: The study considered only articles published in peer-reviewed academic journals. Non-periodical literature, such as books, book chapters, and lecture notes, were deliberately excluded to ensure the analyzed data reflects the most current and rigorously vetted scholarly debates (Lazarides, M. K., Lazaridou, I. Z., & Papanas, N., 2025).

Language: Only documents published in English were included to facilitate standardized linguistic and thematic analysis.

Temporal Scope: The search period was defined from 2017 to 2026, capturing the most volatile and innovative period of AI development following the mainstreaming of transformer-based models.

Analytical Workflow

The metadata retrieved from Scopus including titles, abstracts, author affiliations, and citation counts underwent a multi-stage analysis. VOSviewer was utilized for science mapping, creating visual networks of co-authorship and keyword co-occurrence. This dual-tool approach allows for a granular understanding of how the concept of "deceptive communication" has evolved from a niche technical concern into a global interdisciplinary research priority.

Data Search Strategy

An advanced search strategy was employed using the Scopus database to systematically retrieve publications related to deceptive communication in artificial intelligence-based crime. The search query was constructed using a combination of Boolean operators and keyword variations to ensure comprehensive coverage of relevant literature (Salisbury, L., 2009). Tables 1 and 2 present the detailed search string and inclusion-exclusion criteria applied in this study:

Table 1 : The Search String

Scopus	*("artificial intelligence" OR "AI") AND (crime OR fraud OR scam OR cybercrime) AND (deception OR "deceptive communication" OR deepfake) AND (Malaysia)*

Table 2 : Inclusion and Exclusion Table

Criterion	Inclusion	Exclusion
Database	Scopus	All other repositories
Document Type	Peer-reviewed Journal Articles	Books, Chapters, Conference Notes
Time Period	2017 – 2026	Before 2017
Language	English	All other languages
Subject Area	Computer Science, Social Science, Criminology	Medicine, Art, Physical Sciences

This structured query was designed to capture studies positioned at the intersection of artificial intelligence technologies and criminal activities involving deceptive mechanisms. The inclusion of alternative terminology such as “fraud,” “scam,” and “cybercrime” broadened the scope of criminal contexts, while terms such as “deception,” “deceptive communication,” and “deepfake” ensured the retrieval of research addressing manipulative communicative strategies rather than purely technical AI security studies.

The use of Boolean operators (AND, OR) allowed for controlled expansion and narrowing of the dataset. The “OR” operator ensured inclusivity of synonymous or closely related terms, whereas the “AND” operator restricted results to publications that simultaneously addressed AI, criminal activity, and deception elements. This approach minimized irrelevant retrievals and enhanced conceptual alignment with the study’s objective (Carcassi, F., & Sbardolini, G., 2023).

To maintain data quality and consistency for bibliometric analysis, only peer-reviewed journal articles and conference papers published in English were included. Publications outside the defined thematic scope, such as AI applications unrelated to crime or crime studies without technological AI components, were excluded.

The final dataset was exported in CSV format for subsequent bibliometric analysis using Scopus Analyzer and VOSviewer.

Data Analysis

The bibliographic data retrieved from the Scopus database were analysed using a combination of descriptive bibliometric techniques and network visualization methods. The exported dataset included information on publication year, authors, affiliations, source titles, abstracts, citations, and author keywords. The analysis was conducted using Scopus Analyzer and VOSviewer (version 1.6.20) to identify research trends, intellectual structures, and thematic clusters within the field of deceptive communication in artificial intelligence-based crime (Ejaz, H., Zeeshan, H. M., Ahmad, F., Bukhari, S. N. A., Anwar, N., Alanazi, A., ... & Younas, S., 2022).

Descriptive analysis was first performed to examine annual publication trends, most productive authors, citation impact, and leading countries contributing to the research domain. This step provided an overview of the growth trajectory of the field and highlighted influential contributors.

Subsequently, VOSviewer software was used to generate bibliometric network maps. The software applies the association strength normalization technique to calculate relationships between items. The association strength (ASij) is defined as:

$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

This normalization method ensures that co-occurrence relationships are adjusted proportionally, allowing more accurate clustering and visualization.

Two primary analyses were conducted:

Keyword Co-occurrence Analysis

This analysis identified dominant research themes by mapping relationships among frequently occurring author keywords such as “deepfake,” “cybercrime,” “fraud,” “misinformation,” and “machine learning.” Keywords with a minimum occurrence threshold were selected to enhance clarity and reduce noise. The resulting network visualization revealed thematic clusters representing major research directions.

Co-authorship Network Analysis

Co-authorship mapping was performed to examine collaboration patterns among countries and institutions. Total link strength was used as an indicator of collaboration intensity, reflecting the frequency of joint publications between entities.

The visualization maps generated by VOSviewer were interpreted based on node size (representing frequency or citation impact), link thickness (indicating strength of relationship), and cluster color (denoting thematic grouping). Larger nodes indicated dominant themes or highly productive contributors, while closer spatial positioning signified stronger conceptual relationships. Through this structured bibliometric analysis, the study provides a systematic mapping of the research landscape on deceptive communication in artificial intelligence-based crime, highlighting thematic evolution, collaboration patterns, and emerging research gaps (SHARIPUDIN, M. N. S., Syauki, W. R., Ghani, M. M., Tresnawaty, B., & Congyu, Z., 2025).

Discussion and Conclusion

1) What are the research trends in these studies according to the year of publication?

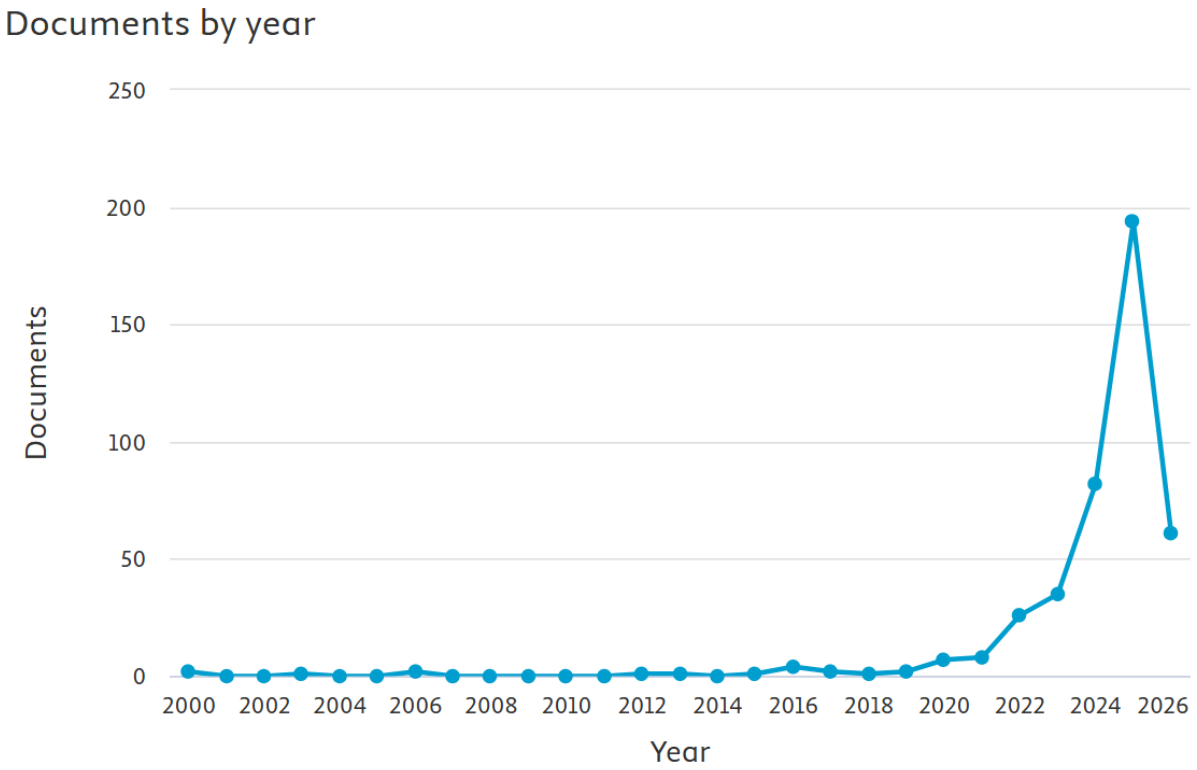


Figure 1: Plotting Document Publication by Years

Table 3 : Publication By Years

Year	Number of Document
2026	61
2025	194
2024	82
2023	35
2022	26
2021	8
2020	7
2019	2
2018	1
2017	2

The publication trend in this research field from 2017 to 2026 demonstrates a clear pattern of gradual emergence followed by rapid growth, reflecting the increasing scholarly attention toward topics related to artificial intelligence, cybersecurity, and digital forensics. During the early phase between 2017 and 2019, the number of publications remained very limited, with only 2 documents in 2017, 1 document in 2018, and 2 documents in 2019. This relatively low output suggests that the research area was still in its formative stage, with limited academic focus and possibly

restricted technological maturity or interdisciplinary integration at the time. A modest increase began to appear in 2020 (7 publications) and 2021 (8 publications), indicating the early expansion of scholarly interest as artificial intelligence technologies became increasingly integrated into discussions of digital security, cybercrime, and automated detection systems.

A more visible shift occurred from 2022 onwards, where publications increased to 26 documents, marking the beginning of a growth phase in the research domain. This rise likely reflects the broader global attention toward emerging digital threats, including deepfake technologies, AI-driven cybercrime, and misinformation, which have increasingly attracted academic investigation. The upward trajectory continued in 2023 with 35 publications, suggesting that the field was steadily gaining momentum. However, the most significant expansion occurred in 2024, where the number of publications sharply increased to 82 documents. This rapid growth indicates a period of intensified research activity, potentially influenced by the global proliferation of generative artificial intelligence technologies, heightened concerns over digital deception, and increased investment in cybersecurity and AI governance.

The research output reached its peak in 2025 with 194 publications, representing the highest level of scholarly productivity within the dataset. This substantial surge may reflect the growing urgency among researchers, policymakers, and technological communities to understand and address the implications of rapidly advancing AI systems, particularly in relation to deepfake generation, cyber threats, and digital security challenges. The surge also suggests that the field has transitioned from a niche research area into a mainstream interdisciplinary domain, attracting contributions from computer science, cybersecurity, communication studies, and behavioral research.

In 2026, the number of publications recorded stands at 61 documents, which appears lower compared to the previous year. However, this decline should be interpreted with caution, as the year may still be ongoing and therefore does not yet reflect the complete volume of publications for that period. Similar patterns are common in bibliometric analyses where the most recent year often appears underrepresented due to indexing delays or incomplete database records.

Overall, the publication trend illustrates a rapidly expanding research trajectory, particularly from 2022 onwards, indicating that the field is currently experiencing a period of strong academic growth. The dramatic rise between 2023 and 2025 highlights the increasing global relevance of artificial intelligence and cybersecurity-related issues, while the earlier years reflect the initial development stage of the research domain. These fluctuations demonstrate how technological advancements, digital transformation, and emerging security challenges have shaped the evolution of scholarly research in this area, emphasizing the need for continued interdisciplinary collaboration and sustained academic engagement to address the complex challenges posed by emerging digital technologies.

2)Which are the top 10 countries discussed about the topics?

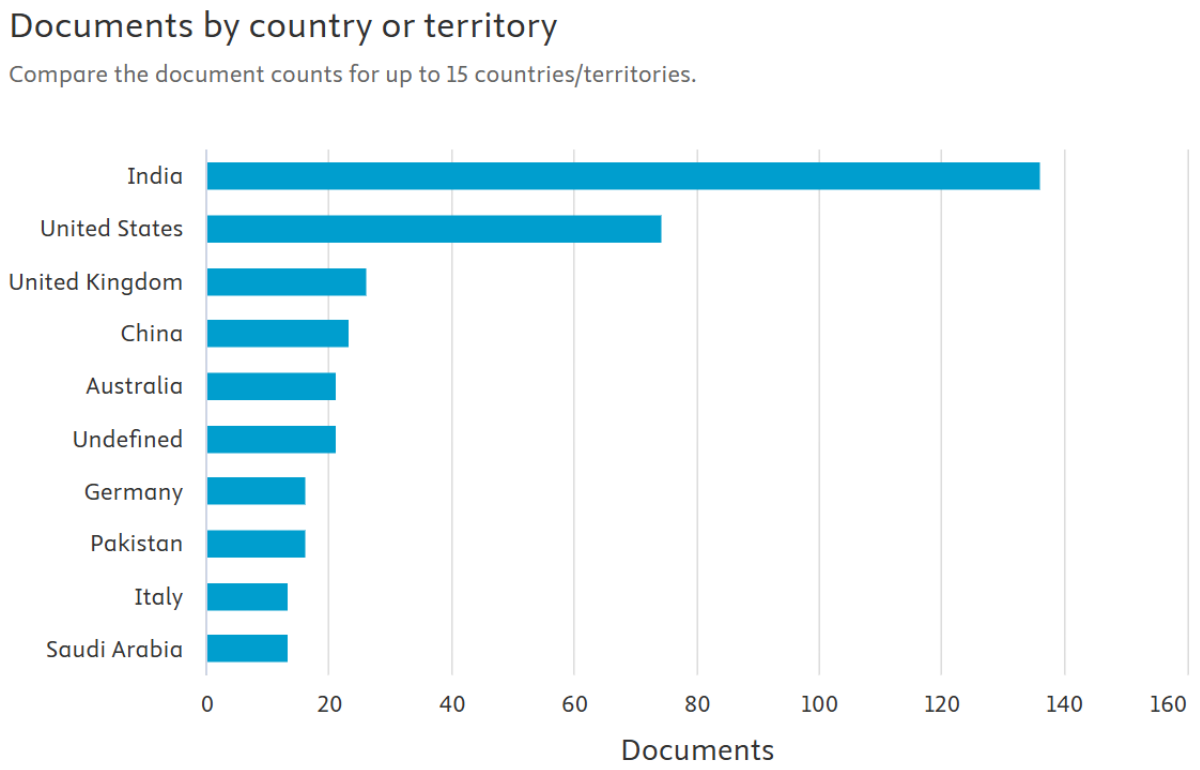


Figure 2 : Top 10 Countries of Publications

The analysis of documents by country or territory reveals a strong geographical concentration of research output within several leading countries. India emerges as the most dominant contributor, producing 136 documents (37.88%), which accounts for more than one-third of the total publications. This substantial output indicates India's significant involvement in the research domain, suggesting an active academic community and increasing national interest in areas related to artificial intelligence, cybersecurity, and digital forensics. The United States ranks second with 74 publications (20.61%), demonstrating its continued influence in global technological research and its strong contribution to the advancement of artificial intelligence-related studies.

While the findings indicate that India demonstrates a relatively high volume of publications in AI-driven deception research within the Scopus database, this observation should be interpreted with caution. Publication quantity alone may not fully reflect technological leadership or innovation capacity, particularly when compared to widely recognized global leaders such as the United States and China. Therefore, a more nuanced analysis is necessary to examine the specific research topics, thematic focus, and scholarly impact of these publications. Future investigation should consider the qualitative dimensions of the literature, including the nature of contributions, research depth, and citation influence, to better understand how India's academic output aligns with its actual position in the global AI landscape. This approach would provide a more empirically grounded interpretation and avoid overgeneralization based solely on publication counts.

Following these leading countries, the United Kingdom contributes 26 documents (7.24%), while China accounts for 23 publications (6.41%), reflecting their important roles in shaping global research in emerging technologies and digital security. Australia and the Undefined category each contribute 21 publications (5.85%), indicating moderate research participation within the dataset. The presence of an undefined category may reflect incomplete author affiliation data or publications where the country information was not clearly indexed in the database.

Table 4 : Documents by Country/Territory

Country/Territory	Documents	Percentage (%)
India	136	37.88%
United States	74	20.61%
United Kingdom	26	7.24%
China	23	6.41%
Australia	21	5.85%
Undefined	21	5.85%
Germany	16	4.46%
Pakistan	16	4.46%
Italy	13	3.62%
Saudi Arabia	13	3.62%

Other countries contributing to the research landscape include Germany and Pakistan, each producing 16 publications (4.46%), followed by Italy and Saudi Arabia, both with 13 publications (3.62%). Although these countries represent smaller proportions of the total output, their participation highlights the increasingly global nature of research collaborations within this field. Collectively, the distribution of publications suggests that while a few countries dominate research production, a diverse range of nations are actively contributing to the development of knowledge in artificial intelligence and related technological domains. This pattern reflects the growing international interest in addressing complex challenges associated with digital transformation, cybersecurity threats, and AI-driven technologies.

3)What are the popular keywords related to the study?

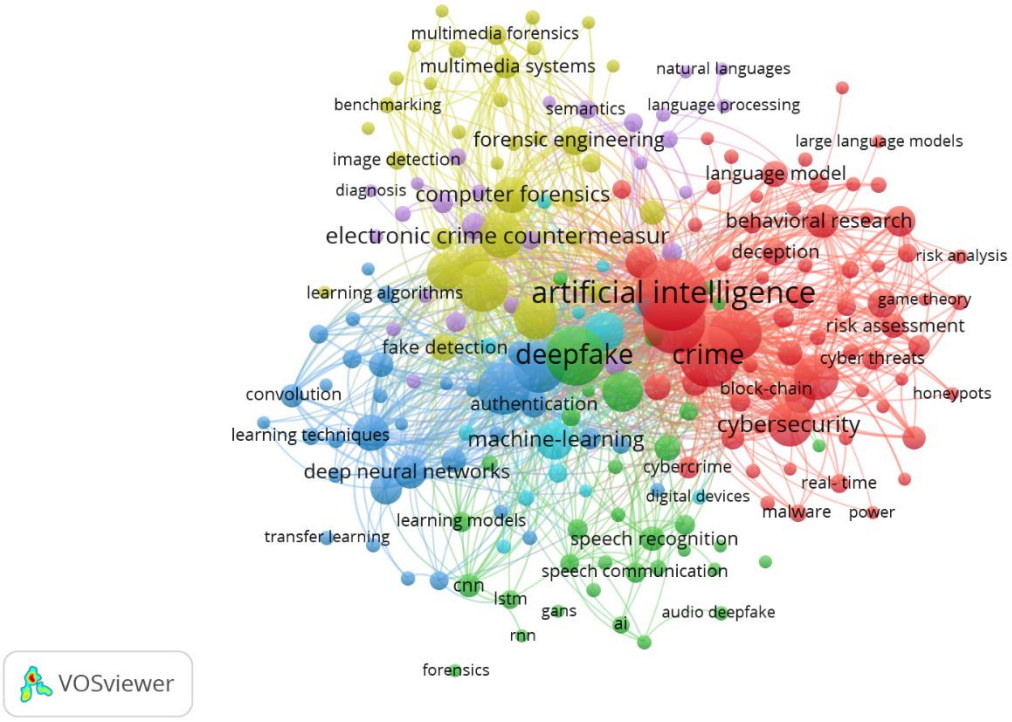


Figure 3 : Network Visualization Map Of Keywords' Co-Occurrence

The keyword co-occurrence analysis reveals several dominant themes within the research landscape of artificial intelligence, cybersecurity, and digital forensics. The keyword "artificial intelligence" emerges as the most central concept in the network, showing strong connections with related terms such as "crime," "cyber security," "deepfake," and "machine learning," indicating its pivotal role in driving interdisciplinary research across technological and security domains. The presence of "crime" and "cyber security" as highly connected keywords suggests that a substantial portion of the literature focuses on the application of artificial intelligence technologies in addressing cybercrime, digital threats, and risk assessment. In particular, keywords such as "cyber threats," "malware," "risk analysis," and "risk assessment" demonstrate the growing concern surrounding digital security and the increasing reliance on AI-driven analytical tools to detect and mitigate cyber risks. Additionally, the keyword "deepfake" appears prominently within the network, reflecting a rapidly expanding research interest in AI-generated media manipulation and its implications for misinformation, identity fraud, and digital deception.

Beyond cybersecurity, the analysis also highlights a strong technological foundation in machine learning and neural network development. Keywords such as "machine learning," "deep neural networks," "convolution," "transfer learning," and "learning techniques" indicate that advanced computational models form the backbone of many AI-driven security and detection systems. These methods are frequently employed to support tasks such as fake content detection, pattern

recognition, and automated threat analysis. Furthermore, the presence of keywords such as "CNN," "RNN," "LSTM," and "GANs" reflects the widespread adoption of deep learning architectures for processing large-scale multimedia and textual data. These technologies are particularly significant in supporting applications such as speech recognition, authentication systems, and media verification. The strong association between machine learning techniques and "fake detection" further underscores the importance of algorithmic models in combating emerging digital threats.

Another prominent theme identified in the network relates to deepfake detection and multimedia authentication technologies. Keywords such as "speech recognition," "audio deepfake," "speech communication," and "authentication" indicate growing research interest in detecting manipulated audio and video content. The presence of generative technologies such as "GANs" highlights how artificial intelligence is not only used to detect fraudulent media but is also responsible for generating synthetic content, creating an ongoing technological arms race between generation and detection techniques. This trend reflects increasing concerns about misinformation, identity manipulation, and trust in digital media ecosystems. Consequently, research in this area often integrates deep learning, signal processing, and biometric authentication methods to ensure the integrity of digital communication.

The analysis also reveals a significant cluster focusing on digital forensics and crime investigation, with keywords such as "computer forensics," "forensic engineering," "electronic crime countermeasure," "multimedia systems," and "image detection." These terms suggest that AI technologies are increasingly integrated into forensic investigation processes to support evidence analysis, multimedia verification, and cybercrime detection. The strong association between artificial intelligence and forensic technologies indicates that AI-assisted investigative tools are becoming essential in modern law enforcement and digital evidence analysis. This integration enables faster processing of large volumes of digital data, allowing investigators to identify patterns, detect anomalies, and authenticate digital evidence more effectively.

In addition, the network highlights the growing role of natural language processing and language models within the broader AI ecosystem. Keywords such as "language model," "large language models," "language processing," "natural language," and "semantics" suggest increasing research interest in AI systems capable of analyzing human language and textual communication. These technologies are particularly relevant in detecting deception, identifying fraudulent communication patterns, and analysing online discourse related to cybercrime. The linkage between language models and keywords such as "deception" and "behavioral research" indicates an emerging interdisciplinary intersection between computational linguistics, behavioural analysis, and cybersecurity research.

Collectively, these findings illustrate that the research landscape surrounding artificial intelligence is highly multidisciplinary, integrating technological innovation with cybersecurity, digital forensics, and behavioral analysis. While machine learning and deep learning technologies serve as the technical backbone of the field, emerging issues such as deepfake detection, cybercrime prevention, and AI-driven language analysis demonstrate the evolving challenges associated with digital communication and security in the AI era. The keyword network therefore reflects a research trajectory that balances technological advancement with practical applications in crime

prevention, digital media verification, and cybersecurity management, highlighting the expanding role of artificial intelligence in addressing complex digital threats in contemporary society.

4) What are co-authorship countries' collaboration?

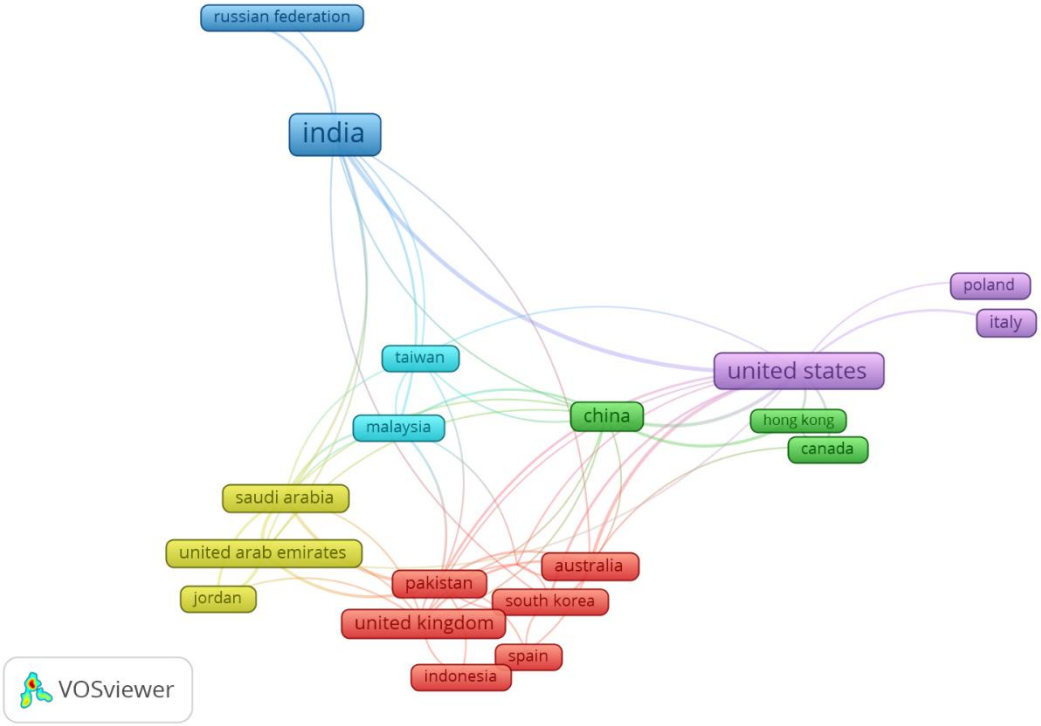


Figure 4 : The Countries Whose Authors Collaborate on These Research

The co-authorship network analysis illustrates the pattern of international research collaboration within the field of artificial intelligence, cybersecurity, and digital forensics. The network visualization indicates that India emerges as one of the most dominant contributors, occupying a central position with strong collaborative links connecting several countries, including Taiwan, Malaysia, China, the United States, and the Russian Federation. This prominent position suggests that India plays a significant role in facilitating international research partnerships and knowledge exchange in this domain. The extensive connections surrounding India indicate that it functions as a major collaborative hub, supporting both regional and global research interactions.

The United States also appears as another central actor within the collaboration network, maintaining strong links with countries such as China, Canada, Hong Kong, Italy, and Poland. Its strategic location within the network highlights its continued leadership in technological and artificial intelligence research, as well as its role in connecting research communities across different continents. The presence of strong collaborative ties between the United States and China further suggests that cross-national research partnerships remain essential for advancing studies related to emerging technologies, cybersecurity challenges, and digital forensics applications.

Other countries, including China, also demonstrate significant collaborative influence within the network. China maintains connections with multiple research partners such as Malaysia, Taiwan, Hong Kong, Australia, and the United States, indicating its active participation in both regional and international academic collaborations. These connections highlight China's increasing contribution to global research output in technological innovation and artificial intelligence development.

The United Kingdom forms another important cluster within the network, linking several countries such as Pakistan, Australia, South Korea, Spain, and Indonesia. This cluster suggests that the United Kingdom plays an important bridging role between European and Asia-Pacific research networks. Countries such as Australia and South Korea are also closely connected within this group, reflecting strong academic cooperation and shared research initiatives in emerging digital technologies. Additionally, the network reveals a smaller collaboration cluster involving Saudi Arabia, the United Arab Emirates, and Jordan, which are linked with countries such as Malaysia and Pakistan. Although these countries appear with fewer connections compared to major research hubs, their presence indicates expanding research participation from the Middle East and growing cross-regional collaboration with Asian research institutions.

Overall, the co-authorship network demonstrates a globally interconnected research ecosystem, where several countries function as key collaboration hubs facilitating international research partnerships. Countries such as India, the United States, China, and the United Kingdom emerge as major contributors driving global research collaboration, while nations such as Malaysia, Taiwan, Pakistan, and Saudi Arabia act as important connectors linking different regional research clusters. This diverse and interconnected collaboration structure highlights the increasingly international nature of research in artificial intelligence and cybersecurity-related fields, emphasizing the importance of cross-border academic cooperation in addressing complex technological challenges.

Conclusion

The bibliometric study findings provide important insights into the research landscape surrounding artificial intelligence, cybersecurity, deepfake detection, and digital forensics. The analysis of 359 publications indexed in Scopus demonstrates the rapid expansion of scholarly interest in this domain, particularly in response to the increasing complexity of digital technologies and the growing prevalence of cyber threats. The publication trend reveals a gradual emergence of the field between 2017 and 2021, followed by a significant surge in research output from 2022 onwards, culminating in a peak in 2025. This sharp increase reflects the growing global concern regarding artificial intelligence applications, especially in relation to deepfake technologies, digital deception, cybercrime, and automated detection systems. The increase in publications during this period also coincides with the widespread adoption of generative artificial intelligence tools and heightened awareness of cybersecurity risks in digital societies.

The keyword co-occurrence analysis reveals several dominant research themes shaping the intellectual structure of the field. Central keywords such as “artificial intelligence,” “crime,” “cyber security,” “deepfake,” and “machine learning” indicate that the research landscape is

strongly driven by the intersection of advanced computational technologies and digital security challenges. The presence of terms such as “deep neural networks,” “CNN,” “GANs,” and “speech recognition” demonstrates the importance of deep learning architectures in detecting manipulated media, verifying digital identities, and analysing complex multimedia data. Furthermore, keywords such as “computer forensics,” “forensic engineering,” and “electronic crime countermeasure” highlight the increasing integration of artificial intelligence technologies within digital forensic investigations and cybercrime prevention strategies. The emergence of language-related keywords, including “language model” and “large language models,” also suggests a growing interest in using artificial intelligence to analyse textual communication, detect deception, and monitor cyber-related behavioural patterns.

The country productivity analysis indicates that India and the United States are the leading contributors to research output in this field, followed by countries such as the United Kingdom, China, and Australia. India accounts for the largest share of publications, demonstrating its growing research capacity and active engagement in artificial intelligence and cybersecurity studies. The United States also maintains a strong presence, reflecting its longstanding leadership in technological innovation and advanced research infrastructure. Other countries, including Germany, Pakistan, Italy, and Saudi Arabia, contribute smaller yet meaningful proportions of publications, highlighting the increasingly global participation in this research domain. This distribution suggests that while a few countries dominate research productivity, a diverse range of nations are actively contributing to the development of knowledge in emerging digital technologies.

The co-authorship network analysis further illustrates the importance of international collaboration in advancing research within this field. Countries such as India, the United States, China, and the United Kingdom emerge as central hubs within the global research network, maintaining extensive collaborative connections with multiple international partners. Meanwhile, countries such as Malaysia, Taiwan, Pakistan, and Saudi Arabia serve as important bridging nodes that facilitate cross-regional academic cooperation. These collaborative patterns demonstrate that the advancement of artificial intelligence and cybersecurity research relies heavily on cross-border partnerships, shared technological expertise, and interdisciplinary cooperation.

Overall, this bibliometric analysis highlights the dynamic and rapidly evolving nature of research related to artificial intelligence and digital security. The findings demonstrate that the field is driven by technological advancements in machine learning and deep learning, alongside growing concerns regarding cybercrime, digital manipulation, and information authenticity. While the increasing number of publications reflects strong academic momentum, the analysis also suggests the need for greater integration between technical innovations and human-centered perspectives, including ethical considerations, communication dynamics, and behavioural analysis.

While the study offers valuable insights through keyword-based bibliometric analysis, its contribution can be further strengthened by recommending future research that focuses on in-depth content analysis. Future studies should examine the substantive content of publications, including thematic narratives, theoretical developments, and methodological patterns, to provide a more nuanced understanding of how AI-driven deceptive communication is conceptualized across disciplines.

Future research should focus on developing more robust detection frameworks for deepfake technologies, cyber threats, and digital misinformation, while also exploring the societal and communication implications of artificial intelligence-driven systems. Additionally, strengthening international collaboration and interdisciplinary research will be essential in addressing the complex challenges posed by rapidly evolving digital technologies. By integrating technological innovation with ethical governance and communication-focused research, future studies can contribute to building more secure, transparent, and resilient digital ecosystems.

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SESSION 2:

Education

Project-Based Learning as a Bridge between Marketing Communication Education and Industry Collaboration

Benjarong Tirapalika[1*] Jinatda Wittayapanpracha[2]

Abstract

This study explores the role of Project-Based Learning (PBL) as a pedagogical bridge between marketing communication education and real-world industry practice. Drawing on a mixed-methods research design, the study examines the implementation of a PBL approach integrated with a creative thinking process in a digital marketing communication course at a Thai public university. The participants were 38 first-year undergraduate students in marketing communication and digital media, who collaboratively developed integrated marketing communication plans for a real cosmetic brand, ABI HASU. Quantitative findings reveal that over 80% of students were able to produce comprehensive and strategically coherent marketing communication plans, while qualitative findings highlight improvements in students' creative thinking, teamwork, professional confidence, and problem-solving skills. Student satisfaction with the PBL approach was exceptionally high (mean score = 4.8 out of 5). Notably, several student projects were adopted by the industry partner for actual marketing use. The findings suggest that PBL functions effectively as a form of work-integrated learning, aligning academic learning outcomes with industry expectations and enhancing students' readiness for professional practice. This study contributes to the growing body of research on experiential learning and offers practical implications for communication and marketing education in higher education.

Keywords:
Project-Based Learning, Work-Integrated Learning, Industry Collaboration, Marketing Communication, Experiential Learning

Introduction

In contemporary higher education, there is increasing pressure on universities to produce graduates who are not only knowledgeable but also capable of applying their skills in real-world professional contexts. This demand is particularly evident in disciplines related to marketing communication and digital media, where rapid technological change, evolving consumer behavior, and industry expectations require graduates to demonstrate creativity, strategic thinking, and practical competence. Traditional lecture-based pedagogies have been widely criticized for their limited

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capacity to foster such competencies, especially those related to applied problem-solving and professional readiness.

Project-Based Learning (PBL) has emerged as a prominent learner-centered pedagogical approach that emphasizes experiential learning, active participation, and knowledge construction through authentic tasks. Rooted in constructivist learning theory, PBL positions students as active agents who construct meaning through inquiry, collaboration, and reflection. Rather than passively receiving information, learners engage with complex, real-world problems that mirror professional practice.

In marketing communication education, PBL offers particular promise because the discipline inherently combines strategic analysis, creative execution, and integrated media planning. However, despite growing interest in PBL, there remains a need for empirical research that demonstrates how PBL can effectively bridge the gap between classroom learning and industry practice, particularly in non-Western contexts. Moreover, limited attention has been given to how creative thinking processes can be systematically integrated into PBL frameworks to enhance learning outcomes.

This study addresses these gaps by examining the implementation of a PBL model in a digital marketing communication course that involved direct collaboration with an industry partner. By engaging students in the development of real marketing communication plans for an actual brand, the study investigates how PBL functions as a form of work-integrated learning and how it contributes to students' professional development. The research seeks to answer the following questions

Research Objectives

How does Project-Based Learning support the development of marketing communication planning skills among undergraduate students?
In what ways does PBL facilitate alignment between academic learning and industry practice?
How do students perceive their learning experiences and outcomes within a PBL-based, industry-linked course?

Literature Review

Project-Based Learning in Higher Education

Project-Based Learning (PBL) is widely recognized as a learner-centered pedagogical approach that emphasizes active learning through engagement with complex, real-world problems. Grounded in constructivist learning theory, PBL positions learners as active constructors of knowledge rather than passive recipients of information (Biggs & Tang, 2011; Hmelo-Silver, 2004). Learners acquire knowledge through inquiry, collaboration, and reflection, which are considered essential processes for deep and meaningful learning.

In higher education, PBL has been increasingly adopted in disciplines that require applied competencies and professional readiness, including engineering, business, and communication

studies. Empirical studies indicate that PBL enhances students' motivation, critical thinking, and ability to transfer theoretical knowledge to practical contexts (Hmelo-Silver, 2004). Unlike traditional lecture-based instruction, PBL emphasizes sustained inquiry and iterative problem-solving, allowing students to engage with authentic tasks that resemble professional practice.

Moreover, PBL is characterized by the production of tangible outputs, such as strategic plans, prototypes, or campaigns, which serve as evidence of applied learning. This feature makes PBL particularly suitable for marketing communication education, where learning outcomes are closely aligned with professional performance and industry expectations (Trujillo, 1998).

Constructivism, Experiential Learning, and Knowledge Construction

The theoretical foundation of PBL is closely aligned with constructivist and experiential learning theories. Constructivism asserts that knowledge is actively constructed by learners through interaction with their environment and integration of new experiences with prior knowledge (Biggs & Tang, 2011). From a social constructivist perspective, Vygotsky (2004) emphasizes the role of social interaction and cultural context in cognitive development, suggesting that learning is inherently situated and collaborative.

Experiential learning theory further conceptualizes learning as a cyclical process involving concrete experience, reflection, conceptualization, and experimentation. This perspective highlights the importance of experience and reflection in transforming knowledge into practical competence. PBL operationalizes experiential learning by engaging students in authentic problem-solving activities that require both action and reflection (Hmelo-Silver, 2004).

In marketing communication education, constructivist and experiential approaches are particularly relevant because the discipline requires students to integrate analytical reasoning, creative thinking, and contextual awareness. Authentic learning activities enable students to develop strategic judgment and adaptability, which are essential for professional practice in dynamic communication environments.

Work-Integrated Learning and University–Industry Collaboration

Work-Integrated Learning (WIL) refers to educational approaches that intentionally integrate academic learning with workplace-related experiences to enhance graduate employability. WIL encompasses a range of practices, including internships, cooperative education, service learning, and industry-based projects. Research suggests that WIL plays a critical role in developing students' professional identity, confidence, and readiness for employment.

Industry collaboration is a key component of effective WIL initiatives, as it exposes students to real organizational challenges, professional standards, and workplace expectations. Studies indicate that students who engage in industry-linked learning experiences demonstrate stronger career orientation and a clearer understanding of professional roles. Importantly, recent scholarship emphasizes that WIL does not necessarily require physical placement in a workplace; classroom-based projects developed in collaboration with industry partners can provide similarly authentic learning experiences when designed effectively.

From this perspective, PBL integrated with industry collaboration can be conceptualized as a form of WIL that aligns academic learning outcomes with professional practice while maintaining instructional support and academic rigor.

Project-Based Learning as a Form of Work-Integrated Learning

The integration of PBL and WIL represents an emerging pedagogical model in higher education. PBL projects that address real industry problems enable students to engage with professional practices while remaining within the structured environment of the classroom. Such hybrid models offer advantages, including scalability, curriculum alignment, and opportunities for guided reflection.

Research on PBL as WIL highlights its potential to bridge the gap between theory and practice by immersing students in authentic problem-solving contexts. Students learn to navigate ambiguity, negotiate constraints, and justify strategic decisions using evidence and professional reasoning. These experiences closely resemble professional practice in marketing communication, where practitioners must balance creativity, strategy, and organizational objectives (Fill & Turnbull, 2019).

However, scholars caution that the success of PBL as WIL depends on careful instructional design, including clear learning objectives, structured guidance, and appropriate assessment criteria (Biggs & Tang, 2011). Instructor facilitation and industry feedback are essential in supporting students' learning and ensuring alignment between academic and professional expectations.

Creative Thinking in Marketing Communication Education

Creative thinking is a core competency in marketing communication, encompassing the ability to generate original ideas, make meaningful connections, and develop innovative communication strategies. Creativity is widely conceptualized as a multidimensional process involving cognitive, affective, and contextual factors (Sternberg, 1999; Runco et al., 2012). Contemporary research emphasizes that creativity is not an innate talent but a skill that can be cultivated through appropriate pedagogical approaches (Starko, 2013).

Teaching for creativity involves creating learning environments that encourage exploration, experimentation, and reflective practice. Structured creative thinking tools—such as brainstorming, mind mapping, and lateral thinking—have been shown to enhance students' creative confidence and performance (De Bono, 1970; Karwowski & Soszynski, 2008). In marketing communication education, creativity must be integrated with strategic thinking to ensure that creative outputs align with communication objectives and audience needs (Percy, 2021).

Creative Thinking Processes within Project-Based Learning

Integrating creative thinking processes into PBL provides a structured approach to cultivating creativity within authentic learning contexts. Explicit creative stages— such as exploration, imagination, idea generation, development, and implementation—offer cognitive scaffolding that

supports students' creative performance (Starko, 2013). This structured integration helps students perceive creativity as a disciplined and transferable skill rather than a spontaneous act.

Research suggests that structured creativity within PBL reduces anxiety associated with open-ended tasks and increases students' confidence in proposing original ideas. By embedding creative thinking within project milestones, students learn to align creativity with strategic objectives and practical constraints, resulting in more effective and professionally relevant outcomes.

Marketing Communication Education in the Digital Era

Marketing communication education has evolved significantly in response to digital transformation and changing consumer behavior. Contemporary curricula emphasize integrated marketing communication, digital platforms, content creation, and data-driven decision-making (Chaffey & Ellis-Chadwick, 2019; Kotler & Keller, 2022). Educators face challenges in keeping curricula aligned with rapidly changing industry practices.

Traditional pedagogical approaches often struggle to address these challenges, leading to a disconnect between academic learning and professional practice. Experiential and project-based approaches, particularly those involving industry collaboration, offer a viable solution by enabling students to engage with current practices and technologies in real time (Ryan, 2016).

Research Gap and Conceptual Positioning

Despite extensive research on PBL, WIL, and creative thinking, several gaps remain. First, limited empirical studies have examined the integration of structured creative thinking processes within PBL frameworks in marketing communication education. Second, there is a lack of research exploring PBL as a form of WIL in non-Western higher education contexts. Third, few studies provide evidence of tangible industry outcomes resulting from student projects.

This study addresses these gaps by examining a PBL model that integrates creative thinking processes and direct industry collaboration within a digital marketing communication course. By focusing on both learning outcomes and real-world application, the study contributes to a more comprehensive understanding of how PBL can function as a bridge between classroom learning and professional practice.

Figure 1. Conceptual Framework of Project-Based Learning Integrating Creative Thinking and Industry Collaboration

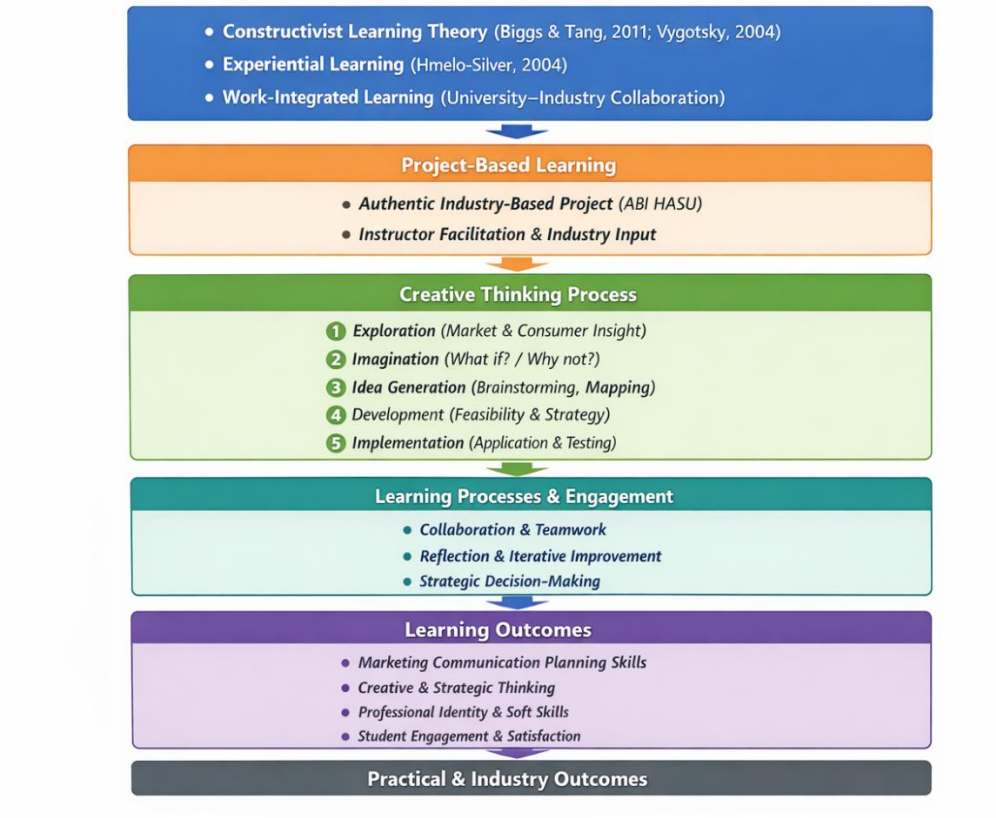


Figure 1 illustrates the conceptual framework underpinning this study. Grounded in constructivist and experiential learning theories, the framework positions Project-Based Learning (PBL) as a pedagogical mechanism that integrates creative thinking processes and industry collaboration. Authentic industry-based projects serve as the core learning context, guiding students through structured creative thinking stages. These processes foster collaborative learning, reflection, and strategic decision-making, leading to enhanced marketing communication competencies, professional identity development, and tangible industry outcomes. The framework conceptualizes PBL as a form of work-integrated learning that bridges classroom learning and professional practice.

Research Methodology

Research Design

This study employed a mixed-methods research design, combining quantitative and qualitative data to provide a comprehensive understanding of the learning outcomes associated with PBL implementation. The research was conducted as classroom-based research within a digital marketing communication course.

Participants

The participants were 38 first-year undergraduate students enrolled in the Marketing Communication and Digital Media program at a public university in Thailand. All participants took part in the PBL activities as part of the course requirements.

Learning Context and Project Design

The PBL project required students to work in groups to develop integrated marketing communication plans for ABI HASU, a real cosmetic brand affiliated with the university's research and innovation initiatives. The project was structured around a creative thinking process consisting of five stages: exploration, imagination, idea generation, development, and implementation.

Students conducted situation analyses, identified target audiences, formulated communication objectives, designed creative strategies, selected media channels, and developed content proposals. Industry representatives provided contextual information and feedback during key stages of the project.

Data Collection Instruments

Quantitative data were collected using a student satisfaction questionnaire and a performance assessment rubric evaluating the completeness and quality of marketing communication plans. Qualitative data were gathered through in-depth interviews with selected students and instructors, as well as reflective observations during project implementation.

Data Analysis

Quantitative data were analyzed using descriptive statistics to assess performance outcomes and satisfaction levels. Qualitative data were analyzed thematically to identify recurring patterns related to learning experiences, skill development, and perceptions of industry collaboration.

Testing for reliability

The triangulation approach, which involves examining data from several sources and comparing the results considering different theoretical viewpoints from K. M. Jackson and Trochim (2002), was employed to assess the validity and reliability of this study.

The Research Ethics Committee of Thaksin University has approved the study which is to be carried out in compliance with the International guidelines for human research protection as Declaration of Helsinki, The Belmont Report, CIOMS Guideline and International Conference on Harmonization in Good Clinical Practice (ICH-GCP) Study title Situated Learning Study code 399/2567 Date of approval 10 March 2025

Results

Development of Marketing Communication Planning Competencies

Beyond the overall quantitative finding that more than 80% of students successfully produced comprehensive marketing communication plans, a closer examination of the assessment results reveals differentiated levels of competency development across key planning dimensions. Students demonstrated particularly strong performance in situation analysis and audience understanding, indicating their ability to synthesize market data, brand context, and consumer insights into coherent strategic foundations.

The assessment rubric shows that students were most confident in identifying target audiences and articulating communication objectives aligned with brand positioning. This outcome suggests that engaging with a real brand context encouraged students to move beyond abstract theoretical understanding toward applied strategic reasoning. Students reported that working with an authentic brand required them to "think like professional marketers" and justify their strategic decisions using evidence rather than assumptions.

In contrast, some students initially faced challenges in integrating media strategies across multiple digital platforms. However, iterative feedback and peer discussion within the PBL process enabled most groups to refine their plans, resulting in improved coherence and strategic alignment by the final submission stage. This progression reflects the value of PBL in supporting learning as a process of continuous refinement, rather than a one-time assessment outcome.

Creative Thinking as a Catalyst for Strategic Learning

The qualitative findings highlight creative thinking as a central mechanism through which PBL facilitated deeper learning. Students described the creative thinking stages— exploration, imagination, idea generation, development, and implementation—as helping them structure their thinking and overcome creative blocks. Rather than perceiving creativity as an innate talent, students began to understand it as a learnable and systematic process.

During the exploration stage, students engaged in extensive questioning using techniques such as 5W1H and situational analysis. This phase encouraged curiosity and broadened students' perspectives on the brand, market, and consumer behavior. The imagination and idea generation stages allowed students to experiment with unconventional ideas while maintaining strategic relevance. Several students noted that the structured creative tools reduced anxiety associated with open-ended tasks and increased their confidence in proposing original solutions.

The development and implementation stages were particularly significant in fostering professional discipline. Students were required to evaluate the feasibility of their ideas, align creative concepts with strategic objectives, and consider practical constraints such as budget and platform suitability. This process reinforced the understanding that creativity in marketing communication must balance originality with strategic effectiveness.

Teamwork, Professional Identity, and Soft Skills Development

Another important finding concerns the development of teamwork and professional identity. Students consistently reported that working in groups on a real industry project enhanced their communication skills, conflict management abilities, and sense of responsibility. The necessity to coordinate tasks, negotiate ideas, and meet deadlines mirrored professional working conditions and contributed to students' readiness for future employment.

The data indicate that PBL promoted a shift in students' self-perception—from learners completing academic assignments to emerging professionals contributing meaningful work. This shift was reinforced when industry partners provided feedback and treated students' work as potential solutions rather than purely academic exercises. Such experiences helped students develop a stronger sense of professional identity and confidence in their capabilities.

Furthermore, students highlighted that instructor facilitation played a crucial role in maintaining group dynamics and ensuring equitable participation. Guided reflection sessions allowed students to evaluate their collaborative processes and identify areas for improvement, reinforcing teamwork as a learnable skill rather than an assumed outcome.

Student Engagement and Learning Motivation

High levels of student satisfaction (mean score = 4.8 out of 5) reflect strong engagement and motivation throughout the course. Students attributed their positive experiences to the authenticity of the project, the relevance of the tasks to real-world practice, and the supportive learning environment. Many students expressed that the PBL approach increased their intrinsic motivation, as they perceived the project outcomes to have tangible value beyond academic grading.

The findings also suggest that PBL contributed to sustained engagement over the duration of the course. Unlike traditional assignments that often lead to short-term motivation peaks near deadlines, the project-based structure maintained continuous student involvement through incremental milestones and feedback cycles. This sustained engagement is a critical factor in achieving deeper learning outcomes and skill transfer.

Industry Engagement and Knowledge Transfer

One of the most significant findings of this study is the successful transfer of student-generated knowledge to industry practice. Several marketing communication strategies developed by student groups were adopted by the ABI HASU brand, demonstrating the practical relevance and quality of the students' work. This outcome not only validates the effectiveness of the PBL approach but also highlights its potential as a mechanism for university–industry knowledge exchange.

From an educational perspective, the adoption of student work served as a powerful validation of learning outcomes. Students reported heightened motivation and a sense of pride upon seeing their ideas implemented in real marketing activities. This experience reinforced the perception that academic learning can generate tangible social and economic value.

Summary of Key Findings

Overall, the expanded findings demonstrate that Project-Based Learning, when integrated with a structured creative thinking process and industry collaboration, supports multidimensional learning outcomes. These include the development of strategic marketing communication competencies, creative and critical thinking skills, teamwork and professional identity, sustained engagement, and real-world impact. Collectively, these outcomes position PBL as an effective form of work-integrated learning that bridges the gap between classroom instruction and professional practice.

Discussion and Conclusion

This study set out to examine how Project-Based Learning (PBL), integrated with a creative thinking process and industry collaboration, functions as a bridge between marketing communication education and professional practice. The expanded findings provide strong empirical support for the effectiveness of this pedagogical approach, particularly in fostering applied competencies, professional identity formation, and meaningful university–industry engagement.

Project-Based Learning as Work-Integrated Learning

The findings indicate that PBL in this study operates as a form of Work-Integrated Learning (WIL), even though it is embedded within a classroom-based course rather than a formal internship or cooperative education program. By engaging students in the development of real marketing communication plans for an actual brand, the learning experience closely resembled professional practice in terms of task complexity, accountability, and outcome expectations.

This aligns with prior research suggesting that WIL does not necessarily require physical placement in the workplace but can be effectively implemented through authentic, industry-linked projects. The adoption of student work by the industry partner further strengthens the argument that PBL can generate real value beyond the classroom, positioning students as contributors rather than passive learners. Such outcomes reinforce the role of higher education institutions as active participants in knowledge production and industry innovation.

Bridging Theory and Practice in Marketing Communication Education

One of the central challenges in marketing communication education is enabling students to translate theoretical knowledge into actionable strategies. The findings demonstrate that PBL facilitates this translation by situating learning within real-world constraints and expectations. Students were required to justify strategic decisions using market analysis, consumer insights, and communication objectives, thereby integrating theoretical frameworks with practical application.

The iterative nature of the PBL process—characterized by feedback, reflection, and revision—appears to be particularly effective in supporting this integration. Rather than treating learning as

a linear progression, the project encouraged students to revisit and refine their ideas, mirroring professional strategic planning processes. This supports the view that experiential and process-oriented pedagogies are especially suitable for disciplines that require both analytical rigor and creative flexibility.

Creative Thinking as a Structured and Transferable Skill

An important contribution of this study lies in its emphasis on creative thinking as a structured and learnable process. The findings suggest that integrating explicit creative thinking stages within PBL helps demystify creativity and makes it more accessible to students. Rather than perceiving creativity as an innate or abstract quality, students engaged with it as a systematic approach to problem-solving.

This structured approach to creativity is particularly relevant in marketing communication, where originality must be balanced with strategic coherence and feasibility. The requirement to evaluate and implement ideas within real constraints encouraged students to develop what can be described as strategic creativity. This supports existing literature that advocates teaching creativity not as free expression alone, but as a disciplined practice embedded within professional contexts.

Development of Professional Identity and Soft Skills

Beyond technical competencies, the study highlights the role of PBL in shaping students' professional identity. The transition from perceiving themselves as students completing assignments to emerging professionals contributing meaningful work is a significant educational outcome. Interaction with industry partners and the real-world application of student projects served as powerful validation of students' capabilities.

Teamwork, communication, and problem-solving skills emerged as key areas of development, reflecting the collaborative nature of professional marketing communication practice. These findings align with research emphasizing the importance of soft skills in graduate employability and suggest that PBL provides a conducive environment for cultivating such skills through authentic social interaction and shared responsibility.

Student Engagement and Deep Learning

The high levels of student satisfaction and sustained engagement observed in this study point to the motivational benefits of PBL. Authentic tasks, real-world relevance, and visible impact appear to foster intrinsic motivation and deeper cognitive engagement. This contrasts with more traditional pedagogies that may prioritize content coverage over meaningful application.

The sustained engagement observed throughout the project lifecycle suggests that PBL supports deep learning by maintaining students' interest and investment over time. This is particularly important in first-year undergraduate contexts, where establishing positive learning habits and professional orientation can have long-term effects on academic and career trajectories.

Implications for University–Industry Collaboration

From an institutional perspective, the study demonstrates the potential of PBL as a scalable model for university–industry collaboration. By integrating industry projects into coursework, universities can create mutually beneficial partnerships that enhance educational relevance while contributing to industry innovation. For industry partners, collaboration with students offers access to fresh perspectives and creative ideas, while also supporting talent development.

Such collaborations also align with broader higher education missions related to social engagement and economic development. In this sense, PBL can be viewed as a strategic tool for strengthening the societal impact of higher education beyond traditional teaching and research roles.

Theoretical and Practical Contributions

Theoretically, this study contributes to the literature on PBL and WIL by demonstrating how creative thinking processes can be systematically integrated into industry-linked learning models. The findings extend existing frameworks by highlighting the interplay between creativity, strategic learning, and professional identity formation.

Practically, the study offers a replicable pedagogical model for marketing communication and related disciplines. Educators can adapt the PBL structure, creative thinking stages, and assessment strategies to suit different institutional and cultural contexts. The emphasis on real-world relevance and reflective practice provides a blueprint for designing learning experiences that are both academically rigorous and professionally meaningful.

Limitations and Directions for Future Research

While the findings are promising, the study is limited by its sample size and single-institution context. Future research could explore the long-term impact of PBL on graduate employability and professional performance, as well as comparative studies across disciplines or cultural settings. Longitudinal research designs and multi-institutional collaborations would further strengthen the evidence base for PBL as a form of work-integrated learning.

Figure 2 Project-Based Learning Benefits and Outcomes Framework

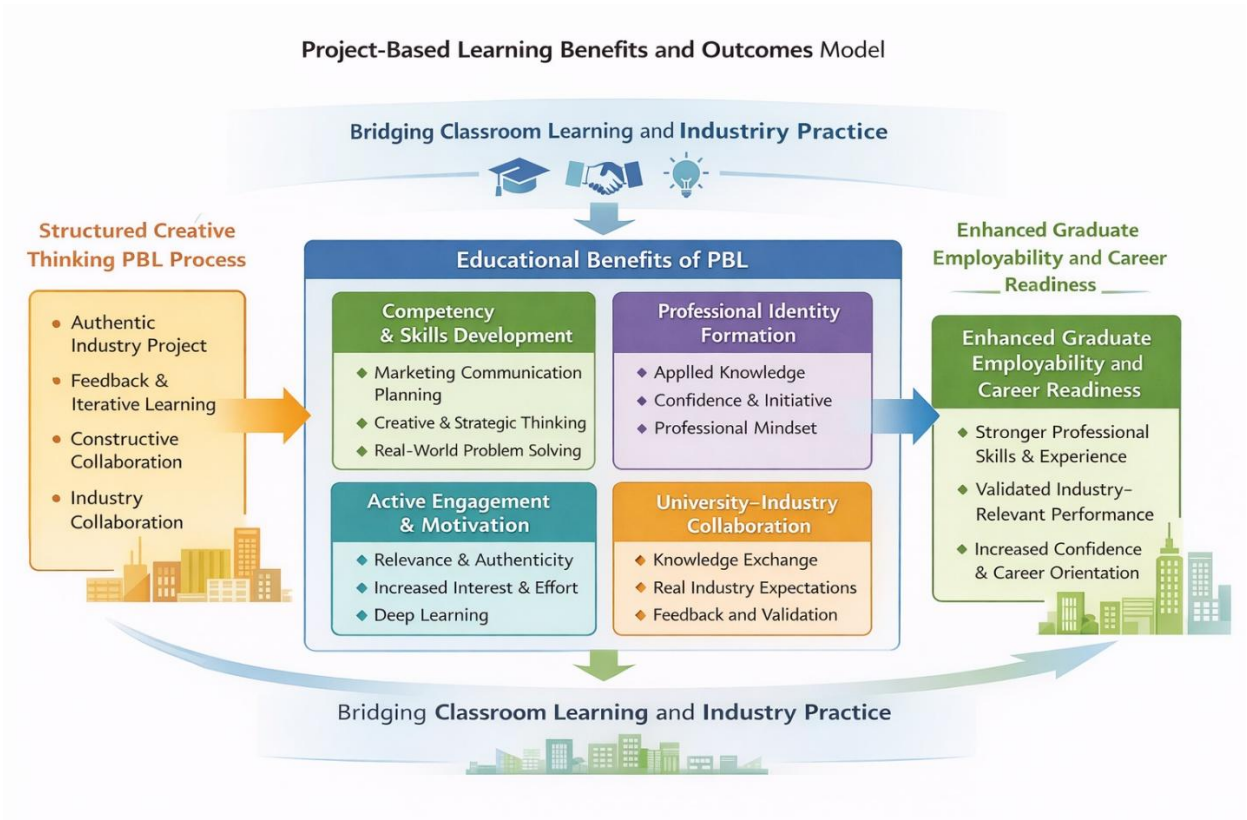


Figure 2 presents a conceptual framework illustrating how Project-Based Learning (PBL), integrated with structured creative thinking and industry collaboration, functions as a bridge between classroom learning and industry practice in marketing communication education. The framework demonstrates that authentic industry-based projects, supported by instructor facilitation, feedback, and collaborative learning processes, foster multiple educational benefits. These benefits include the development of marketing communication competencies, creative and strategic thinking skills, active student engagement, and professional identity formation. Furthermore, sustained university–industry collaboration enables knowledge exchange and validation of student performance in real-world contexts. Collectively, these learning processes and outcomes contribute to enhanced graduate employability, career readiness, and confidence, reinforcing PBL as an effective form of work-integrated learning in higher education.

Acknowledgement

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The Effectiveness of the Cake Application in Improving English Speaking Skills of First-Year English Major Students

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Abstract

The Cake application is an interactive mobile learning platform that provides simulated conversations and engaging video-based content, allowing learners to practise English speaking in authentic contexts. These features are designed to enhance learners' confidence, fluency, and pronunciation. This study investigated (1) the strategies students used to improve their English speaking skills through the Cake application, (2) students' perceptions of the Cake application, and (3) the perceived effects of using the Cake application on students' English speaking skills. A descriptive quantitative research design was employed. The participants were 51 first-year English-major students at Thaksin University who completed a questionnaire via Google Forms after using the Cake application. The results indicated that the most frequently used feature was *Daily Conversation* (66.7%), and the most commonly employed learning strategy was repeating phrases or idioms (52.9%). Overall, students demonstrated positive perceptions of the Cake application, with a high level of agreement (M = 4.35, 87.20%). In addition, the perceived effects of using the application on English speaking skills were rated at a high level (M = 4.28, 85.84%), particularly in terms of pronunciation, vocabulary development, fluency, and speaking confidence. In conclusion, the findings suggest that the Cake application is perceived as an effective mobile-assisted language learning tool for supporting English speaking development. However, the results are limited by the reliance on self-reported data and the focus on a single institutional context. Despite these limitations, the study highlights the potential of mobile applications such as Cake to complement classroom instruction in similar EFL contexts.

Keywords: Cake Application, English Learning, Mobile Application, Speaking Skill

Introduction

In today's world, communication is crucial, with language serving as the primary means through which people convey ideas, emotions, and information. English has emerged as a global lingua franca, leading many individuals to learn it as a second or foreign language (ESL/EFL) to enhance their communication skills. The significance of speaking skills in English cannot be overstated, as

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they are essential for real-life interactions in academic, professional, and social contexts. However, many learners encounter obstacles such as anxiety about making mistakes, low confidence, and worries about pronunciation, all of which can hinder their ability to communicate effectively (Shen & Chiu, 2019; Zhang, 2009).

The process of speaking involves an interactive exchange of information in which learners must manage meaning, accuracy, and fluency simultaneously to convey messages clearly and appropriately. Brown and Yule (1983) argue that learners are often judged primarily on their speaking ability and describe spoken language as serving both transactional (information-focused) and interactional (relationship-focused) functions. Many English learners struggle with speaking anxiety stemming from fears of criticism and embarrassment, making it essential to find effective strategies that build confidence and communicative competence (Shen & Chiu, 2019).

Despite national efforts to promote English, Thailand continues to rank in the low to very low bands of international proficiency reports. Recent EF English Proficiency Index data show that Thailand is placed 116th out of 123 countries, with an EF EPI score of 402, below the global average of 488, and a relatively weak speaking score (377) compared with other skills (EF Education First, 2026). These results highlight the need for effective and engaging approaches to developing English speaking skills among Thai university students.

To address these challenges, learners can benefit from innovative approaches that emphasize practical language use and leverage modern technology. Information and Communication Technology (ICT) now plays a vital role in language education, enabling flexible and accessible learning experiences inside and outside the classroom. In particular, mobile-assisted language learning (MALL) allows learners to practice anytime and anywhere, supporting autonomy, personalization, and repeated exposure to target language input (Hui et al., 2023; Shadiev et al., 2020). In the Thai context, mobile applications have been shown to support English communication skills by providing interactive practice opportunities and extending learning beyond scheduled class time (Khlaisang & Sukavatee, 2023; Chaisuriya & Rungsiri, 2023).

One notable mobile application is Cake, which offers engaging features to enhance English speaking skills through interactive video content from YouTube, pronunciation models by native speakers, and real-time feedback. With a user-friendly layout and a wealth of short, themed video clips, Cake allows learners to practice everyday conversations, repeat phrases, and refine their pronunciation skills effectively. Previous studies in Indonesia and other countries have reported that Cake can boost learners' motivation, confidence, and speaking performance, particularly at the secondary-school level (Chaniago, 2022; Lestari, 2021; Octavianita et al., 2022; Paramita et al., 2022). However, empirical research focusing on university-level EFL learners in Thailand remains limited, especially studies that examine learners' strategies and perceptions when using Cake as a mobile learning tool.

Building on this context, the present study is conceptually framed by Brown and Yule's (1983) spoken language theory together with a mobile-assisted language learning perspective. Cake's simulated conversations and pronunciation practice activities are assumed to support both the transactional and interactional functions of spoken language while exploiting the flexibility of mobile learning. Therefore, this study aims (1) to explore the strategies that first-year English-major students use to improve their English speaking skills through the Cake application, (2) to investigate their perceptions of the effectiveness of the Cake application in improving their English speaking skills, and (3) to examine the perceived effects of using the Cake application on their English speaking skills in a Thai university context.

Research Objectives

There are three main objectives in this study as follows:

1. to explore the strategies that first-year English-major students use to improve their English speaking skills through the Cake application,
2. to investigate their perceptions of the effectiveness of the Cake application in improving their English speaking skills, and
3. to examine the perceived effects of using the Cake application on their English speaking skills in a Thai university context.

Literature Review

The role of technology in language learning, specifically in speaking skills

Information and Communication Technology (ICT) has become central to modern language education, enabling more effective and enjoyable second-language learning through tools such as the internet, wireless networks, and smartphones (Qureshi, 2018). ICT and mobile technologies, particularly smartphones with internet connectivity, have shifted learning from computer-based to mobile-assisted approaches, allowing students to access English-learning applications anytime and anywhere to develop their speaking skills (Dobbins & Denton, 2017). Research indicates that ICT and mobile apps not only expand teachers' use of rich online resources to build students' communicative competence but also significantly enhance learners' speaking ability and critical thinking, demonstrating that mobile learning applications improve the overall quality of teaching and learning (Chau, 2021; Kusmaryani et al., 2019).

Theoretical framework: Spoken language and mobile-assisted language learning

This study is grounded in Brown and Yule's (1983) spoken language theory and the principles of mobile-assisted language learning (MALL). Brown and Yule (1983) distinguish between the transactional function of spoken language, which focuses on conveying information, and the interactional function, which emphasizes maintaining social relationships. They argue that learners are often evaluated primarily on their ability to use spoken language appropriately and fluently in these real-time interactions. Mobile learning environments, such as language-learning applications,

can support both functions by providing opportunities for repeated practice, immediate feedback, and exposure to authentic conversational models in everyday contexts (Shadiev, 2020). Within a MALL framework, mobile devices are seen as tools that facilitate ubiquitous, learner-centred language practice and enable students to engage with spoken input and output beyond the classroom (Khlaisang & Sukavatee, 2023; Chaisuriya & Rungsiri, 2023). In this study, Cake is conceptualized as a mobile learning platform that operationalizes these theoretical perspectives by offering simulated conversations, pronunciation practice, and AI-based feedback on spoken performance.

The effectiveness of mobile applications for language learning

Several recent studies highlight the positive impact of digital tools on English speaking and language learning. Meinawati et al. (2020) report that using YouTube qualitatively increased learners' speaking confidence and expressiveness by allowing them to observe authentic models of spoken English. Klimova (2018) finds that a personalized smartphone app used in continuous assessment effectively improves university students' performance, especially in learning and revising vocabulary and phrases. Hidayati and Diana (2019) show that Duolingo and Hello English foster strong motivation and active, independent learning outside the classroom through mobile applications. Tonekaboni (2019) further demonstrates that an English Daily Mobile App significantly enhances elementary EFL learners' speaking proficiency compared with a control group, suggesting that well-designed mobile applications can support measurable gains in oral skills.

Relevance of the Cake Application in the context of English language teaching

Previous research has examined the Cake application in various educational settings. Chaniago and Mariana (2022) analysed the effect of Cake usage on students' English speaking skills at SMP Hang Tuah 1 Belawan, finding a significant positive impact with 84.9% effectiveness. Yanthi (2021) reports that the application encouraged students to practise speaking, achieving a high average perception score of 92%. Similarly, Redjeki and Muhajir (2022) discovered that Cake supported self-directed learning and improved vocabulary, pronunciation, and grammar. Chotimah (2022) found improvements in ESP speaking skills, as students learned new vocabulary and pronunciation effectively through the app. In a study by Suryani et al. (2021), students expressed comfort and ease of use, resulting in positive learning outcomes. Lestari (2021) also found that students appreciated the app's features, which facilitated focused learning without the fear of making mistakes. Anggreini et al. (2023) highlighted that 78% of students and 85% of teachers believed the app enhanced speaking skills and classroom engagement. In addition, Octavianita et al. (2022) reported that students enjoyed using Cake, leading to improved pronunciation and confidence. Paramita et al. (2022) demonstrated significant improvements in speaking abilities through a pretest–posttest design, emphasizing the app's effectiveness compared to traditional methods. Lastly, Khowashi

(2022) found a significant positive impact on speaking skills among second-grade students, further validating the effectiveness of the Cake application in enhancing English speaking proficiency.

These previous studies collectively highlight the positive effect of the Cake application on improving English speaking skills among various student populations, with consistent findings across different educational settings and methodologies. However, most existing research has focused on secondary-school learners or contexts outside Thai higher education, and has often emphasized experimental comparisons rather than learners' self-reported strategies and perceptions (Chaniago, 2022; Khowashi, 2022; Lestari, 2021; Paramita et al., 2022). Building on Brown and Yule's (1983) view of spoken language and the MALL perspective, the present study investigates how first-year English-major students in a Thai university use Cake to develop their speaking skills, how they perceive its effectiveness, and how they evaluate its impact on their speaking proficiency.

Research Methodology

Participants

The study employed a descriptive quantitative design with a group of 51 first-year Thai students from three English programs at Thaksin University. A convenience sampling approach was used, as all students who had prior experience using the Cake application and were enrolled in the target courses were invited to participate. Of the eligible students, 51 completed the questionnaire, providing an adequate sample size for exploratory descriptive analysis in line with similar MALL studies in higher education (Khlaisang & Sukavatee, 2023; Chaisuriya & Rungsiri, 2023). Although no formal a priori power analysis was conducted, the sample size is comparable to those in previous research on mobile language-learning applications, which typically ranges from 30 to 60 participants for survey-based designs (Klimova, 2018; Tonekaboni, 2019). Participants were selected based on their experience using online English learning applications, particularly the Cake application, to improve their English speaking skills.

Instrument

Data were collected through a self-assessment questionnaire using Google Forms, following Arikunto's (2006) definition of questionnaires as a set of written questions designed to gather information. The questionnaire consisted of four sections: (1) participants' personal information, (2) their strategies for using the Cake application, (3) their perceptions of the Cake application, and (4) the perceived effects of using the Cake application to improve their English speaking skills.

Research instrument design and validation

The questionnaire included six items on participants' personal information, five multiple-choice questions on their strategies for using the Cake application to improve their English speaking skills, and two sections utilizing five-point Likert scales to assess perceptions and perceived

effectiveness. This structure was intended to ensure straightforward and reliable data collection for descriptive quantitative analysis. The questionnaire underwent validation by three experts in the ELT field, who evaluated its content, resulting in an Index of Item–Objective Congruence (IOC) score ranging from 0.50 to 1.00, which was considered acceptable for research purposes (Rovinelli & Hambleton, 1977).

Ethical considerations

Before data collection, the researcher explained the purpose, procedures, and voluntary nature of the study to the students via a Line group and during class meetings. Participation was voluntary, and students were informed that they could decline or withdraw at any time without academic consequences. By completing and submitting the online questionnaire, students indicated their informed consent. No names or student ID numbers were collected, and all responses were treated confidentially and reported at the group level.

Data Collection Procedures

The researchers collected data using the Google Forms questionnaire following these steps:

1. The researcher invited student participants to join a Line group used to share the Google Form link or QR code.
2. The researcher shared the Google Form link containing the questionnaire with the students through the Line group.
3. After the Google Form link was shared, the researcher explained to the students in advance how to complete the questionnaire.
4. The researcher waited two weeks for all students to complete the Google Form questionnaire.
5. After the students had finished completing the questionnaire, the researcher downloaded and compiled the responses from Google Forms.
6. The researcher then began to analyze the data obtained from the students.

Data analysis and potential biases

Data analysis began after collecting responses. Personal information and strategy items were quantified using frequency and percentage and displayed in pie charts. Perceptions and perceived effects were analysed using mean scores from the five-point Likert scales, interpreted according to predefined criteria, with results organised in bar charts and tables for clarity. As the data rely on students' self-reports, there is a possibility of social desirability bias and overestimation of perceived improvement, because participants may wish to present themselves or the application positively (Dörnyei & Taguchi, 2010). The absence of objective speaking measures, such as pre- and post-tests or teacher ratings, also limits the ability to verify perceived gains. These

limitations are acknowledged when interpreting the findings, and future research is recommended to triangulate self-report data with performance-based assessments and qualitative interviews.

Criteria for interpreting the mean perception scores of respondents were as follows:

4.51–5.00	= highest level of agreement / perceived effectiveness
3.51–4.50	= high level of agreement / perceived effectiveness
2.51–3.50	= moderate level of agreement / perceived effectiveness
1.51–2.50	= low level of agreement / perceived effectiveness
0.00≤ 1.50	= lowest level of agreement / perceived effectiveness

Results

The data analysis is presented in four parts. The first part describes the participants' personal information. The remaining three parts correspond to the research objectives: (1) identifying the strategies students used to enhance their English speaking skills through the Cake application, (2) examining students' perceptions of the effectiveness of the Cake application in improving their English speaking skills, and (3) assessing the perceived effects of using the Cake application on students' English speaking skills.

Personal information of the sample

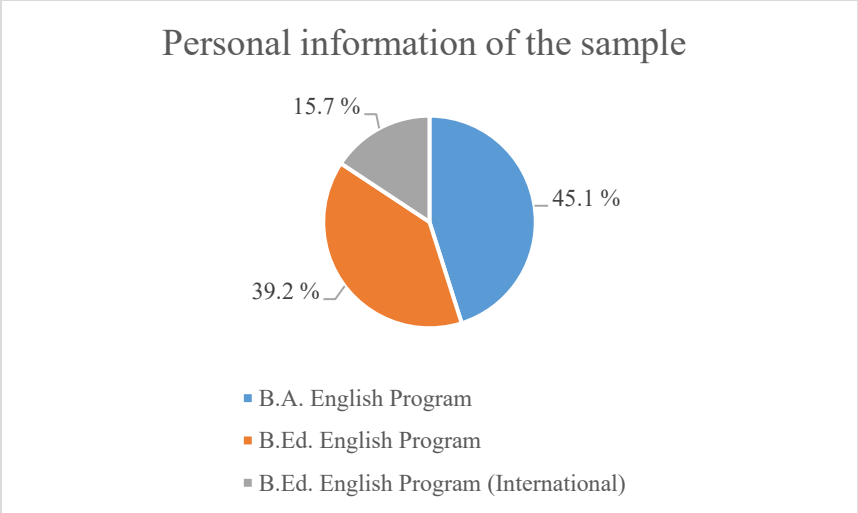


Figure 1 Personal information of the sample

The results indicate that the 51 respondents were drawn from three academic programs: B.A. in English (n = 23, 45.1%), B.Ed. in English (n = 20, 39.2%), and B.Ed. in English (International Program)

(n = 8, 15.7%). Most participants had used the Cake application for less than one year (n = 30, 58.8%), while the remaining respondents had used it for one year or more. In terms of self-reported English speaking proficiency, the majority indicated a fair level (n = 24, 47.1%), followed by good and very good levels.

Preferred content in the Cake application

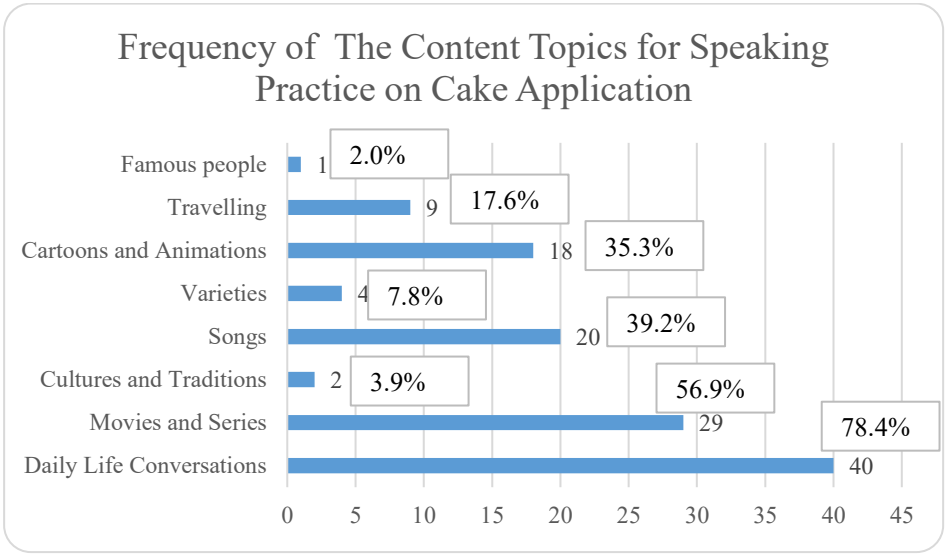


Figure 2 Frequency of content topics selected for speaking practice in the Cake application

Figure 2 illustrates the content topics selected by respondents for practising English speaking skills in the Cake application. Daily conversation was the most preferred topic (n = 40, 78.4%), followed by movies and series (n = 29, 56.9%) and songs (n = 20, 39.2%). Cartoons and animations (n = 18, 35.3%) and travelling (n = 9, 17.6%) received moderate preference. In contrast, variety shows (n = 4, 7.8%), cultures and traditions (n = 2, 3.9%), and famous people (n = 1, 2.0%) were selected less frequently.

Strategies for using Cake to improve speaking skills

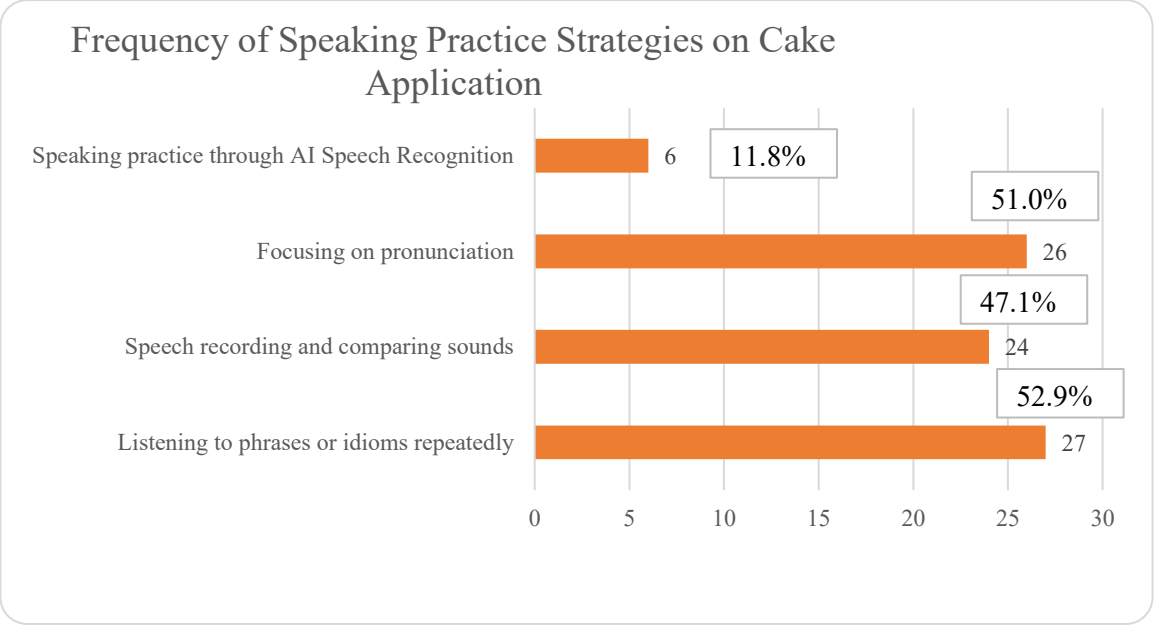


Figure 3 Frequency of speaking practice strategies used in the Cake application

Figure 3 illustrates the speaking practice strategies employed by respondents when using the Cake application. The most frequently reported strategy was listening to phrases or idioms repeatedly (n = 27, 52.9%). Focusing on pronunciation practice was nearly as common (n = 26, 51.0%), followed by recording and comparing one's own speech (n = 24, 47.1%). The least frequently used strategy was practising through the AI speech recognition feature (n = 6, 11.8%).

Students' perceptions of the Cake application

Table 1. Students' perceptions of the Cake application

No.	Statements	Percentage	Average	Level of agreement
1	Cake application is easy to navigate and interesting learning style.	87	4.35	High
2	The lessons and exercises in the Cake application are engaging and enjoyable.	86.27	4.31	High
3	The features of the Cake application make learning English speaking skills more diverse and fun.	87.45	4.37	High
4	The Cake application effectively addresses my needs for improving English speaking skills.	86.27	4.31	High
5	Feedback and corrections provided from practicing pronunciation with AI speech recognition is very useful.	84.31	4.21	High

6	The content in the video clips in the Cake app is suitable for use in speaking in daily life.	88.23	4.41	High
7	The Cake app has made me more confident in speaking.	86.27	4.31	High
8	The Cake application makes me learn new words and phrases every day.	87.84	4.39	High
9	Listen to the video clips allowed me to pronounce words that sounded like a native speaker.	89.41	4.47	High
10	I would recommend the Cake application to other students who want to improve their English speaking skills.	89	4.45	High
	Overall perception	**87.20**	**4.35**	**High**

Table 1 presents the results of students' perceptions of the Cake application. The overall mean score was high, with an average percentage of 87.20% and a mean of 4.35 on a five-point Likert scale, indicating a high level of agreement with the statements. At the item level, the highest mean score was obtained for the statement "Listening to the video clips allowed me to pronounce words that sounded like a native speaker" (M = 4.47, 89.41%), followed by "I would recommend the Cake application to other students who want to improve their English speaking skills" (M = 4.45, 89.00%) and "The content in the video clips in the Cake app is suitable for use in speaking in daily life" (M = 4.41, 88.23%).

All items received mean scores above 4.20, indicating that students generally agreed that the Cake application is easy to navigate (M = 4.35), engaging and enjoyable (M = 4.31), and effective in providing diverse and enjoyable opportunities to practise English speaking skills (M = 4.37). Although the item concerning AI speech recognition feedback ("Feedback and corrections provided from practising pronunciation with AI speech recognition is very useful") yielded a slightly lower mean score (M = 4.21, 84.31%), it still reflected a high level of agreement, suggesting that learners perceived this feature as beneficial.

Perceived effects of using Cake on speaking skill

Table 2. Students' perceived effects of using the Cake application on English speaking skills

No.	Items	Percentage	Average	Level of perceived effectiveness
1	How would you rate the improvement in your English pronunciation after using the Cake application?	84.31	4.21	High
2	How would you rate the quality of the speaking exercises provided by the Cake application?	85.88	4.29	High
3	How effective are the pronunciation guides and feedback in the Cake application?	85.88	4.29	High
4	How would you evaluate the variety of topics covered in the speaking exercises of the Cake application?	83.92	4.19	High
5	How user-friendly is the interface of the Cake application?	87.45	4.37	High
6	How would you rate the responsiveness and accuracy of the AI speech recognition feature in the Cake application?	86.27	4.31	High
7	How would you evaluate your increased fluency in English speaking since using the Cake application?	84.70	4.23	High
8	How would you assess the enhancement of your English vocabulary through the Cake application?	86.66	4.33	High
9	How do you rate your overall confidence in speaking English after using the Cake application?	85.49	4.27	High
10	How would you rate the effectiveness of the Cake application to improve your conversations skill?	87.84	4.39	High
Overall perceived effectiveness		85.84	4.28	High

Table 2 presents the results of students' perceived effects of using the Cake application on English speaking skills. The overall mean score was 4.28 (85.84%), indicating a high level of perceived effectiveness. Among the individual items, the highest mean scores were reported for "the effectiveness of the Cake application in improving conversation skills" (M = 4.39, 87.84%) and "the user-friendliness of the Cake application interface" (M = 4.37, 87.45%).

High mean scores were also observed for vocabulary enhancement (M = 4.33, 86.66%), overall speaking confidence (M = 4.27, 85.49%), perceived gains in fluency (M = 4.23, 84.70%), and

pronunciation improvement (M = 4.21, 84.31%). These results indicate that students perceived the Cake application as effective in supporting multiple aspects of English speaking development.

Taken together, the findings suggest that the Cake application is perceived as an effective mobile-assisted language learning tool that facilitates pronunciation practice, vocabulary development, fluency, and speaking confidence. These results are consistent with previous studies reporting positive effects of mobile applications on EFL learners' speaking performance and motivation (Chaniago & Mariana , 2022; Hidayati & Diana, 2019; Tonekaboni, 2019).

Discussion

Discussion in relation to the hypothesis and framework

The study hypothesised that the Cake application would support first-year English major students' English speaking development and that its interactive features would enhance engagement in learning. The descriptive findings generally support this expectation. Students reported positive perceptions of the application (overall perception M = 4.35, 87.20%) and a high level of perceived effectiveness regarding its impact on speaking skills (M = 4.28, 85.84%). They particularly agreed that Cake contributed to improvements in pronunciation, vocabulary, fluency, and speaking confidence.

The highest-rated item—"Listening to the video clips allowed me to pronounce words that sounded like a native speaker" (M = 4.47, 89.41%)—suggests that learners perceived noticeable benefits in pronunciation and accent approximation, both of which are central components of speaking proficiency. Interpreted through Brown and Yule's (1983) theory of spoken language, these findings indicate that Cake may support both transactional and interactional functions of communication by providing short conversational exchanges that resemble authentic communicative contexts.

The strong preference for daily conversation topics (78.4%) and the frequent use of repetition and pronunciation-focused strategies (over 50%) further suggest that learners engaged in message-oriented and practice-intensive speaking activities, which Brown and Yule identify as essential for communicative competence (Brown & Yule, 1983; Shen & Chiu, 2019). From a mobile-assisted language learning (MALL) perspective, the positive evaluations of user-friendliness (M = 4.37) and convenience are consistent with prior research indicating that mobile platforms can enhance learner autonomy, flexibility, and motivation in speaking practice (Klimova, 2018; Khlaisang & Sukavatee, 2023).

An interesting pattern emerged regarding the AI speech recognition feature. Although only 11.8% of students reported using this function as a primary strategy, they nevertheless perceived its feedback as useful (M = 4.21, 84.31%). This discrepancy may suggest initial hesitation toward automated pronunciation evaluation, limited familiarity with the feature, or a preference for repetition-based practice. Similar patterns have been documented in MALL research, where more

advanced feedback tools are adopted gradually compared to simpler functions (Kusmaryani et al., 2019; Shadiev et al., 2020). These findings imply that additional instructional scaffolding may encourage more consistent engagement with AI-driven feedback.

Discussion in relation to previous studies

The present findings largely align with previous research reporting positive perceptions of the Cake application in various contexts. Although the overall perception score (87.20%) is slightly lower than the 92% reported by Yanthi (2021), it still reflects a favourable evaluation. Consistent with Anggreini et al. (2023), students perceived Cake as an engaging supplementary tool and expressed willingness to recommend it to peers (M = 4.45, 89.00%).

The strong ratings for conversation skills and confidence are comparable to improvements observed in quasi-experimental studies by Chaniago (2022), Paramita et al. (2022), and Khowashi (2022). While the present study relies on self-reported perceptions rather than performance-based measures, the convergence of findings suggests that learners' positive evaluations may correspond with measurable speaking gains in similar contexts.

Furthermore, the emphasis on daily conversation topics and pronunciation practice supports earlier findings that Cake facilitates self-directed learning, vocabulary development, and pronunciation accuracy in EFL and ESP settings (Redjeki & Muhajir, 2022; Chotimah, 2022). The generally positive perception of AI speech recognition also aligns with Octavianita et al. (2022), who highlighted the value of immediate corrective feedback, even though its usage frequency may vary among learners.

Importantly, this study contributes to the literature by focusing on Thai university-level English majors and by examining strategy use and learner perceptions rather than solely relying on test scores. Despite reporting moderate initial speaking proficiency (47.1% at a fair level), participants perceived substantial benefits from using Cake. This suggests that the application may serve as a complementary mobile learning tool in tertiary EFL contexts. Future research could incorporate objective speaking assessments and inferential analyses to explore the relationship between specific strategies and measurable speaking development over time (Dörnyei & Taguchi, 2010; Tonekaboni, 2019).

Conclusion, Implications and Recommendations

Conclusion

The Cake application is a mobile learning tool designed to help users learn English for everyday situations through engaging video-based lessons. It provides practice activities for listening, speaking, vocabulary, grammar, and expressions across different proficiency levels, with a particular emphasis on speaking through simulated conversations with native speakers. Guided by

Brown and Yule's (1983) view of spoken language and a mobile-assisted language learning perspective, this study investigated first-year English-major students' strategies for using the Cake application, their perceptions of its effectiveness, and the perceived effects of using Cake on their English-speaking proficiency in a Thai university context.

The findings can be summarised in four key points. First, the sample consisted of 51 students from three programmes—B.A. in English (45.1%), B.Ed. English (39.2%), and B.Ed. English (International Program) (15.7%)—most of whom had used the Cake application for less than one year (58.8%) and reported a fair level of speaking proficiency (47.1%). Second, the most frequently accessed feature was Daily Conversation (66.7%), and the most commonly used strategy was repeating phrases or idioms (52.9%), followed by pronunciation-focused practice. Third, students demonstrated positive perceptions of the Cake application, with a high level of agreement (M = 4.35, 87.20%). Finally, students reported similarly positive perceived effects of using Cake on their English speaking skills (M = 4.28, 85.84%), suggesting that the application contributed to improvements in pronunciation, vocabulary, fluency, confidence, and conversational ability.

Implications

The results provide several pedagogical implications for learners, teachers, and course designers. For students, the findings illustrate how strategic use of the Cake application—especially repeated listening, pronunciation practice, and engagement with daily conversation videos—can support the development of English-speaking skills and increase confidence in using English in real-life situations. For teachers, the study highlights the potential of integrating Cake into speaking courses as a supplementary mobile tool that offers flexible practice opportunities, reinforces classroom input, and promotes learner autonomy in line with MALL principles (Khlaisang & Sukavatee, 2023; Chaisuriya & Rungsiri, 2023). The results also suggest that explicit guidance on how to use advanced features such as AI speech recognition may encourage more students to benefit from immediate pronunciation feedback.

For curriculum designers and policy makers in Thai higher education, this study shows that mobile applications like Cake can complement existing speaking curricula by providing authentic, high-frequency conversational input aligned with learners' interests and everyday communication needs (Klimova, 2018; Kusmaryani et al., 2019). The positive perceptions reported by English-major students indicate that similar apps could be incorporated into other programmes or skill areas, contributing to broader efforts to improve English proficiency in Thailand.

Recommendations

Building on the present findings and acknowledged limitations, several directions for future research are recommended. Subsequent studies could employ larger and more diverse samples, including students from different year levels, disciplines, and institutions, to enhance the generalisability of the results. Longitudinal designs with periodic follow-ups would help clarify the

long-term effects of using the Cake application on learners' speaking proficiency and retention of vocabulary and expressions. In addition, future research could examine the app's impact on other language skills—such as listening comprehension, grammar accuracy, or pragmatic competence—by focusing on specific features or modules within the application.

Methodologically, researchers are encouraged to complement self-report questionnaires with performance-based measures, such as pre- and post-speaking tests, rating scales completed by teachers, or acoustic analyses of pronunciation, as well as qualitative data from interviews or learning diaries (Dörnyei & Taguchi, 2010). Comparative studies could also investigate how Cake performs relative to other mobile applications (e.g., Duolingo, Hello English, or similar speaking-oriented apps) in terms of learner engagement, perceived usefulness, and measurable speaking gains (Hidayati & Diana, 2019; Tonekaboni, 2019). Such research would further refine the role of mobile applications in EFL speaking instruction and provide practical guidance for app developers and educators seeking to design or adopt effective mobile-assisted speaking tools.

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Utilizing K-W-L Plus Strategy to Boost the Undergraduate Students' Higher-Order Thinking Skills in Analytical and Critical Reading and Children's Literature Courses

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Abstract

Higher-order thinking skills (HOTS) have become a central goal of higher education, particularly in English as a Foreign Language (EFL) contexts where students are expected to analyze, evaluate, and critically interpret texts. However, undergraduate students often struggle to demonstrate higher-order thinking in analytical and critical reading as well as children's literature courses. This article explores the use of the K-W-L Plus strategy as an instructional approach to enhance undergraduate students' higher-order thinking skills. Drawing on Bloom's revised taxonomy and constructivist learning theory, the article synthesizes empirical studies on KWL-based strategies, HOTS-oriented analytical and critical reading instruction, and children's literature pedagogy. The paper proposes an instructional framework integrating K-W-L Plus into analytical and critical reading and children's literature courses, highlighting its potential to promote analysis, evaluation, and creative synthesis. The findings from prior studies suggest that K-W-L Plus effectively scaffolds undergraduates' thinking processes, fosters active engagement, and enhances critical literacy. Therefore, the K-W-L Plus strategy should be integrated systematically into analytical and critical reading as well as children's literature courses to scaffold students' higher-order thinking processes. By activating prior knowledge, encouraging inquiry-based questioning, and guiding students toward reflective synthesis, teachers can create learner-centered environments that promote analysis, evaluation, and creative interpretation of texts.

Keywords: Analytical and Critical Reading, Children's Literature, K-W-L Plus strategy, Higher-order thinking skills, Undergraduates

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Introduction

In contemporary higher education, the development of higher-order thinking skills (HOTS) has been widely recognized as a fundamental learning outcome. Universities are no longer expected to focus solely on knowledge transmission but rather to cultivate students' abilities to analyze information critically, evaluate arguments, and create new meanings from texts (Anderson & Krathwohl, 2001). In English as a Foreign Language (EFL) programs, these competencies are particularly essential in courses such as Analytical and Critical Reading and Children's Literature, where students are required to engage deeply with texts and interpret complex ideas. Despite their importance, many undergraduate EFL students demonstrate limited analytical and critical reading abilities. Studies conducted in Asian and Southeast Asian contexts indicate that learners often rely on surface-level comprehension and struggle to respond to HOTS-oriented questions (Javorcikova & Badinská, 2021; Mukhlis et al., 2023). In Thai universities, similar challenges have been reported, especially when students are asked to analyze literary texts or critically evaluate authors' perspectives (Sornkeaw, 2021; Wangmanee, 2024). One instructional strategy that has gained increasing attention is the K-W-L strategy, originally proposed by Ogle (1986), and its expanded form, K-W-L Plus. This strategy provides a structured framework that activates prior knowledge, promotes inquiry, and encourages reflective synthesis. By guiding learners through systematic stages of thinking, K-W-L Plus has the potential to enhance higher-order thinking skills in analytical and critical reading and children's literature courses. This article aims to examine how the K-W-L Plus strategy can be utilized to boost undergraduate students' higher-order thinking skills in analytical and critical reading and children's literature courses through a comprehensive review of theoretical perspectives and empirical research.

Objectives of the Article

1. To explore the use of the K-W-L Plus strategy as an instructional approach to enhance undergraduate students' higher-order thinking skills.
2. To synthesize empirical studies on KWL-based strategies, HOTS-oriented analytical and critical reading instruction, and children's literature pedagogy.
3. To propose an instructional framework integrating K-W-L Plus into analytical and critical reading and children's literature courses, highlighting its potential to promote analysis, evaluation, and creative synthesis.

Higher-Order Thinking Skills and Bloom's Revised Taxonomy

Higher-order thinking skills are commonly conceptualized through Bloom's revised taxonomy, which classifies cognitive processes into six levels: remembering, understanding, applying, analyzing, evaluating, and creating (Anderson & Krathwohl, 2001). The upper three levels—**analyzing, evaluating, and creating**—are widely regarded as HOTS. In reading instruction, HOTS involve the ability to: 1) analyze text structure, arguments, and literary elements, 2) evaluate ideas, values, and assumptions embedded in texts, and 3) create new interpretations, responses, or written products based on textual evidence.

Several studies have emphasized the importance of HOTS-oriented reading instruction. Nourdad et al. (2018) found that explicit HOTS instruction significantly improved EFL learners' reading ability. Similarly, Ragab et al. (2024) highlighted that HOTS-based strategies enhance learners' cognitive engagement and learning outcomes across disciplines. In the context of reading assessment, Pakpahan et al. (2021) and Amali et al. (2022) demonstrated that HOTS-aligned questions provide more accurate insights into students' reading comprehension and critical thinking abilities than traditional recall-based assessments.

Analytical and Critical Reading in EFL Higher Education

Analytical and critical reading is a core academic skill that enables students to engage with texts beyond literal comprehension. Analytical reading focuses on identifying main ideas, supporting details, text organization, and rhetorical features, while critical reading emphasizes evaluation, interpretation, and judgment (Javorcikova & Badinská, 2021). Research has consistently shown that EFL learners face challenges in analytical and critical reading due to limited vocabulary, insufficient background knowledge, and lack of strategic reading instruction (Nguyen & Le, 2023; Zambrano & Alcívar, 2023). Indriastuti et al. (2023) reported that extensive reading programs incorporating HOTS-oriented activities significantly enhanced students' analytical abilities.The use of structured strategies, such as questioning techniques and pre-reading activities, has been found to support critical reading development. Rasyid et al. (2023) emphasized that effective questioning strategies promote deeper cognitive processing and critical engagement with texts.

Children's Literature as a Medium for Higher-Order Thinking

Children's literature plays a vital role in fostering reading engagement, imagination, and critical literacy. Contrary to the perception that children's literature is simplistic, contemporary research highlights its potential for promoting analytical and critical thinking at the university level (Cowling et al., 2025; Green, 2025). Children's literary texts often contain symbolic meanings, moral dilemmas, cultural values, and social issues that invite interpretation and evaluation. Noor et al. (2025) demonstrated that linguistic features in children's literature stimulate creative and imaginative thinking. Similarly, Makhlouf and Al-qaisi (2025) argued that pedagogical strategies integrating children's literature in higher education enhance students' interpretive and evaluative skills. In the Thai context, Wangmanee (2024) found that the integration of children's literature through CLIL approaches enhanced both language proficiency and soft skills among undergraduates. Teachers' knowledge of children's literature is also crucial in promoting reading for pleasure and critical engagement (Cowling et al., 2025).

Theoretical Foundations of K-W-L Plus

The K-W-L strategy consists of three stages: **K (What I Know), W (What I Want to Know), and L (What I Learned)** (Ogle, 1986). The **K-W-L Plus** strategy extends this model by incorporating post-reading synthesis activities such as summarizing, concept mapping, and reflective writing.

Grounded in constructivist learning theory, K-W-L Plus emphasizes active knowledge construction through interaction with texts and prior experiences. The strategy aligns closely with HOTS by encouraging undergraduate students to question, analyze, evaluate, and synthesize information.

Empirical Studies on KWL-Based Strategies

A growing body of research supports the effectiveness of KWL and its variants in improving reading comprehension. Studies by Fatmawan et al. (2023), Masruroh (2024), and Sari et al. (2023) found that KWL significantly improved students' reading comprehension across educational levels. In EFL contexts, Diasti et al. (2023), Pratama (2023), and Zuriah and Mutia (2023) reported positive effects of KWL on students' engagement and comprehension achievement. Moreover, Guo and Ibrahim (2023) highlighted that integrating the KWL teaching mode in college English reading pedagogy enhanced students' strategic reading skills. Studies extending KWL into advanced forms, such as KWL-Plus and KWLA, have shown promising results. Sornkeaw (2021) demonstrated that KWL-Plus combined with infographics significantly improved Thai EFL students' reading comprehension. Wahyuni and Fitrawati (2023) also found that KWLA enhanced students' reading performance and engagement.

Integrating K-W-L Plus to Enhance Higher-Order Thinking Skills

The K-W-L Plus strategy supports HOTS development by structuring learning into progressive cognitive stages. During the **K stage**, students activate prior knowledge, which supports analytical anticipation. The **W stage** encourages students to generate questions aligned with analysis and evaluation. The **L stage** promotes reflection and evaluation of newly acquired knowledge, while the **Plus stage** emphasizes synthesis and creative output. Pisriwati et al. (2024) emphasized that systematic question-making aligned with HOTS enhances teachers' and students' awareness of cognitive levels. Similarly, Ramadhana et al. (2025) found that HOTS-oriented instructional materials significantly improved students' critical thinking abilities. By integrating K-W-L Plus into analytical and critical reading and children's literature courses, instructors can create a learner-centered environment that fosters critical inquiry and reflective thinking.

Procedures of Implementing K-W-L Plus with Higher-Order Thinking Skills in an English Children's Literature Course

1. Pre-Reading Stage: K (What I Know)

In the pre-reading stage, the instructor introduces the selected children's literary text and facilitates brainstorming activities. Students are asked to identify what they already know about the text's theme, genre, author, cultural background, or related moral issues. To promote higher-order thinking, students may be encouraged to justify their prior knowledge, identify assumptions, and predict possible themes or messages. This stage primarily supports analytical thinking by helping students recognize existing cognitive frameworks and potential biases.

2. Pre-Reading Stage: W (What I Want to Know)

During the W stage, students generate questions that guide their reading. These questions should be designed to stimulate higher-order thinking rather than factual recall. Examples include questions about character motivation, ethical dilemmas, thematic relevance, or alternative interpretations. The instructor may model how to formulate analytical and evaluative questions aligned with the revised Bloom's Taxonomy. This stage strengthens inquiry skills and prepares students for deeper textual engagement.

3. While-Reading Stage: Active Reading and Analysis

As students read the children's literature text, they actively seek answers to their W questions. Annotation, discussion, and small-group analysis are encouraged. Students identify key literary elements, analyze narrative structure, and examine language use and symbolism. Higher-order thinking is promoted through guided prompts that require comparison, inference, and interpretation. Collaborative discussion allows students to articulate reasoning and consider multiple perspectives.

4. Post-Reading Stage: L (What I Have Learned)

In the L stage, students reflect on what they have learned from the text. They revisit their initial questions and summarize key insights. This stage supports evaluative thinking as students assess how their understanding has changed and which interpretations are most convincing. Students may be asked to provide evidence from the text to support their conclusions, thereby reinforcing critical evaluation skills.

5. Plus Stage: Synthesis, Evaluation, and Creation

The Plus stage is the core component for developing higher-order thinking skills. Students engage in synthesis activities such as concept mapping, thematic analysis charts, or comparative frameworks. Creative tasks may include rewriting a story from a different perspective, designing lesson plans using children's texts, creating digital storytelling projects, or composing reflective essays that connect literature to contemporary issues. Evaluation is emphasized through peer review, self-assessment, and rubric-based feedback aligned with the revised Bloom's Taxonomy.

Table 1

Procedures of Implementing the K-W-L Plus Strategy with Higher-Order Thinking Skills in an English Children's Literature Course (with Assessment Alignment)

Stage	K-W-L Plus Component	Instructional Procedures	Student Learning Activities	HOTS Emphasis (Revised Bloom's Taxonomy)	Assessment Tools / Rubrics
Pre-Reading	**K (What I Know)**	The instructor introduces the children's literature text and facilitates brainstorming on themes, genre, author background, cultural context, and moral issues. Guiding questions encourage justification of prior knowledge and identification of assumptions.	Students activate prior knowledge, share ideas in groups, justify beliefs, and predict themes or messages of the text.	**Analyzing**, **Understanding**	• Diagnostic checklist for prior knowledge • Short reflective writing rubric (analysis of assumptions) • Participation rubric (quality of justification)
Pre-Reading	**W (What I Want to Know)**	The instructor models how to formulate higher-order questions aligned with the revised Bloom's Taxonomy, focusing interpretation, evaluation, and ethical issues.	Students generate inquiry-based questions related to character motivation, themes, moral dilemmas, and alternative interpretations.	**Analyzing**, **Evaluating**	• Question-generation rubric (depth, relevance, HOTS alignment) • Peer-feedback checklist on question quality
While-Reading	**Active Reading and Analysis**	The instructor provides guided analytical prompts and facilitates small-group	Students annotate texts, identify literary elements, analyze narrative structure and symbolism, and	**Analyzing**, **Interpreting**, **Comparing**, **Inferring**	• Annotation rubric (use of evidence, analytical depth) • Group

		discussions. Annotation strategies and collaborative analysis are emphasized.	discuss interpretations collaboratively.		discussion rubric (critical engagement, reasoning, collaboration)
Post-Reading	**L (What I Have Learned)**	The instructor guides reflection by revisiting W questions and encouraging evidence-based summaries and evaluative judgments.	Students summarize key insights, evaluate changes in understanding, justify interpretations, and cite textual evidence.	**Evaluating**, **Analyzing**	• Reflective response rubric (evaluation, use of evidence) • Short analytical essay rubric
Post-Reading / Extension	**Plus (Synthesis, Evaluation, and Creation)**	The instructor assigns synthesis and creative tasks and applies rubric-based assessment, peer review, and self-assessment aligned with HOTS.	Students create concept maps, thematic analyses, comparative frameworks, creative rewritings, digital storytelling projects, lesson plans, or reflective essays connecting literature to contemporary or Thai sociocultural contexts.	**Creating**, **Evaluating**, **Synthesizing**	• Project-based rubric (synthesis, creativity, critical evaluation) • Peer-assessment rubric • Self-assessment checklist aligned with Bloom's higher levels

Assessment of Higher-Order Thinking Skills through K-W-L Plus

Assessment plays a crucial role in ensuring that the implementation of the K-W-L Plus strategy effectively promotes higher-order thinking skills. Both formative and summative assessment approaches should be aligned with the revised Bloom's Taxonomy and the learning objectives of the Analytical and Critical Reading and Children's Literature courses. Formative assessment is conducted throughout the learning process to monitor students' cognitive development and provide ongoing feedback. Examples include classroom observation, participation in discussions, reflective journals, learning logs, and K-W-L charts. These tools allow instructors to assess students' analytical questioning, interpretive reasoning, and reflective thinking.

Furthermore, summative assessment focuses on evaluating students' overall achievement of higher-order thinking skills at the end of instructional units. Common summative tasks include analytical essays, thematic analysis reports, creative literary projects, and oral presentations. These tasks require students to analyze texts, evaluate interpretations, and create original responses.

Sample Rubric for Assessing Higher-Order Thinking Skills

Table 2: Sample Rubric for HOTS Assessment Using K-W-L Plus

Criteria	Excellent (4)	Good (3)	Fair (2)	Needs Improvement (1)
Analysis of Literary Elements	Demonstrates insightful and thorough analysis of themes, characters, and structure with strong textual evidence	Provides clear analysis with relevant examples	Shows limited analysis with minimal support	Lacks analytical understanding
Evaluation and Critical Judgment	Makes well-justified evaluative judgments using clear criteria	Provides reasonable evaluation with some justification	Evaluation is superficial or weakly supported	Little or no evaluation
Creative Response	Produces highly original and meaningful creative work connected to the text	Creative work shows originality and relevance	Limited creativity with weak connection	Minimal or inappropriate response
Reflection and Synthesis	Demonstrates deep reflection and integrates ideas coherently	Shows reflection and partial synthesis	Limited reflection and weak integration	No clear reflection or synthesis

This rubric ensures transparent assessment criteria and encourages students to engage in higher-order cognitive processes throughout the learning cycle.

Sample of Lesson plan

Lesson Plan: Applying KWL-Plus with Higher-Order Thinking Reading Questions

Text: Hansel and Gretel (Brothers Grimm – adapted version)

Course: Analytical and Critical Reading / Children's Literature

Level: Second year undergraduates **Duration**: 3 hours (180 minutes)

1. Course Information

Semester: 2nd Semester

Class Size: 25–40 students

Teaching Approach: Student-centered, constructivist learning

Reading Strategy: KWL-Plus

Thinking Framework: Bloom's Taxonomy (Analyze–Evaluate–Create)

2. Learning Objectives

By the end of the lesson, students will be able to:

2.1 Analyze characters, themes, and conflicts in a children's literary text

2.2 Evaluate moral values and social issues embedded in the story

2.3 Synthesize ideas by organizing information using KWL-Plus mapping

2.4 Create alternative interpretations or endings based on critical reasoning

2.5 Reflect on how children's literature conveys ideology and values.

3. Learning Outcomes (Aligned with HOTS)

Students will demonstrate the ability to:

3.1 Apply analytical reading strategies to literary texts

3.2 Interpret implicit meanings and authorial intentions

3.3 Justify opinions using textual evidence

3.4 Produce structured written and oral responses

4. Instructional Materials

4.1 Selected excerpt from Hansel and Gretel

4.2 KWL-Plus graphic organizer

4.3 Whiteboard / PowerPoint

4.4 Worksheet with HOTS reading questions

5. Teaching Procedures (KWL-Plus Framework)

Stage 1: K – What I Know (Pre-reading) Time: 25 minutes

Teacher's Role

1. Introduce the title and background of Hansel and Gretel
2. Activate prior knowledge through brainstorming

Student Activities:

1. Work in pairs to list: What they know about fairy tales
2. Familiar elements (evil stepmother, forest, magic, survival)
3. Guiding Questions (Lower → Higher)

Sample of reading questions

What typical characters appear in fairy tales?

How are children usually portrayed in such stories?

Stage 2: W – What I Want to Know (Pre-reading) Time: 20 minutes

Teacher's Role: Guide students to generate inquiry-based questions

Student Activities: Formulate questions focusing on meaning, values, and themes

Sample HOTS-Oriented W Questions

Why are children often placed in danger in fairy tales?

What social fears might this story reflect?

How does power operate between adults and children?

Stage 3: L – What I Learned (While & Post-reading) Time: 60 minutes

Teacher's Role: Facilitate close reading and discussion; Encourage textual evidence

Student Activities: Read the text individually and discuss answers in small groups

Sample of Higher-Order Thinking Reading Questions

Analysis

How does the forest function symbolically in the story?

What motivates the stepmother's actions beyond surface cruelty?

Evaluation

Do you consider the parents morally responsible for abandoning the children?

Why or why not?

Is the witch purely evil, or does she represent a social metaphor?

Inference

What does the story suggest about childhood independence and resilience?

Stage 4: PLUS – Mapping & Summarizing Time: 40 minutes

Teacher's Role: Demonstrate how to create concept maps

Student Activities: Create a concept map including:Characters & Conflicts

Themes (survival, greed, fear, family); Moral lessons and write a 150-word analytical summary

Stage 5: HOTS Extension Activity (Create) Time: 25 minutes

Student Task (Choose One): Rewrite the ending from the stepmother's perspective, adapt the story to a modern social context (e.g., poverty, migration) and design a moral lesson suitable for contemporary children

6. Reflection & Feedback

Students complete a short reflection:

How did KWL-Plus help your understanding?

Which question made you think most deeply?

Analytic Rubric (HOTS-Aligned)

Task: K-W-L Plus Written Reflection / Creative Task (Individual or Group)

Criteria	4 – Excellent	3 – Good	2 – Fair	1 – Needs Improvement
Critical Analysis (Analyze)	Insightful analysis of characters and actions with strong textual evidence	Clear analysis with some supporting details	Limited analysis; mostly descriptive	Minimal or inaccurate analysis
Evaluation & Reasoning (Evaluate)	Strong, logical judgments with well-justified reasons	Reasonable judgments with some justification	Opinions stated with weak support	Judgments lack reasoning
Creativity & Synthesis (Create)	Original ideas that meaningfully extend the story	Some creative elements evident	Limited creativity; predictable ideas	No creative extension
Language Use	Clear, coherent academic English with minimal	Generally clear with minor errors	Frequent errors but meaning is	Serious errors hinder

Criteria	4 – Excellent	3 – Good	2 – Fair	1 – Needs Improvement
	errors		understandable	understanding
Organization	Well-structured and logically organized	Mostly organized	Some organizational problems	Disorganized

Pedagogical Implications

The academic suggests several pedagogical implications for EFL higher education, particularly in Thai university contexts. First, instructors should integrate the K-W-L Plus strategy systematically into analytical and critical reading as well as children's literature courses to scaffold students' higher-order thinking processes. By activating prior knowledge, encouraging inquiry-based questioning, and guiding students toward reflective synthesis, teachers can create learner-centered environments that promote analysis, evaluation, and creative interpretation of texts. Second, lesson design should emphasize structured pre-reading, during-reading, and post-reading activities that encourage students to generate questions, evaluate textual evidence, and organize their understanding through visual or conceptual mapping in the Plus stage. Such practices help students move beyond comprehension toward critical engagement and interpretation. Third, collaborative learning activities, including group KWL charts, literature circles, and peer discussions, should be incorporated to expose students to multiple perspectives and foster dialogic critical thinking. Integrating digital tools for collaborative mapping and reflection can further enhance engagement and knowledge construction. Finally, assessment practices should align with HOTS-oriented instruction by evaluating not only comprehension but also students' analytical reasoning, interpretative depth, and ability to synthesize ideas across texts. Teacher training programs should also support instructors in implementing K-W-L Plus as a practical framework for promoting critical literacy in EFL classrooms.

Conclusion

This article has examined the potential of the K-W-L Plus strategy to enhance undergraduate students' higher-order thinking skills in analytical and critical reading and children's literature courses. Drawing on Bloom's revised taxonomy and a wide range of empirical studies, the review highlights that K-W-L Plus effectively promotes analysis, evaluation, and creative thinking. The strategy offers a practical and theoretically grounded approach for EFL higher education contexts, particularly in Thailand. Future research should empirically investigate its long-term impact on undergraduate students' critical literacy and academic performance.

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Universities in Local Public Problem-Solving: Advancing Educational Partnerships

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Abstract

Urban areas face interconnected challenges, including housing instability and migration pressures. These challenges often outpace local government capacity. In secondary cities such as Rangsit, these pressures are particularly pronounced. They cannot be addressed through short-term or isolated interventions. While universities are well placed to help, most academic engagement remains episodic. It depends on individual initiative rather than sustained institutional coordination. This article examines how higher education institutions can shift from temporary participation to structured alignment with municipal priorities. It draws on the Educational Partnerships for Innovation in Communities (EPIC) Model. The article asks how academic routines may be organised to address locally identified concerns. The discussion focuses on collaboration between the Puey Ungphakorn School of Development Studies at Thammasat University and Rangsit City Municipality. Two undergraduate courses were aligned with municipal support for vulnerable populations. This experience shows that when universities coordinate how they design their courses and supervise students, they can integrate learning into public spaces. This does not require additional budgets or the sacrifice of academic freedom. Thus, development is more than just theory or history. It is something people experience through their daily lives and the institutions they navigate. Sustainable university–community partnerships depend less on scale. Instead, they rely on organisational clarity, continuity, and responsiveness to local priorities.

Keywords: Education Partnership, Community-based Learning, Sustainable Cities, SDG Localisation, Urban Governance

1. Introduction

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1. Introduction

Secondary cities play important role in national development by alleviating the over-concentration of resources in major or primate cities. Many secondary cities in Asia are growing rapidly, providing economic opportunities and improved access to education in their respective countries. At the same time, as cities grow, urban growth and migration increase population pressures, and challenges such as housing instability, informal livelihoods, and limited access to basic services for vulnerable populations become more visible. Local governments are forced to confront this growing nexus of complex issues, often with limited staffing and financial resources. In this context, it becomes essential to consider how local governments can be supported in addressing these challenges.

Within this environment, higher education institutions, particularly universities, can serve as crucial support to local governments. In many cases, these institutions are already embedded in local settings. They educate students, conduct research, and engage with surrounding communities through various activities. Across Asia, volunteer activities, service-learning initiatives, and field-based courses are common. These efforts can provide meaningful support to local actors. In practice, engagement frequently follows academic agendas. It tends to be shaped by research interests or course requirements rather than by priorities identified by communities or local authorities. As a result, engagement may remain tied to specific courses or individuals rather than becoming integrated into ongoing municipal processes

This difficulty in sustaining engagement has been documented. Caughman et al. (2020) suggest that sustaining cooperation beyond initial phases requires more than goodwill, as it necessitates clearer forms of alignment and continuity (Caughman et al., 2020). Reviews of community–university initiatives by Matson et al. (2025) similarly note that many partnerships depend heavily on individual champions rather than more stable arrangements that can endure over time. These observations point to a recurring issue. While universities are present and active in local contexts, their contribution to ongoing public processes is not always organised in ways that allow for sustained engagement.

The literature on university–community collaboration has long emphasised reciprocity, mutual accountability, and shared learning (Bringle & Hatcher, 2002; Clark & Spaulding Givens, 2016; Hartman et al., 2018). Rather than treating communities as passive, voiceless

recipients of knowledge, these approaches frame engagement as a partnership. Rogers (2020) suggests that universities can strengthen civic capacity when they work alongside public institutions rather than operate separately from them. Sachs (2015) similarly underscores the importance of cross-sector cooperation in advancing sustainable development. These perspectives reinforce the view that higher education institutions have the potential to contribute more consistently to local public problem-solving when collaboration is structured and sustained.

An important distinction, therefore, lies between participation and alignment. Participation may involve short-term projects or activities that intersect with community concerns. Alignment, on the other hand, requires that academic activities be organised in response to locally identified priorities. When municipal concerns shape course design, fieldwork, and student assignments, engagement becomes part of existing public processes rather than a temporary attachment. In this configuration, universities do not replace municipal responsibilities, nor do they create parallel structures. Instead, they adapt their academic routines so that teaching and learning activities contribute to ongoing local efforts.

This paper examines how higher education institutions, especially universities, can advance educational partnerships that go beyond temporary engagement. The focus is on alignment and continuity, and on clarifying how structured collaboration may strengthen local public processes while maintaining academic integrity.

The discussion in this paper draws on collaboration between the Puey Ungphakorn School of Development Studies (PSDS) at Thammasat University and Rangsit City Municipality. In that experience, course-based activities were aligned with issues identified by municipal authorities, allowing student work to support local processes under academic supervision. This collaboration was guided by the Educational Partnerships for Innovation in Communities (EPIC) Model. It highlights the importance of connecting academic activities with community priorities.

2. Objectives

This paper examines how higher education institutions, particularly universities, can organise educational partnerships aligned with locally identified priorities and embedded in ongoing municipal processes. Rather than focusing on a specific social issue, the paper considers how collaboration between universities and local governments can be structured to move beyond individually driven or course-bound initiatives.

Drawing on collaboration between the Puey Ungphakorn School of Development Studies at Thammasat University and Rangsit City Municipality as a case, the paper explores how existing academic courses can be aligned with municipal priorities without requiring new funding mechanisms or parallel administrative structures. The objective is to clarify how universities can function as embedded actors in local public problem-solving while maintaining academic integrity.

3. Rethinking University Engagement in Secondary Cities

For years, universities have acted as bridges to close the divide between the classroom and the community through activities such as service-learning, field-based teaching, and community-based learning (CBL). Scholars like Bringle and Hatcher (2002) remind us that meaningful partnerships are built on reciprocity rather than one-sided service. Without this grounding, partnerships risk becoming a form of academic charity, well-intentioned but temporary interventions that lack structural reflection (Weigert, 1998; Butin, 2006). This tension remains a central challenge in higher education: while engagement is widely encouraged, the institutional structures required to sustain it are often fragile.

CBL has gained attention specifically for its ability to connect classroom theory with the lived realities of communities (Clark & Spaulding-Givens, 2016; Hartman et al., 2018). When implemented thoughtfully, it moves students beyond viewing social issues as abstract academic concepts and helps them recognise how such challenges are embedded within the institutional, economic, and relational systems that shape everyday urban life. This grounding allows students to see public problems as part of the wider fabric of municipal life and can contribute to local capacity building (Southworth & Brallier, 2020). Taken together, these perspectives suggest that universities can move beyond symbolic engagement and become

more embedded actors in public problem-solving, provided their collaboration remains intentional and reflective.

The primary hurdle is that most engagement remains tied to individual courses or driven by the interests of specific lecturers. As noted in critiques of service-learning, projects are sometimes shaped more by academic interests than by community-defined priorities (Butin, 2006; Hartman et al., 2018). While these efforts still benefit students, they often remain short-term. When a semester ends or faculty members shift their focus, the collaboration can lose momentum. This pattern reflects a broader concern that partnerships often rely on individual "champions" rather than durable institutional arrangements.

In urban contexts, particularly in rapidly changing secondary cities such as Rangsit, this limitation becomes more apparent. Local governments often face interconnected pressures related to migration, labour precarity, housing constraints, and environmental risks. As Sachs (2015) notes, responding to complex development challenges in line with the Sustainable Development Goals (SDGs) requires cooperation across sectors rather than isolated action. In practice, this means that the localisation of the SDGs depends on how institutions within a city work together. Issues such as housing instability, unequal access to services, and social marginalisation relate directly to SDG 11 (Sustainable Cities and Communities) and SDG 10 (Reduced Inequalities). At the same time, the way educational partnerships are organised speaks to SDG 4 (Quality Education) and SDG 17 (Partnerships for the Goals). Universities, therefore, occupy a particular position within this landscape. They contribute through teaching and research, and they also help shape how global development commitments are interpreted and enacted locally. Whether this role remains symbolic or becomes embedded in municipal processes depends less on institutional goodwill and more on how collaboration is structured. Universities have analytical expertise, student capacity, and interdisciplinary knowledge, yet these resources do not automatically translate into sustained public contribution. The challenge is not a lack of interest, but the absence of durable structures that can connect academic routines to ongoing local priorities.

A critical distinction must be made between participation and alignment. Participation may involve short-term projects, volunteer activities, outreach programmes, or even graduate research that intersects with community concerns. For example, a master's thesis may address a city-defined issue and produce valuable findings for municipal officials. Nonetheless, once

the student graduates, the collaboration habitually ends, and the relationship may not continue unless there is a broader institutional structure in place. Alignment, on the other hand, refers to the deliberate organisation of academic activities around priorities identified through municipal processes, embedded within existing courses and institutional commitments. One model that formalises this alignment approach is the Educational Partnerships for Innovation in Communities (EPIC) Model, implemented by universities participating in the Educational Partnerships for Innovation in Communities Network (EPIC-N). The model originated in 2009 at the University of Oregon through the Sustainable City Year Program, which partnered existing university courses with the City of Salem to address city-defined sustainability challenges. Rather than designing projects solely around faculty interests, the programme aligned the objectives and assignments of existing courses, capstone projects, and graduate research with municipal priorities. Its expansion led to the creation of EPIC-N in 2014, which now supports universities globally in adapting this structured alignment approach (Barlow et al., 2023). Instead of adding new projects to academic workloads, the EPIC Model reorients ongoing teaching and learning activities toward goals identified by the city (Inman et al., 2022).

The alignment does not imply that universities must abandon academic autonomy or critical reflection. As Guba and Lincoln (1994) remind us, academic inquiry is shaped by historical, political, and social contexts, and it involves more than the production of technical solutions. It also requires attention to lived experience and to the structural conditions that shape inequality. Biesta (2010) similarly cautions against reducing education to measurable or instrumental outcomes alone, emphasising that education involves democratic engagement and ethical responsibility. Structured collaboration must therefore preserve space for reflection and critique.

The issue, therefore, is not simply whether universities engage with their communities, but how that engagement is organised. When courses are connected to ongoing municipal efforts, when student assignments respond to priorities identified by local authorities, and when communication continues beyond a single semester, collaboration begins to take a different form. It is no longer an isolated project attached to a course, but part of a broader local process. This shift from individually driven participation to more deliberate alignment offers a way of thinking about how higher education institutions, particularly universities, may contribute to sustained local public problem-solving. The following section draws on a

practical collaboration to illustrate how such alignment can be organised within existing academic structures.

4. Organising Alignment in Practice: Educational Partnerships in Rangsit City Municipality

While participation and alignment can be distinguished at a conceptual level, in practice the transition from one to the other requires deliberate coordination. Alignment does not emerge automatically from goodwill or shared intention. It depends on how conversations are initiated, how expectations are clarified, and how academic activities are organised in relation to ongoing municipal work. The collaboration between the Puey Ungphakorn School of Development Studies (PSDS) at Thammasat University and Rangsit City Municipality provides an illustration of how such coordination can be structured within existing institutional arrangements, following the logic associated with the Educational Partnerships for Innovation in Communities (EPIC) Model. By situating students within real municipal processes, development was no longer encountered only as a theoretical or historical concept, nor as an abstract narrative of rural to urban transformation. Instead, students were able to engage directly with the uneven and often unfair dimensions of urban change. Through structured field interaction and guided reflection, they were encouraged to consider how development outcomes are experienced differently across social groups and to reflect on their own responsibilities as future practitioners and citizens.

The collaboration did not begin with a predefined research agenda, but with conversations. Municipal officers spoke openly about the practical challenges they were facing in supporting vulnerable populations in the city, including people experiencing housing instability and social marginalisation. Limited staffing, communication barriers, and uncertainty about how best to approach outreach made sustained engagement difficult. Staff at Baan Poon Suk, a local shelter and rehabilitation centre, shared similar reflections about the gap between formal services and the lived realities of those on the ground. These were not abstract policy discussions, but honest exchanges about the pressures of everyday governance. Starting from these locally voiced concerns reflects what the literature describes as reciprocal partnership. Bringle and Hatcher (2002) emphasise that meaningful campus–community collaboration requires the mutual shaping of goals, and Hartman et al. (2018) similarly stress the importance

of shared responsibility rather than one-sided service. In this collaboration, the municipality was not treated simply as a field site for data collection, but as a partner involved in defining the scope and direction of the work.

Following this dialogue, two undergraduate courses were aligned with the identified concerns: PCD 306: Psychology for Development and PCD 343: Psychology for Volunteer Work. PCD 306 integrates psychological concepts related to individuals and social systems, emphasising the reciprocal relationship between personal development and social context. Its core activity involves the design of a social project informed by theoretical understanding and grounded in field experience. PCD 343, by contrast, focuses on volunteerism, counselling principles, and the psychological dimensions of service. The course encourages students to reflect on ethical responsibility, emotional boundaries, and the role of volunteers within community settings.

This structure reflects scholarship on community-based learning, which highlights the importance of bringing together theory, practice, and structured reflection (Clark & Spaulding Givens, 2016; Southworth & Brallier, 2020). Engagement is not simply about giving students exposure to real-world settings. It is a learning process that requires preparation, guidance, and space for critical reflection so that experience can be meaningfully connected to academic understanding. Attention to supervision and student safety reflects concerns raised in critiques of service-learning that caution against unstructured immersion without adequate support (Butin, 2006). In both courses, field engagement was accompanied by classroom discussion and reflection sessions, ensuring that students could connect observation with conceptual understanding while processing emotional responses in a supported environment.

Site visits were conducted during daytime hours and under supervision. Students engaged in structured observation, informal dialogue, and small-group conversations in settings designed to feel safe and respectful. Through guided interviews and reflective interaction, they sought to understand daily routines, communication barriers, and the lived experiences of individuals facing housing instability. These interactions brought forward practical concerns that were not always visible in administrative reporting, including issues related to trust, service accessibility, and social stigma. In collaboration with Baan Poon Suk, students also worked on small-scale design and communication components, such as developing informational materials, refining activity formats, and suggesting environmental adjustments that could support more constructive interaction between staff and residents. The scale of intervention

remained modest and context-sensitive, oriented toward strengthening existing municipal efforts rather than introducing large-scale reform.

Through this structured engagement, the municipality gained additional analytical support without increasing its staffing burden. Student observations and interview reflections offered supplementary insight into communication barriers, trust dynamics, and service accessibility challenges that were not always visible through routine administrative processes. While students did not assume municipal responsibilities, their work provided an additional layer of attention to everyday operational concerns. The collaboration also created a predictable and supervised channel of interaction, allowing municipal staff and Baan Poon Suk personnel to engage in dialogue and reflection within a structured academic framework. In this sense, the benefit to the city lay not in large-scale intervention, but in enhanced understanding, iterative feedback, and modest but practical contributions aligned with ongoing efforts.

The collaboration operated within normal university teaching schedules and municipal routines. No additional funding mechanism or parallel governance structure was created, and academic autonomy, including grading and course objectives, was preserved. As Biesta (2010) reminds us, education should not be reduced to technical problem-solving alone. At the same time, structured engagement allowed students to connect theoretical knowledge with practical municipal concerns in a way that was attentive to ethical boundaries and institutional constraints. Although the courses were semester-based, continuity was strengthened through regular communication and iterative planning with municipal partners. Alignment in this case depended less on scale than on coordination. By linking course design, supervision, and reflection to municipal priorities, the university functioned not as a temporary volunteer presence, but as an embedded educational partner within local public processes.

5. Conclusion

This paper has contended that the question facing universities is not simply whether they should engage with their surrounding communities, but how that engagement is organised. In rapidly changing cities, local governments often face overlapping social and economic pressures while operating within limited institutional capacity. Universities are usually present in these contexts and hold intellectual, human, and organisational resources that could

contribute to local processes. Yet, without structure and continuity, engagement can remain symbolic or short-lived.

Distinguishing between participation and alignment helps clarify this challenge. Participation may take many forms that intersect with municipal concerns. These efforts are valuable, but they tend to follow academic calendars and depend on one professor's initiative. When a semester ends, or a staff member moves on, momentum can fade. Alignment, by contrast, involves deliberate coordination of academic routines such as course design, assignments, supervision, and reflection with priorities identified through municipal processes. It does not require universities to give up academic autonomy. Rather, it situates teaching and learning within an ongoing conversation with public institutions and communities.

The collaboration between the Puey Ungphakorn School of Development Studies and Rangsit City Municipality shows how alignment can be structured within existing institutions. Starting dialogue, aligning courses with municipal concerns, and sustaining communication beyond one semester helped the partnership follow the EPIC Model's logic while also fitting routine academic work. This shows that steady coordination and shared commitment are more important than scale, new funding, or institutional rhetoric.

Universities seeking to help community management and urban development should go beyond episodic engagement. The task is to create lasting collaboration. When organised intentionally, educational partnerships can support municipal learning, encourage ongoing reflection, and strengthen local governance. These partnerships can do so while preserving the ethical and pedagogical purpose of higher education. In this way, universities are not only places where knowledge is produced. They also become active participants in the public life of the cities where they are located.

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From Classroom to the Real World: The Role of Experiential Learning in Developing 21st-Century Competencies

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Abstract

Thailand's ongoing economic transformation and rapid technological advancement have significantly reshaped the competencies expected of university graduates. As the country moves toward a knowledge-based, innovation-driven economy, higher education institutions are increasingly expected to produce graduates who possess not only strong academic knowledge but also practical skills relevant to the modern workforce. However, traditional teaching approaches in many Thai universities continue to emphasize lecture-based instruction and theoretical learning, providing limited opportunities for students to apply their knowledge in real-world contexts. This situation has raised concerns about graduate employability and workforce readiness.

Experiential learning has emerged as an important pedagogical approach that helps bridge the gap between classroom learning and practical application. By engaging students in authentic learning experiences such as internships, cooperative education, service-learning activities, project-based learning, and collaboration with industry partners, experiential learning allows students to develop key competencies required in contemporary workplaces. These competencies include critical thinking, communication, collaboration, creativity, and adaptability.

This paper examines the role of experiential learning in developing 21st-century competencies among university students in Thailand. It also discusses key challenges Thai higher education institutions face in implementing experiential learning and highlights the policy and institutional implications for strengthening experiential learning initiatives within Thailand's higher education system.

Keywords: Experiential learning, 21st-century competencies, higher education, work-integrated learning, student employability

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Introduction

Higher education systems around the world are undergoing significant transformation in response to the demands of the twenty-first century. The rise of the knowledge economy, rapid technological innovation, and increasing global interconnectedness have reshaped the expectations placed on university graduates. Employers today require individuals who possess not only disciplinary knowledge but also a broad set of transferable skills, commonly referred to as 21st-century competencies. These competencies include critical thinking, communication, collaboration, creativity, digital literacy, and problem-solving abilities (Trilling & Fadel, 2009).

Despite these evolving expectations, many higher education institutions in Thailand continue to rely heavily on traditional teaching approaches characterized by lecture-based instruction and content-focused curricula. While such approaches are effective in delivering theoretical knowledge, they often provide limited opportunities for students to apply their learning in real-world contexts. As a result, a persistent gap exists between academic learning and workplace expectations, leading to concerns about graduate employability and workforce readiness (Jackson, 2015). For example, many undergraduate programs in Thailand are designed according to the Thailand Qualifications Framework for Higher Education (TQF), which emphasizes structured course content, predefined learning outcomes, and assessment through examinations and coursework. Although the framework supports competency development, experiential learning activities emphasizing learning through direct experience, reflection, and active engagement with real-world problems (Kolb, 1984), are often concentrated in limited internship courses during the later stages of study, leaving fewer opportunities for sustained real-world experiences throughout the curriculum.

Objectives

This paper examines the role of experiential learning in developing 21st-century competencies among university students in Thailand. Specifically, the study explores how experiential learning approaches such as internships, cooperative education, and project-based learning can bridge the gap between classroom instruction and real-world application. The paper also discusses how these learning experiences contribute to the development of key competencies required in modern workplaces, including critical thinking, communication, collaboration, and adaptability. Additionally, the paper seeks to contribute to ongoing discussions on how Thai higher education institutions can strengthen experiential learning practices in order to enhance graduate employability and better align university education with the evolving demands of the labor market.

Experiential Learning Theory

Experiential learning has its theoretical roots in the works of educational theorists such as John Dewey, Kurt Lewin, and David Kolb. Dewey (1938) emphasized that meaningful learning occurs through experience and reflection, arguing that education should connect classroom learning with real-life situations. Building on these ideas, Kolb (1984) developed the widely recognized experiential learning cycle, consisting of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation.

According to Kolb's model, learning begins with a concrete experience in which individuals actively engage in a task or situation. This experience is followed by reflective observation, during which learners analyze and reflect upon their experiences. Through this reflection, learners develop abstract conceptualizations that help them understand underlying principles or theories. Finally, learners engage in active experimentation by applying newly acquired knowledge to different situations.

Experiential learning theory suggests that knowledge is created through the transformation of experience. This process encourages learners to actively construct knowledge rather than passively absorb information (Kolb & Kolb, 2017). In this sense, experiential learning shifts students' roles from passive recipients of information to active participants in the learning process. By engaging in cycles of experience, reflection, and application, learners can develop a deeper understanding, practical problem-solving skills, and transferable skills essential to professional and real-world contexts.

Global Trends in Experiential Learning in Higher Education

The growing emphasis on experiential learning reflects broader trends in higher education reform. Organizations such as the World Economic Forum (2020) and UNESCO have highlighted the importance of equipping students with transferable skills that enable them to adapt to rapidly changing economic and social environments. Universities in many countries have responded by integrating experiential learning into their curricula and adopting experiential learning approaches in their teaching strategies. Experiential learning initiatives are often implemented through internships, cooperative education programs, service-learning projects, and project-based learning activities.

Internships provide students with valuable hands-on experience in professional environments, allowing them to apply academic knowledge to real-world challenges. Research shows that students who participate in internships often develop stronger professional competencies and demonstrate higher levels of employability upon graduation (Jackson, 2015; Silva et al., 2018). Through these experiences, students gain exposure to workplace expectations, organizational cultures, and professional networks, which can facilitate a smoother transition from education to

employment. In addition to internships, cooperative education programs further strengthen experiential learning by integrating academic study with structured periods of paid work experience. These programs enable students to develop both technical expertise and essential professional skills while gaining meaningful insight into industry practices and career pathways.

Service learning represents another important form of experiential learning in higher education. Service-learning programs integrate community engagement with academic learning objectives, enabling students to apply disciplinary knowledge while addressing real social issues. Through participation in these activities, students develop civic responsibility alongside essential professional competencies (Bringle & Hatcher, 1995). Such programs not only enrich students' academic learning but also foster greater social awareness and a stronger sense of responsibility toward their communities (Bringle & Hatcher, 1995). Furthermore, research by Eyler and Giles (1999) indicates that service-learning experiences can significantly enhance students' critical thinking abilities, interpersonal skills, and long-term commitment to community engagement.

Fieldwork and community-based research represent additional experiential learning approaches. These activities allow students to engage directly with communities, organizations, or natural environments, providing opportunities to collect data, analyze problems, and propose solutions.

Project-based learning, which involves students working collaboratively to solve complex problems or complete projects, has also been widely adopted in higher education. This approach encourages active learning and fosters critical thinking, teamwork, and problem-solving skills (Thomas, 2000).

In addition, some universities have also incorporated simulation-based learning and entrepreneurship projects into their experiential learning initiatives. Simulations allow students to practice decision-making in realistic scenarios, while entrepreneurship programs encourage innovation and creative problem-solving.

Through these various forms of experiential learning, Thai universities are gradually shifting toward more student-centered approaches that emphasize the practical application of knowledge alongside theoretical understanding. Such initiatives play an important role in preparing students for professional environments and supporting the development of competencies required in the contemporary workforce. However, despite growing recognition of the importance of experiential learning, its implementation across Thai higher education institutions remains uneven. In many programs, experiential learning activities are still limited to short-term internships or isolated projects rather than being systematically integrated throughout the curriculum. In addition, constraints related to institutional resources, industry partnerships, and curriculum design have slowed the expansion of more comprehensive experiential learning models. As a result, the potential of experiential learning to fully bridge the gap between academic learning and workplace expectations has not yet been fully realized within the Thai higher education system.

Development of 21st-Century Competencies

Experiential learning plays a critical role in developing 21st-century competencies among university students. These competencies include cognitive, interpersonal, and intrapersonal skills essential to success in modern workplaces. Scholars widely agree that contemporary education systems must move beyond the transmission of knowledge and instead emphasize the development of transferable skills that enable students to adapt to complex and dynamic environments (Binkley et al., 2012; Griffin & Care, 2015).

Critical thinking is one of the most important competencies developed through experiential learning. When students engage in real-world problem-solving activities, they must analyze complex situations, evaluate information, and develop appropriate solutions. Such experiences encourage learners to move beyond memorization toward deeper levels of analytical reasoning and reflective thinking (Facione, 2015). Research has shown that experiential learning environments foster higher-order thinking skills by requiring students to interpret real-world contexts, weigh multiple perspectives, and apply theoretical frameworks to practical challenges (Kolb & Kolb, 2017).

Communication skills are also strengthened through experiential learning. Students often work collaboratively on projects, interact with community partners, or present their findings to external stakeholders. These experiences enhance their ability to communicate ideas effectively in both written and oral forms. According to Andrews and Higson (2008), employers consistently identify communication skills as one of the most critical competencies expected of graduates. Experiential learning activities, such as presentations, stakeholder consultations, and reflective reporting, provide students with opportunities to practice and refine these skills.

Collaboration is another key competency developed through experiential learning. Many experiential learning activities involve teamwork, requiring students to coordinate tasks, resolve conflicts, and work toward shared goals. Collaborative learning environments help students develop interpersonal skills essential to working in diverse teams and multicultural settings (Johnson & Johnson, 2009). Through group-based projects and community engagement initiatives, students learn how to negotiate responsibilities, respect diverse perspectives, and achieve collective outcomes.

Creativity and innovation are also fostered through experiential learning environments. When students encounter real-world challenges, they must think creatively to develop innovative solutions. Experiential learning often encourages experimentation, allowing students to test new ideas and refine them through feedback and reflection (Robinson, 2011). Such processes are particularly valuable in fields that require problem-solving and innovation, including business, engineering, and entrepreneurship education.

Finally, experiential learning promotes adaptability and resilience. By navigating unfamiliar situations and addressing complex problems, students develop the ability to adapt to changing

circumstances and overcome obstacles. The World Economic Forum (2020) highlights adaptability, resilience, and lifelong learning as essential competencies for the future workforce. Experiential learning environments simulate real-world uncertainty, enabling students to develop confidence and flexibility in responding to challenges.

In addition, experiential learning contributes to the development of self-awareness and reflective learning skills. Reflection is a central component of experiential learning theory, allowing students to critically evaluate their experiences and identify areas for personal and professional growth (Moon, 2004). Through reflective practice, learners become more aware of their strengths, limitations, and learning processes, thereby enhancing their capacity for continuous improvement.

Overall, experiential learning serves as a powerful mechanism for cultivating the multidimensional competencies required for success in contemporary society. By engaging students in authentic learning experiences, universities can better prepare graduates to meet the demands of rapidly evolving professional environments.

21st-Century Competencies and Thai Students

Despite growing recognition of the importance of 21st-century competencies, developing these skills among Thai university students remains a significant challenge. While universities in Thailand have made efforts to reform curricula and incorporate outcome-based education frameworks, many programs still emphasize content knowledge and examination-based assessment. As a result, students often have limited opportunities to develop higher-order competencies, such as critical thinking, creativity, collaboration, and complex problem-solving.

One major issue is the persistence of teacher-centered pedagogical practices in higher education classrooms. Traditional lecture-based instruction remains the dominant teaching method in many universities, where students are primarily expected to listen, memorize information, and reproduce knowledge in examinations. Although this approach can effectively deliver theoretical knowledge, it often offers limited opportunities for active learning, discussion, or real-world problem-solving. Consequently, students may graduate with strong disciplinary knowledge but insufficient practical and interpersonal skills required in professional environments.

Another challenge involves limited exposure to authentic learning experiences. While some universities have introduced internships, cooperative education programs, and community engagement activities, these opportunities are not always consistently integrated across all academic programs. In many cases, experiential learning components are offered only as short-term activities toward the end of a program, rather than as continuous learning experiences throughout students' academic journeys. This limited exposure restricts students' ability to apply theoretical knowledge in real-world contexts and develop adaptive skills through practice.

Language proficiency also presents a significant barrier in the development of global competencies. As English is widely recognized as the primary language of international communication, limited English proficiency among some Thai university students can hinder their ability to participate in global academic exchanges, access international knowledge resources, and compete in international labor markets. This issue is particularly relevant in fields that require strong communication and cross-cultural collaboration skills.

Furthermore, collaboration between universities and industry in Thailand remains uneven. Although partnerships between higher education institutions and employers have increased in recent years, many academic programs still lack engagement from industry stakeholders. Without strong industry collaboration, universities may struggle to design curricula that reflect current workplace expectations and emerging skill requirements.

These challenges highlight the need for more comprehensive educational reforms that promote student-centered and experiential learning, as well as stronger university–industry partnerships. Addressing these issues is essential for ensuring that Thai university graduates are equipped with the competencies required to succeed in rapidly changing social and economic environments.

Challenges in Implementing Experiential Learning in Thai Higher Education

Despite its many benefits, implementing experiential learning in higher education presents several challenges, particularly within the Thai higher education context. One major challenge relates to the availability of institutional resources. Experiential learning programs often require substantial financial and administrative support, including establishing partnerships with industry, coordinating student placements, and supervising learning activities. In many Thai universities, limited budgets and administrative capacity can constrain the development and expansion of such programs. Universities must invest in staff training, partnership development, and program management in order to sustain experiential learning initiatives effectively (Billett, 2011). Without sufficient institutional support, experiential learning initiatives may remain small-scale or limited to a few programs rather than becoming an integral part of university education.

Another challenge concerns curriculum integration. Many academic programs in Thailand are structured according to nationally regulated curriculum frameworks and accreditation requirements, which often emphasize clearly defined course content and credit structures. As a result, incorporating experiential learning activities into existing curricula can be difficult, particularly in programs with highly structured course requirements. Faculty members may struggle to balance theoretical instruction with experiential activities within limited instructional time (Healey & Jenkins, 2009). In addition, some instructors may have limited experience in designing experiential learning activities or facilitating reflective learning processes, which are essential components of effective experiential education.

Assessment practices also present challenges in the Thai higher education system. Traditional assessment methods in many universities still rely heavily on written examinations and content-based evaluation. However, experiential learning outcomes such as leadership, teamwork, adaptability, and problem-solving are often difficult to measure through conventional examinations. As a result, institutions need to develop alternative forms of assessment, such as reflective journals, learning portfolios, workplace evaluations, and project-based assessments, in order to capture the full range of student learning outcomes (Boud, Keogh, & Walker, 1985). Transitioning to such assessment methods requires both institutional support and faculty development.

Another important challenge relates to the quality and consistency of experiential learning opportunities. In Thailand, universities often rely on external partners, such as private companies, government agencies, and community organizations, to provide internship placements or fieldwork opportunities. While these partnerships can provide valuable learning experiences, variations in the quality of supervision and mentoring may affect the effectiveness of student learning. Some placements may offer meaningful professional experience, whereas others may involve routine tasks with limited opportunities for skill development (Ferns & Moore, 2012). Ensuring consistent quality across placements, therefore, remains an ongoing challenge for many institutions.

Equitable access to experiential learning opportunities also remains a concern in the Thai context. Some students face financial, geographic, or logistical barriers that limit their ability to participate in internships, fieldwork, or community-based projects. For example, students from rural areas or low-income backgrounds may encounter difficulties in relocating for internships or participating in unpaid work placements. Additionally, internship opportunities are often concentrated in major urban centers such as Bangkok, further limiting access for students at regional universities.

These challenges highlight the need for stronger institutional strategies, improved university–industry collaboration, and supportive policy frameworks to maximize the benefits of experiential learning in Thai higher education. Addressing these barriers will be essential for enabling Thai universities to effectively prepare graduates with the competencies required for contemporary professional environments.

Policy and Educational Implications

To maximize the benefits of experiential learning, universities and policymakers must take strategic steps to support its implementation. In the Thai higher education context, integrating experiential learning into curriculum design has become increasingly important as universities seek to enhance graduate employability and align academic programs with national development priorities. Rather than treating experiential activities as optional components, Thai universities should embed them within academic programs as core learning experiences. This approach ensures

that all students have access to experiential learning opportunities and that these experiences are aligned with clearly defined learning outcomes and national qualification frameworks (Kolb & Kolb, 2017).

Strengthening partnerships between universities and industry is also essential. In Thailand, collaboration between higher education institutions and private-sector organizations has become increasingly important in response to changing labor market demands and national economic development strategies. Collaborative relationships with employers can provide students with meaningful opportunities for internships, applied research projects, and workplace learning. Such partnerships benefit both students and organizations by fostering knowledge exchange and promoting innovation (Billett, 2011). Industry partners can also provide valuable insights into current workforce needs, helping universities design curricula that remain relevant to evolving labor-market demands.

Faculty development represents another important area for improvement. Educators require training and institutional support to effectively facilitate experiential learning activities and guide students through reflective learning processes. In many Thai universities, faculty members have traditionally focused on lecture-based instruction and content delivery. Therefore, professional development programs are needed to help instructors adopt more student-centered teaching approaches, design experiential learning activities, and implement appropriate assessment strategies (Healey & Jenkins, 2009). Such initiatives can help educators develop the pedagogical skills required to support experiential learning in contemporary higher education environments.

At the policy level, the Thai government and educational authorities play an important role in promoting experiential learning initiatives. National policies increasingly emphasize the importance of employability skills, innovation, and workforce readiness in higher education. Government initiatives such as cooperative and work-integrated education programs have encouraged universities to strengthen collaboration with industry and expand workplace learning opportunities for students. National education policies that emphasize skills development and innovation provide important support for integrating experiential learning into higher education curricula (OECD, 2019).

Furthermore, higher education institutions in Thailand should develop institutional strategies that promote experiential learning across disciplines. This may involve establishing dedicated centers for cooperative education and career development, coordinating internship programs, and forming partnerships with industry and community organizations. Such institutional initiatives can ensure that experiential learning becomes a sustainable and integral component of university education (Kuh, 2008). These initiatives are particularly important for regional universities, where stronger engagement with local industries and communities can create valuable opportunities for student learning and regional development.

Ultimately, effective policy frameworks, institutional support, and strong university–industry partnerships are essential for expanding experiential learning opportunities in Thai higher

education. Strengthening these mechanisms will help universities better prepare graduates with the competencies required to succeed in complex, rapidly changing professional environments and to support Thailand's transition toward a knowledge-based, innovation-driven economy.

Conclusion

The evolving demands of Thailand's socio-economic development in the twenty-first century require higher education institutions to reconsider traditional approaches to teaching and learning. As Thailand moves toward a knowledge-based and innovation-driven economy, universities are expected to produce graduates who possess not only academic knowledge but also practical skills and professional competencies. In this context, experiential learning offers a powerful strategy for bridging the gap between classroom knowledge and real-world application within Thai higher education.

By engaging students in authentic learning experiences such as internships, cooperative education, service-learning activities, and industry-based projects, experiential learning enables Thai university students to apply theoretical knowledge in practical settings. These experiences help students develop key competencies required in modern workplaces, including critical thinking, communication, collaboration, creativity, and adaptability. Such competencies are increasingly emphasized in Thailand's national education policies and workforce development initiatives.

Although implementing experiential learning presents challenges related to institutional resources, curriculum integration, and assessment practices, its potential benefits for student learning and graduate employability are significant. Thai universities that actively integrate experiential learning into their curricula are better positioned to produce graduates who are prepared to meet employers' expectations and contribute effectively to national development.

Future research should explore innovative approaches for assessing experiential learning outcomes within the Thai higher education context and examine the long-term impacts of experiential learning on graduate career development and employability. As Thailand's higher education system continues to evolve, experiential learning will play an increasingly important role in preparing university graduates to succeed in a rapidly changing global and national environment.

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SESSION 3:

Management

Border Economic Development and the Negotiating Power of Lao Women Entrepreneurs: Evidence from Houayxay City, Lao PDR

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Abstract

This study examines the roles of Lao women entrepreneurs within the context of border economic development in the Thai–Lao border region, focusing on Houayxay City in Bokeo Province, Lao People's Democratic Republic. It explores how economic transformation in the border area has reshaped women's livelihoods, social roles, and bargaining power in everyday life. The study employs an analytical framework that integrates perspectives on border development, gender relations in border contexts, and women's entrepreneurship.

This research adopts a qualitative approach. Data were collected through in-depth interviews with 51 participants, including 34 small-scale female entrepreneurs and 17 key informants consisting of local officials, community actors, and individuals involved in border economic activities. Additional data were obtained through field observations and the review of relevant documents.

The findings reveal that the expansion of border economic activities-such as cross-border trade, investment, and the establishment of special economic zones-has created new opportunities for Lao women to participate in entrepreneurial activities, particularly in trade, services, and tourism. Through these activities, some women have been able to generate income, increase their participation in household decision-making, and enhance their social status within both household and community contexts.

However, women's entrepreneurial participation does not necessarily lead to liberation from patriarchal structures. Lao women continue to face multiple challenges, including economic insecurity, policy limitations, and increasing competition from large-scale capital groups. In response to these constraints, women employ everyday bargaining strategies by mobilizing gender roles, social relationships, and informal networks to create economic spaces and sustain their livelihoods within the border economy.

Building on these findings, the study argues that border regions should be understood not only as economic zones but also as social and gendered spaces where opportunities and structural constraints coexist. The article therefore proposes the concept of Bordered Bargaining Power to explain how women's bargaining capacity emerges through the interaction between border economic structures, gender relations, and cross-border social networks in everyday economic practices.

Keywords

Border Economic Development, Women Entrepreneurs, Houayxay City, Bordered Bargaining Power, Gender Relations, Border Economy

1. Introduction

Following the implementation of the New Economic Mechanism (NEM) in 1986, the Lao People's Democratic Republic began a significant transition from a centrally planned economic

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system to a market-oriented economy. The reform aimed to enhance the efficiency and flexibility of the national economy through trade liberalization, the restructuring of state-owned enterprises, and the promotion of foreign investment (Pittaya Suwakan, 2011). This transformation marked the adoption of neoliberal economic principles as a key framework guiding the country's development trajectory, particularly in terms of integrating the national economy with regional and global markets.

Within this context, border areas have been increasingly promoted as strategic economic zones by the Lao state. Significant investments have been made in infrastructure development, transportation networks, and the promotion of cross-border trade. These initiatives have been particularly strengthened through regional cooperation frameworks such as the Greater Mekong Subregion (GMS), which aims to enhance economic connectivity and transportation linkages among countries in the region (Romyen Koysaykanon, 2014). In this process, Special Economic Zones (SEZs) have become an important policy instrument for attracting foreign investment, regulating border spaces, and integrating previously peripheral areas into the modern economic structure (Pinkaew Luangaramsri, 2016).

The Golden Triangle Special Economic Zone in Bokeo Province represents a prominent example of this type of border development. Established in 2007 through joint investment between the Lao government and Chinese capital groups, the area has rapidly developed into a center of economic activities, tourism, and entertainment industries (Srinakha Chiangsaen, 2022). However, the expansion of the SEZ has also resulted in the concentration of capital, labor, and economic activities within specific zones. Meanwhile, nearby border towns such as Houayxay, which once served as an important center of cross-border trade, have experienced structural economic transformations. The economic significance of Houayxay has gradually declined, and the town has increasingly become a transit space facilitating the movement of people and resources toward the SEZ. These changes have contributed to a more volatile and uncertain border economy, requiring local communities to continuously adapt their livelihoods within rapidly changing economic conditions.

Amid these transformations, Lao women in the border town of Houayxay have increasingly participated in economic activities, particularly as small- and medium-scale entrepreneurs. However, the expansion of women's economic roles has occurred within the framework of traditional Lao cultural norms, which historically place women within the domestic sphere and under male authority in household decision-making (Sandbergen & Khamphoui, 1995; Kusakabe, 2004).

A growing body of gender studies suggests that economic liberalization can create new opportunities for women to gain access to resources, markets, and economic networks (Rogers, 1980; Young, 1987). At the same time, neoliberal development processes may also generate new forms of vulnerability and burdens, particularly in border regions characterized by intense competition and strong influences from transnational capital (Lyttleton, 2014; Aduloju, 2017). Despite these scholarly contributions, much of the existing literature has primarily focused on women as laborers or as groups affected by development processes. Previous studies often emphasize issues such as labor migration, human trafficking, and the economic vulnerability of women in border areas (Molland, 2012; Lainez, 2014; Maliwan Senawong, 2018). While some studies have examined women's participation in small-scale economic activities and businesses in border regions (Kusakabe, 2003, 2004), there remains limited understanding of women's lived experiences, adaptation strategies, and bargaining processes as entrepreneurs within rapidly changing border economies.

This gap is particularly evident in the case of Houayxay City in Bokeo Province, a border town significantly influenced by the development of the Golden Triangle Special Economic Zone and the broader economic integration within the Greater Mekong Subregion. To date, relatively few studies have specifically examined women's roles as entrepreneurs or analyzed the

everyday bargaining processes through which they navigate structural economic, social, and cultural constraints.

In response to this gap, this study investigates the development of the border economy in Houayxay City, Bokeo Province, through the perspectives of Lao female entrepreneurs. The research focuses on women's processes of adaptation, the conditions shaping their economic participation, and the bargaining strategies they employ within the context of the expanding special economic zone. In particular, the study seeks to understand everyday negotiation practices through which Lao women manage structural constraints, social relationships, and traditional cultural norms in order to create economic opportunities and improve their social status within an uncertain border economy.

The findings of this study contribute to the existing literature on gender and border economies in Lao PDR by demonstrating that women are not merely passive recipients of development outcomes but active agents who adapt, negotiate, and construct their own economic spaces within the structural conditions of border economies. Furthermore, this research expands the analytical scope of the concept of women's bargaining, which has often been examined within household or community contexts, by situating it within the broader framework of border economic development and special economic zones. These spaces are shaped by transnational capital flows, economic competition, and the volatility of border markets. In doing so, the study highlights the dynamic nature of everyday bargaining practices among female entrepreneurs who must navigate cultural constraints, economic structures, and neoliberal development processes in border regions.

2. Research Questions

1. How has border economic development, particularly the emergence of special economic zones, influenced changes in the livelihoods and economic roles of women in Houayxay City, Bokeo Province?

2. What forms and strategies of bargaining do Lao female entrepreneurs in Houayxay City employ to negotiate and reshape their roles and social positions within the context of border economic development?

3. How do border economic development and gender structures interact in shaping the opportunities, constraints, and social mobility of female entrepreneurs in Houayxay City, Bokeo Province?

3. Research Objectives

1. How has border economic development, particularly the emergence of special economic zones, influenced changes in the livelihoods and economic roles of women in Houayxay City, Bokeo Province?

2. What forms and strategies of bargaining do Lao female entrepreneurs in Houayxay City employ to negotiate and reshape their roles and social positions within the context of border economic development?

3. How do border economic development and gender structures interact in shaping the opportunities, constraints, and social mobility of female entrepreneurs in Houayxay City, Bokeo Province?

4. Scope of the Study

4.1 Scope of Content

This study focuses on analyzing the process of economic development in the Thai–Lao border region, with particular attention to the context of the Special Economic Zone (SEZ) in Houayxay City, Bokeo Province, Lao People's Democratic Republic. As a border area experiencing rapid economic and social transformations, Houayxay has undergone significant changes that have influenced the local economic structure, social relationships, and the everyday livelihoods of people living in the area.

Within this context, the study emphasizes the roles of Lao women as entrepreneurs who must adapt to the expanding market economy in a rapidly developing border region. This includes examining changes in business practices, access to economic resources, and the strategies women employ to negotiate their economic and social positions. The analysis therefore focuses on the relationship between economic development and gender dynamics in order to understand how development processes shape women's roles, social status, and bargaining power within border communities.

Furthermore, the study seeks to highlight the dynamic transformation of women's roles from the domestic sphere to the public and economic spheres. These shifts occur within the broader context of special economic zone development and the expansion of border economies that are increasingly integrated into regional economic networks.

4.2 Scope of Population

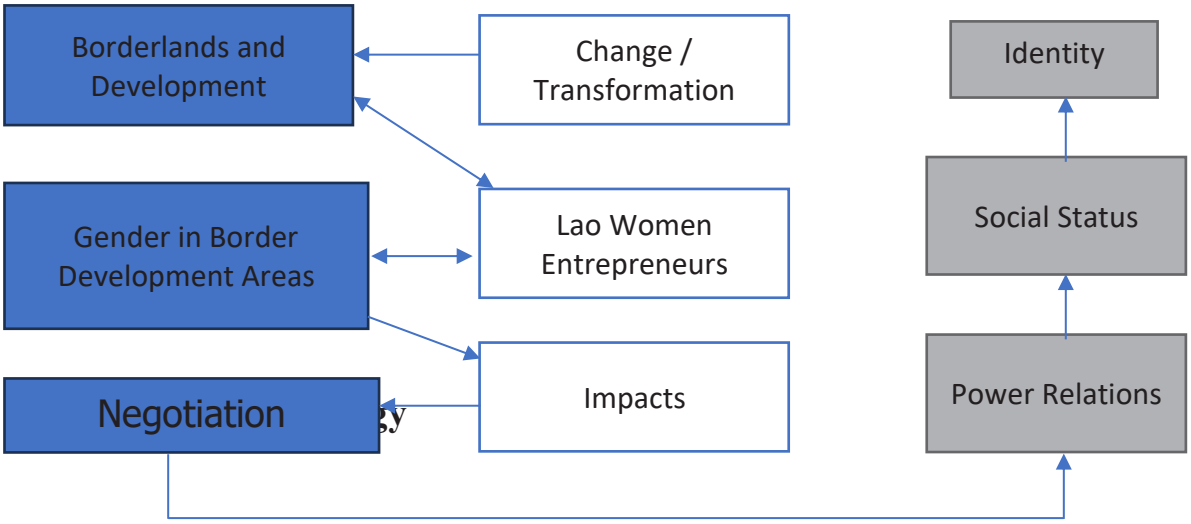
The primary population of this study consists of Lao women entrepreneurs in Houayxay City, Bokeo Province, who are engaged in various forms of small- and medium-scale businesses. These include retail shops, restaurants, clothing stores, small-scale trading activities, and service-related businesses operating in the border area. These women represent individuals who are directly affected by the economic and social transformations associated with the development of special economic zones. As a result, they must adapt their livelihoods, develop survival strategies, and negotiate their economic and social roles within everyday life.

In addition to female entrepreneurs, the study also includes other stakeholders in the local border economy in order to better capture the broader dynamics of economic and social relations in the area. These stakeholders include customers, government officials, development-related organizations, and other local actors who are connected to economic activities in the border region. Their perspectives help provide a more comprehensive understanding of the opportunities, constraints, and structural conditions influencing women's businesses, as well as the broader impacts of border economic development on resource access and local economic structures.

5. Conceptual Framework

This study adopts an integrated conceptual framework consisting of three interrelated approaches. First, the border and development perspective is employed to explain the role of border opening and special economic zones in generating new economic opportunities. Second, the concept of gender, borders, and negotiation is applied to analyze the processes through which Lao women negotiate their roles and social positions within unequal social and economic structures. Third, the women entrepreneurship approach is used to explain how women construct economic power, identity, and new social status through their participation in entrepreneurial activities.

This conceptual framework highlights that Thai–Lao border economic development simultaneously creates opportunities and constraints for Lao women in Houayxay City. On the one hand, border development expands women's access to resources, networks, and new economic roles. On the other hand, women continue to encounter limitations rooted in existing gender structures, rendering women's entrepreneurship a continuous process of negotiation within the changing context of a border city.



6.1 Research Design

This study employs a qualitative research approach with the aim of understanding the behaviors, experiences, attitudes, and socio-cultural phenomena of women within the context of border economic development. The research focuses on explaining the processes of adaptation and negotiation undertaken by women as entrepreneurs amid the economic and social transformations resulting from the development of special economic zones.

This section outlines the research setting, target population and sampling strategy, criteria for participant selection, procedures for recruiting participants and stakeholders, units and levels of analysis, as well as data collection and analytical approaches. It also addresses considerations related to research risks and ethical issues.

1. Research Site

The research was conducted in Houayxay City, the capital of Bokeo Province in northern Lao People's Democratic Republic. Houayxay is located directly across from Chiang Khong District in Chiang Rai Province, Thailand, with the Mekong River serving as the natural boundary between the two countries. Due to its geographical location, Houayxay plays an important role as a border city and a key crossing point between Thailand and Laos.

Houayxay is connected to Thailand through the Fourth Thai–Lao Friendship Bridge (Chiang Khong–Houayxay), which functions as a major transportation route facilitating cross-border travel, trade, and logistics. The city is also situated along an important economic corridor within the Greater Mekong Subregion (GMS), particularly along the R3A highway, which connects Thailand through Laos to the People's Republic of China. In addition, the Mekong River provides an important water transportation route, with the Houayxay port serving as a key border checkpoint and cargo transit point.

The connectivity of Houayxay with major cities in Laos, Thailand, and China has contributed to its role as a regional trade hub and border gateway where goods, people, and economic activities continuously circulate. These flows also include the movement of capital, technology, and knowledge, which have significantly influenced the transformation of the city's economic and social structures within the border context.

The population of Houayxay is ethnically diverse, consisting of approximately 28 ethnic groups, including Lao, Tai Lue, Hmong, and Khmu communities. The city's cultural landscape has also been influenced by Thailand and China through trade, tourism, and investment. In addition, Houayxay serves as the social center of Bokeo Province, hosting key institutions such

as educational establishments, the provincial hospital, and important religious sites, including Wat Chom Khao Manilat, which functions as a spiritual center for the local community. The economic growth and strategic position of the border city have also attracted labor migration from other regions of Laos, further diversifying the local population structure (Silpakorn Lomwilaiwong, 2012).

Economically, Houayxay relies heavily on cross-border trade and has been influenced by the Lao government's border economic development policies since the 1990s, particularly under the New Economic Mechanism that promotes trade liberalization and foreign investment (Pittaya Suwakan, 2011). Moreover, the development of the Golden Triangle Special Economic Zone in Tonpheung District, located approximately 60 kilometers from Houayxay, has further reshaped the economic role of the city. Houayxay increasingly functions as a supporting area that provides labor, services, and related economic activities linked to the special economic zone.

Within this context, women in Houayxay-particularly as entrepreneurs-have played an important role in adapting to these economic transformations. Many women operate businesses such as retail shops, restaurants, accommodation services, and other service-related enterprises connected to tourism and cross-border trade. Their roles reflect the dynamic relationship between gender and economic development in a rapidly transforming border city (field observation, July 22, 2023).

2. Target Population

The primary target population of this study consists of Lao women entrepreneurs in Houayxay City, Bokeo Province, Lao PDR. Participants were selected using purposive sampling in order to access individuals with direct experience in conducting business within the border economic context.

The main participants therefore include Lao women who operate businesses in Houayxay and hold positions as business owners or managers involved in border-related economic activities, such as retail shops, restaurants, accommodation services, or other service-oriented enterprises. Participants were required to have prior experience in running businesses within the local area so that they could reflect on the economic and social transformations occurring in the border region. Additionally, participants had to be willing to take part in interviews and share their experiences related to business operations and their roles within the border community.

These criteria allowed the researcher to select participants with direct experience of border economic development and who could provide in-depth insights into women's processes of adaptation and bargaining strategies as entrepreneurs.

Although female entrepreneurs operate within the same geographic context, their life experiences, adaptation processes, and business strategies vary considerably. This study therefore seeks to examine women's adaptation and negotiation processes under the conditions of border economic development by considering various influencing factors, including access to resources, social networks, support from governmental and private institutions, and the increasing economic competition within the border region.

In addition to female entrepreneurs, the study also includes other relevant stakeholders involved in economic and social activities within the border area. These participants include community leaders, customers, private sector employees, representatives from non-governmental organizations, and government officials. Their perspectives serve as supplementary data that help provide a broader understanding of the economic, social, and policy contexts influencing the roles of female entrepreneurs in the border region.

3. Units and Levels of Analysis

The unit of analysis in this study is Lao women as entrepreneurs in Houayxay City. The research seeks to understand their lived experiences, adaptation processes, and strategies for managing businesses within the context of border economic development.

The level of analysis primarily focuses on the micro level, emphasizing women's personal experiences and their perceptions of economic and social transformations. The primary data were obtained through semi-structured in-depth interviews with 34 female entrepreneurs, complemented by participant observation in relevant economic and social activities.
However, the analysis is not limited to individual experiences alone. It also considers the interactions between women and their families, communities, and institutional actors in order to capture the broader structural relationships that influence women's economic activities and social roles in the border region. This approach enables the study to examine both the opportunities and constraints shaping women's bargaining power in everyday life.

6.2 Data Collection

This study employs a qualitative research approach to analyze and explain the processes of economic development in the Thai–Lao border area, with a particular focus on the roles of Lao women entrepreneurs in Houayxay City, Bokeo Province, Lao PDR. The research seeks to understand women's negotiating power within the context of border economic development by adopting a local knowledge–based perspective (chao ban epistemology) (Chayan Vannaphuti, 1993). This approach emphasizes local people's viewpoints and lived experiences as a key analytical lens for understanding everyday life and the factors shaping social and economic change in the border area.
Fieldwork was conducted in selected sub-areas within Houayxay City, focusing on two to three key economic and community zones, including market areas, roadside commercial districts along main roads, and Mekong riverfront areas. These locations were selected through purposive sampling, as they are areas where women entrepreneurs are densely concentrated and clearly reflect the interdependent and connected nature of the border economy. This site selection enabled an in-depth and comprehensive examination of the socio-economic dynamics surrounding women's entrepreneurship.
1. Participant Observation
Participant observation was employed as a primary research method to access the worldviews, everyday practices, and lived realities of women entrepreneurs in Houayxay City. The emphasis was placed on building familiarity and trust in order to capture the subtle forms of power and negotiation embedded in seemingly ordinary daily activities.
The researcher immersed herself in the everyday lives of women entrepreneurs continuously for four weeks, spending approximately 4–6 hours per day in the field. Observation covered a full daily cycle, from early morning hours when markets became active to evening periods devoted to closing accounts and managing household responsibilities.
Rather than acting solely as an external observer, the researcher actively participated in economic and social activities, such as arranging goods at market stalls, assisting with the sale of vegetables and fruits, and helping to welcome customers alongside the entrepreneurs. This level of engagement enabled close observation of the discursive practices and negotiation techniques women employed in managing relationships with customers and cross-border trading partners.
In addition, the researcher resided at a women-owned hostel for an entire month, a strategic decision that allowed access to semi-private spaces of business management. This experience provided opportunities to observe real-life situations, ranging from handling immediate issues raised by guests to engaging with state officials. These encounters revealed women's capacities for conflict management and decision-making within public and institutional settings.
To ensure a holistic understanding, the scope of observation was further extended to include cultural practices and kinship networks. The researcher accompanied women entrepreneurs to religious activities at temples on important occasions and visited relatives in different areas.

These activities offered deeper insights into women's social capital and the underlying motivations driving them to become entrepreneurs under the pressures of the border economy. This prolonged and close engagement helped dissolve boundaries between the researcher and participants, resulting in rich fieldnotes that documented the everyday negotiation of gender roles and women's ongoing efforts to achieve economic security within the uncertainties of border life.

2. Interviews

Fieldwork data were collected through interviews using a semi-structured interview guide. This method offers flexibility, allowing participants to freely articulate their experiences, perspectives, and perceptions, while also enabling the researcher to guide the conversation in accordance with the research objectives.

To facilitate smooth communication and minimize language barriers, the interview questions were translated into Lao, and all interviews were conducted in the Lao language. This approach helped foster mutual understanding and supported effective information exchange. The interview guide was designed to cover three main dimensions.

First, the social dimension, which focused on women's roles within the family and community, as well as the formation of social networks both locally and across borders.

Second, the economic dimension, which examined motivations for entrepreneurship, business management under various constraints and challenges, and the impacts of macro-level policies, such as the establishment of Special Economic Zones.

Finally, the cultural and gender dimension, which explored women's perceptions of identity, gender roles, and adaptive strategies within the changing context of a border city.

Fieldwork was conducted between 9 July and 9 August 2024. The primary informants were divided into two groups: 23 women entrepreneurs who were long-term residents of the area, and 11 women entrepreneurs who had migrated to Houayxay to establish new businesses. In order to obtain broader insights into the social, economic, and policy contexts, and to enhance data triangulation, additional interviews were conducted with other relevant stakeholders. These included five government officials, five private-sector employees, three business owners, two local residents, one community leader, and one tourist, resulting in a total of 51 informants.

Throughout the interview process and the development of rapport with participants, the researcher placed strong emphasis on building trust. Prior to formal interviews, the researcher spent time engaging with community members, which contributed to an open, friendly atmosphere and encouraged candid sharing of experiences.

Most interviews were conducted at the participants' places of business in order to accommodate the irregular working schedules of women entrepreneurs. In several cases, follow-up interviews were conducted more than once to verify the accuracy of information and to clarify incomplete issues. With the participants' consent, interviews were audio-recorded, and detailed field notes were taken. All data were analyzed qualitatively to provide a comprehensive and in-depth understanding of the social status, roles, and negotiation processes of Lao women entrepreneurs in Houayxay City.

3. Review of Related Documents

The review of related documents enabled the researcher to develop an in-depth understanding of the economic, social, and cultural contexts of the Thai–Lao border area, as well as the roles and negotiating power of Lao women entrepreneurs in Houayxay City, Bokeo Province, Lao PDR. The documents reviewed included news reports, research articles, academic reports, books, and theses related to border areas, border economic development, women's roles in border societies, organizations supporting women, and gender-related concepts within the context of border economies.

This documentary review provided a comprehensive overview of the local context of Houayxay City in terms of economic, social, and cultural dimensions, as well as relevant policies influencing women's roles and bargaining processes as entrepreneurs. Furthermore, the findings from the document review served as an essential foundation for formulating research assumptions and developing key issues and guiding questions for the in-depth interviews.

6.3 Data Analysis

The analysis of data in this study, entitled Border Economic Development and Women's Bargaining Power: A Case Study of Lao Women Entrepreneurs in Houayxay City, Bokeo Province, Lao PDR, was conducted using content analysis and thematic analysis to explore and interpret the experiences and perspectives of participants within the context of border economic development.

The analytical process began with the compilation of data from multiple sources, including field notes, on-site observations, relevant documents, and in-depth interviews. All interview data were audio-recorded with the consent of participants and subsequently transcribed verbatim to ensure accuracy and completeness. The researcher carefully reviewed the data several times in order to gain a comprehensive understanding of the context and to identify key issues emerging from the narratives.

Following this stage, a coding process was undertaken to identify significant concepts and recurring patterns reflecting the experiences of women entrepreneurs. The coding focused on issues such as motivations for engaging in business activities, forms of adaptation to the changing border economy, challenges encountered in business operations, and the ways in which women negotiate their social and economic roles in everyday life.

After the coding process, the codes were systematically organized and synthesized into broader analytical themes that correspond with the objectives of the study. These themes include the changing economic opportunities available to women under the process of border economic development, the bargaining strategies employed by women entrepreneurs in managing their businesses and negotiating roles within the family and community, and the relationship between border economic development and gender dynamics in Houayxay City.

In interpreting the findings, the researcher linked the empirical results with the theoretical frameworks guiding this study, namely the concepts of border spaces and development, border gender and bargaining, and women's entrepreneurship. These conceptual perspectives were used to explain the social and economic dynamics that shape the experiences and strategies of women entrepreneurs in the border context.

In addition, data triangulation was employed to enhance the credibility and reliability of the analysis. Information obtained from different sources-including interviews, participant observation, and documentary analysis-was compared and cross-checked to ensure consistency and to develop a more comprehensive understanding of the research context.

Through this analytical process, the study identifies key insights into the transformation of Houayxay City as a border space, the changing economic roles of women, the challenges faced by female entrepreneurs, and the strategies they employ to adapt and negotiate their positions within a rapidly changing border society.

7. Research Findings

The findings from this study of women entrepreneurs in Houayxay City, Bokeo Province, Lao PDR, reveal the dynamic relationships between border area development, cross-border economic structures, and the everyday bargaining processes of women. The study demonstrates that the expansion of the border economy should not be understood merely as a physical or economic context; rather, it represents a social space that simultaneously creates both opportunities and constraints for women's participation as entrepreneurs.

Based on the analysis of field data obtained through in-depth interviews and participant observation, the study finds that Lao women in Houayxay are not merely passive recipients of development processes. Instead, they act as agents who actively mobilize various forms of capital-including economic capital, social capital, and cultural capital to negotiate with existing economic structures, state policies, and gender norms that shape social relations in the border context.

To present the findings in a systematic manner, the results are organized into three main themes. The first theme examines the transformation of local livelihoods in Houayxay under the policies of border economic development. The second theme explores the bargaining strategies and role adjustments of Lao women within the border economy of Houayxay City. The third theme analyzes the relationship between the dynamics of the border economy and the social status of Lao women.

Together, these findings highlight the significant role of women as key actors within the border economy and demonstrate how women construct and exercise bargaining power in their everyday lives despite operating within unequal social and economic structures.

7.1 Changes in Local Livelihoods in Houayxay under Border Economic Development Policies

The implementation of border economic development policies and state investment in infrastructure has significantly transformed Houayxay City in Bokeo Province, Lao PDR, in physical, economic, and social dimensions. Previously, Houayxay was a small border town located along the Mekong River, where local livelihoods largely depended on natural resources and subsistence-based economic activities. However, in recent decades, the city has gradually evolved into a strategic economic gateway connecting the Upper Mekong Subregion. These transformations have had wide-ranging impacts on the everyday lives of local residents. The changes can be understood through three main dimensions, beginning with the transition from an agrarian-based society to a service- and trade-oriented economy.

The Transition from an Agrarian Society to a Service- and Trade-Oriented Economy

In the past, the livelihoods of people in Houayxay City, Bokeo Province, Lao PDR, were closely connected to the Mekong River and agricultural activities. Farming, rice cultivation, small-scale fisheries, and local trading constituted the main sources of household income in the area. During that period, Houayxay remained a relatively small border town whose economic structure relied primarily on natural resources and local economic systems.

However, the economic role of Houayxay began to change during the French colonial period between 1893 and 1896, when the area was designated as a “buffer town” between the spheres of influence of the British and French empires in Southeast Asia. This geopolitical positioning turned Houayxay into a frontier zone of strategic and economic significance, functioning as a trading outpost and a point for goods transshipment that connected French commercial networks in the Upper Mekong region (Walker, 1999 cited in Phithaya Phusai, 2006). At the same time, the French colonial administration introduced modern state structures, bureaucratic systems, and resource management practices based on a colonial economic model. These arrangements primarily served colonial interests rather than domestic economic development, leaving Laos as a peripheral region with limited industrial development and a relatively weak economic structure (Colonial Influences on Modern Laos, n.d.).

Following independence and the establishment of a socialist regime in 1975, the Lao government implemented a centrally planned economic system in which the state played a dominant role in controlling production, trade, and resource allocation. Nevertheless, this system encountered several limitations, including low production efficiency, limited economic incentives, and restricted integration with external markets. As a result, the national economy

experienced slow growth and struggled to significantly improve the living standards of the population (Phithaya Phusai, 2006).

In response to these challenges, the Lao government initiated economic reforms through the New Economic Mechanism (NEM) in 1986, marking a major turning point in the country's economic system. The reform shifted the economy from a centrally planned model toward a more market-oriented system that allowed greater participation from the private sector and foreign investment. This transformation enabled Laos to increasingly integrate into regional and global economic networks, particularly through the promotion of border economic development and infrastructure investment. Key developments included the construction of the R3A economic corridor and the opening of the Fourth Thai–Lao Friendship Bridge, which enhanced connectivity and cross-border trade among Laos, Thailand, and China (Phithaya Suwakhon, 2011).

These infrastructural developments and expanding cross-border economic linkages gradually transformed Houayxay from a small agrarian-based border town into a regional hub for trade, transportation, and tourism within the Upper Mekong region. The process also facilitated the inflow of transnational capital, the expansion of service-oriented businesses, and increasing mobility of labor and people from other regions (OECD, 2018).

Field observations further indicate that these economic transformations have prompted many local residents to shift their livelihoods from agriculture toward commercial and service-based activities. Many households have transitioned from farming to running small businesses such as retail shops, restaurants, and tourism-related services connected to cross-border trade. This transition reflects not only a change in occupation but also a broader process of household adaptation to emerging economic opportunities within the rapidly expanding border economy.

The experiences of local entrepreneurs illustrate these changes clearly. One female entrepreneur described how her household adapted to these economic shifts:

> "In the past, we mainly farmed rice and worked in the fields. But now we no longer grow rice because the price keeps decreasing every year. Selling goods in the market allows us to survive and sustain our livelihood." (Joy, interview, 29 July 2024)

This statement highlights that the transition from an agrarian economy to a service- and trade-oriented economy in Houayxay is not solely the result of state development policies. Rather, it also reflects the adaptive strategies of local residents who actively seek new economic opportunities to maintain household stability within the rapidly expanding border economy.

The Emerging Role of Women in the New Economic Structure

One of the most visible transformations resulting from border economic development in Houayxay City is the increasing economic role of local women. From a socio-cultural perspective, Lao women in the past were often assigned roles primarily within the household and agricultural sectors. These roles were learned and reproduced through intergenerational transmission among women within the family and through everyday practices. Such values are reflected in the traditional concept of "Huen Sam Nam Si" (three household waters and four domestic virtues), which defines the ideal qualities of a virtuous woman or mae sri ruen-a woman who is capable of managing the household, caring for family members, and properly hosting guests. Although certain practices have evolved over time, these traditional values continue to influence the social status and recognition of women in Lao society (Sukphaphon Phanit, 2005 cited in Boonkruea Chansri, 2018).

However, within the context of border economic development-particularly the expansion of infrastructure and cross-border economic connectivity-new economic and social spaces have emerged for local women. Over the past several decades, the Lao government has placed increasing emphasis on promoting women's roles through development policies aimed at enhancing women's status and advancing gender equality. These efforts are reflected in

national legislation, public policies, and the country's participation in international agreements related to women's rights (Xinhua Thai News, 2023).

At the local level, findings from interviews and field observations indicate that local government agencies, non-governmental organizations, and international organizations have played significant roles in encouraging women's participation in economic and social activities. This support has been implemented through various capacity-building programs, including vocational training, small enterprise development, and the creation of women's business networks. Key organizations operating in the area include the Houayxay Women's Union, the Maeying Huamjai Phattana Association (MHP), Plan International, and the Young Business Association. These organizations function as important mechanisms linking national development policies with local implementation, enabling women to gain greater access to resources, economic opportunities, and social networks. As one NGO officer explained regarding the organization's working approach:

> "We focus mainly on women because it relates to decision-making. If women have their own income, they gain more power to make decisions and to negotiate with their husbands." (Suwan, interview, 21 July 2024)

Within this context, many women have gradually moved beyond traditional domestic roles to become key participants in economic activities within the border area. Their involvement is particularly evident in sectors such as trade, services, and tourism-related businesses, which align with the economic characteristics of border towns. These sectors often require skills in hospitality, communication, and small-scale business management-competencies that many women have developed through their traditional cultural roles. For example, a female entrepreneur who recently opened a restaurant explained her motivation:

> "I opened a small restaurant selling pho and rice noodle soup about five months ago. I chose this because I already had cooking skills, and this location is a good place for business." (Vilayvong, interview, 6 July 2024)

The study also finds that some women have gradually expanded their activities from small-scale trading into becoming owners of small enterprises, such as restaurants, grocery stores, souvenir shops, and tourism-related businesses. Entrepreneurship has created opportunities for women to access their own sources of income and to play a more significant role in economic decision-making within the household. As one female entrepreneur expressed her sense of economic independence:

> "I earn my own money and spend it myself. I don't have to depend on anyone." (Somonkaew, interview, 13 July 2024)

Nevertheless, the increasing economic participation of women within the emerging economic structure does not necessarily reduce their traditional responsibilities. Many women continue to carry out domestic work and caregiving responsibilities alongside their economic activities (Vilay, interview, 23 July 2024). This situation results in what can be described as a "double burden," reflecting the gender dynamics associated with socio-economic transitions in the border economy. In other words, while new economic opportunities allow women to expand their participation in economic activities, traditional gender expectations regarding domestic responsibilities continue to persist.

Cross-Border Cultural Connectivity and Everyday Life

Under the policy framework of border economic development, Houayxay City no longer functions merely as a physical border crossing. Instead, it has increasingly become a connecting space for people, cultures, and everyday practices from various countries, particularly Thailand, China, and other countries within the Greater Mekong Subregion. The expansion of transportation infrastructure, together with policies facilitating cross-border mobility, has intensified the movement of people, goods, and capital across the border. As a result, Houayxay has gradually transformed from a small border town into a space characterized by what may be

described as a cultural contact zone, where people from diverse backgrounds interact and engage with one another in their daily lives (Paasi, 1998; van Schendel, 2005).

Such transformations have led to adjustments in various aspects of everyday life, including patterns of employment, language use, consumption practices, and social values. Local residents increasingly need to learn how to coexist within a culturally diverse environment while simultaneously adapting to the expanding tourism economy and border-based economic activities.

Fieldwork findings indicate that the influx of tourists and outsiders into the area has created new economic opportunities for local households, particularly in small-scale service businesses that cater to the needs of tourists. These include restaurants, laundry services, and small retail shops. For instance, one female entrepreneur described how her family's laundry business began:

> "I started the laundry shop because I needed to earn an income to support my family. At that time, many foreigners were coming as the area was opening up for tourism, and there were only a few laundry shops. My house was located along the road, and I often saw foreign tourists walking past carrying bags of clothes. That made me think that opening a laundry shop could be a good opportunity. I decided to start the business because I believed it could generate income. Eventually, I was able to build a house, whereas before I had only lived in a small hut." (Vilay, interview, 23 July 2024)

This narrative illustrates that economic changes in border areas do not occur solely at the structural level; they also influence household-level decision-making and everyday livelihood strategies. Local residents actively seek to take advantage of the opportunities created by the influx of tourists and outsiders in order to generate income and improve their living conditions.

Furthermore, cross-border connectivity has also expanded opportunities in education, employment, and skill development for younger generations in the area. For example, one female informant explained that she chose to pursue higher education in business administration in China before returning to work in the border region, recognizing the growing economic opportunities generated by Chinese investment in Houayxay.

> "I graduated from China. I studied business administration there because people there are very good at doing business. After finishing my studies, I returned home and now work as an accountant at a Chinese-invested hotel." (Kaewta, interview, 9 July 2024)

This case reflects how cross-border economic and cultural connections influence not only local business structures but also the life trajectories, educational choices, and career pathways of people in the area. Younger generations increasingly seek to develop language skills and business knowledge in order to take advantage of emerging economic opportunities within the border economy.

Nevertheless, the adaptation of local residents in Houayxay does not simply involve the direct adoption of external cultural influences. Rather, it represents an ongoing process of negotiation between maintaining local identities and responding to pressures from the market economy and processes of globalization. In this context, residents continuously adjust their daily practices, work patterns, and social relationships in order to navigate and benefit from the new opportunities created within the border society (Bhabha, 1994).

Within these processes of transformation, women in Houayxay are among the groups most closely engaged with these dynamics of change. They participate in multiple roles, including household caregivers, service providers, and small-scale entrepreneurs. Women's involvement in border economic activities highlights that economic spaces are not merely physical locations but social spaces constructed through relationships, power dynamics, and everyday practices. This perspective aligns with the conceptualization proposed by Doreen Massey (1994), who

argues that space is produced through ongoing social interactions and power relations within society.

In summary, the development of the border economy in Houayxay City is not limited to the expansion of physical infrastructure such as roads or bridges. Rather, it represents a broader process of socio-cultural transformation that reshapes the everyday lives of local residents in multiple dimensions. These include changes in economic roles, household relations, livelihood strategies, and gender dynamics within border society. While such transformations create new opportunities for income generation and improved living conditions, they also introduce new challenges that require local residents particularly women to continuously adapt and negotiate within the evolving context of border economies and globalization.

7.2 Negotiation Strategies and the Reconfiguration of Lao Women's Roles in Houayxay

Amid the transformation of the borderland context driven by economic development policies and infrastructure investment, an analysis of Lao women's roles in Houayxay cannot be limited to the dimensions of capital circulation or economic expansion alone. Rather, it is essential to foreground the processes through which women actively utilize the borderland as a "space of negotiation" to reconfigure their roles, social status, and power relations within pre-existing gender structures. In this sense, the borderland functions not merely as an economic space but also as a social and political arena that enables women to deploy diverse strategies in managing everyday life and constructing their own bargaining power. These processes of negotiation can be understood across multiple dimensions, as discussed below.

Negotiation through Economic Roles and Status

Within the traditional social structure of Lao society, women's roles have largely been confined to the domestic sphere, where they are responsible for household management, childcare, and caring for family members. These activities are closely tied to the cyclical rhythms of everyday life and nature, forming an essential foundation for sustaining household economies and ensuring food security. However, such work is commonly categorized as unpaid labor and is frequently overlooked in economic analysis (Antonopoulos, 2009). At the same time, economic decision-making and the allocation of household resources have largely remained under male authority (Pin, interview, 31 July 2024).

Within the context of border economic development, Houayxay City has opened new economic spaces that enable women to move beyond unpaid domestic labor and participate as small-scale entrepreneurs in the border economy. The findings of this study suggest that this transition is not merely a shift in occupation but also a process of power negotiation within the household. Income generated from economic activities-such as trading, service provision, and tourism-related businesses-has become a crucial resource that women utilize to negotiate their roles and social status (Kabeer, 1999; 2012). As one female entrepreneur explained:

> "In everyday life, I need money for my expenses. I cannot rely solely on my husband's salary. Some things I must earn through my own efforts." (Khamphaeng, interview, 28 July 2024)

The income generated through women's economic activities enables them to play a more significant role in household expenditure management, financial planning, and decision-making regarding the family's future. Although such changes do not entirely dismantle the existing patriarchal structure, they indicate a meaningful shift in women's position-from being economic dependents to becoming active participants in shaping household economic decisions.

In this sense, the transition of Lao women into entrepreneurial roles in border areas should not be understood simply as their entry into market systems as new actors. Rather, it represents a process through which domestic labor and everyday skills accumulated within the household

are transformed into economically valuable skills that can be utilized within a monetized market economy. As one informant described her small business operations:

> "It's like working normally, but it's simple because I do it at home. I don't rent a place from anyone. It's my own shop. The expenses are mainly the cost of ingredients I buy, along with electricity, water, and other daily costs." (Bualoy, interview, 25 July 2024)

At the same time, knowledge and skills transmitted within families often serve as an important form of capital that enables many women to start their businesses. For example, one informant reflected on how family knowledge shaped her entrepreneurial journey:

> "I remembered and learned from my family, so I had some basic skills. The recipe came from my family, which allowed me to open this shop. If my mother had not taught me, it would have been difficult. The reason I sell pho today is because of my mother." (Khamphaeng, interview, 28 July 2024)

This phenomenon suggests that women's entrepreneurship in border areas does not emerge solely from economic processes. Instead, it is closely linked to the transformation of "life capital" accumulated through household roles into economic capital within the market system (Elson, 1999). Through this process, the boundaries of women's life spaces gradually shift from the home-traditionally associated with unpaid labor-to the marketplace, where economic contributions are recognized and valued by society.

Consequently, women's entrepreneurship in Houayxay City can be understood as the outcome of the development of life capital derived from practical skills in cooking and service provision, discipline in managing time and household resources, and lived experiences accumulated throughout their lives. Understanding women's roles in the border economy, therefore, cannot rely solely on numerical indicators such as income levels. Instead, it requires recognition of women's capacity to adapt and transform non-monetary resources into sustainable economic capital within the market economy (Elson, 1999; Kabeer, 2012). This capacity forms a critical foundation that enables women to build resilient and flexible businesses amidst the constantly evolving dynamics of the border economy.

Migration and Power Relations

Within the context of infrastructure development and border economic policies, the opening of the R3A transportation corridor and the Fourth Thai–Lao Friendship Bridge has accelerated the movement of people, labor, and capital across the region. As a result, Houayxay City has evolved from merely a border crossing point into an important socio-economic space that offers new opportunities for Lao women (van Schendel, 2005; Paasi, 1998) to relocate and reorganize their lives beyond the traditional norms that often confine women in rural areas to subordinate positions or voiceless labor.

From a gender perspective, border areas can be understood as "spaces of opportunity" that enable women to access labor markets, the service sector, and cross-border trade (Yeoh & Willis, 2005). These opportunities differ significantly from the economic structures found in many rural areas. The findings of this study indicate that eleven informants migrated from other provinces to Houayxay City in order to establish their own businesses. Their migration trajectories vary, including relocation through marriage, migration with family members, and voluntary migration to pursue employment in trade and service sectors. In addition, migration also includes the relocation from previous residential areas into the commercial zones within Houayxay City, where many women operate businesses. One female entrepreneur described her migration experience as follows:

> "Before, I was a farmer growing crops and rice in Luang Namtha Province. My husband lived here, so I moved to build a family here. Later, I started selling snacks at the market." (Lae, interview, 11 July 2024)

Another informant reflected on her decision to move in search of better economic opportunities:

> "I am originally from Vientiane. I moved to Houayxay after getting married, and I opened a hotpot restaurant here because I thought it would be better. It's easier to buy and sell here than back there." (Mukda, interview, 27 July 2024)

Similarly, some women who were originally from Houayxay decided to relocate from their residential neighborhoods to the city's commercial areas, such as markets and trading districts, in order to establish businesses or work in the service sector (Somonkaew, interview, 13 July 2024). In this context, migration is not merely a physical movement from one place to another. Rather, it represents a process through which women seek new socio-economic opportunities and negotiate with the structural constraints they face within existing social and economic systems (Kabeer, 2012).

In addition, many women rely on social networks formed through everyday economic activities. These networks include relationships among traders, workers, and customers within border markets, as well as cross-border trading networks used to source and distribute goods within the area (Boonma, interview, 13 July 2024; Lae, interview, 18 July 2024). Such networks function as "social capital," enabling women to gain greater access to resources, information, and economic opportunities (Silvey & Elmhirst, 2003).

Therefore, although women in border areas continue to face structural limitations and vulnerabilities in terms of economic and legal status, they should not be viewed merely as passive actors without agency. Instead, they actively utilize migration and the formation of social networks as important strategies for negotiating with existing power structures and for shaping their own lives and futures within the rapidly transforming context of the border economy.

Entrepreneurial Identity and the Construction of Social Space

Engaging in entrepreneurship in Houayxay City does not only generate income or economic security; it also contributes to the redefinition of Lao women's identities within the context of the border economy. Women are increasingly moving beyond the limited social roles traditionally associated with being "mothers" or "wives" toward recognition as "working women" and "capable women" who possess the ability to manage businesses, coordinate with various actors, and maintain relationships with people from diverse cultural backgrounds. As one informant expressed admiration for female entrepreneurs in the area:

> "They are strong women who can creatively use the resources they have and try to do everything they can so that their families can survive." (Vongsai, interview, 9 July 2024)

Such recognition reflects a tangible shift in women's status from the private domestic sphere toward participation in public and economic spaces. This transformation aligns with discussions on women's empowerment and increased decision-making power within development contexts (Kabeer, 2012).

At the same time, the formation of female entrepreneurial identities occurs alongside the creation of new social spaces within the border town. Women strategically utilize the fluidity of border spaces as a resource for cultural negotiation. Rather than rejecting traditional Lao cultural values, many women selectively adopt and adapt these values in ways that align with their emerging roles as entrepreneurs. For instance, they maintain the image of the traditional Lao woman-polite, patient, and responsible for her family-while simultaneously performing the role of a modern businesswoman who is flexible, confident in negotiation, and capable of making economic decisions (Lefebvre, 1991). One informant reflected on this cultural expectation:

> "If there is no food in the household, the woman has to find it. In women's thinking, it is almost automatic that the woman must take responsibility." (Nok, interview, 8 July 2024)

This phenomenon illustrates the persistence of hybrid identities, in which women simultaneously embody the roles of mother, wife, and entrepreneur. Rather than representing a contradiction, such hybridity functions as an important mechanism that reduces social friction. By maintaining culturally valued feminine roles while expanding into entrepreneurial activities, women are able to broaden their participation in public spaces without facing strong resistance from traditional gender norms.

The entrepreneurial identity of women in Houayxay should therefore not be understood as a fixed identity. Instead, it represents a dynamic and negotiated identity, continuously shaped through everyday interactions between traditional cultural values and the emerging conditions of the border economy (Bourdieu, 1986).

Entrepreneurship thus provides Lao women not only with economic opportunities but also with the ability to redefine their sense of self and their position within border society. In this context, women can increasingly be understood as active agents capable of making choices, negotiating constraints, and shaping their own life trajectories within the structural limitations of society. As one informant expressed pride in her life:

> "Even though I'm not rich, I am proud because I earn my own money, do things myself, and spend it myself. I am free and can go wherever I want." (Khamla, interview, 20 July 2024)

Understanding the role of female entrepreneurs in Houayxay therefore requires viewing border areas as social, economic, and political spaces shaped by power structures and gender relations. Border regions are not merely locations of trade or commodity flows; they are also arenas where state institutions, capital, and development mechanisms shape the rules governing resource use and economic activities, thereby influencing the roles and opportunities available to women and men differently.

Although border economic development policies have created new economic opportunities for Lao women in Houayxay, at the structural level these policies and governance systems continue to operate within patriarchal frameworks. Decisions regarding development directions, access to economic resources, and policy-making processes remain largely dominated by state institutions and large-scale capital groups. Consequently, women are often positioned as lower-level workers or as those affected by development processes, rather than as actors who shape the direction of border development (Elson, 1999; Kabeer, 2012).

Nevertheless, the findings of this study demonstrate that Lao women in Houayxay are not merely passive subjects within such structures. Instead, they actively negotiate with these constraints through a variety of everyday strategies. Under these conditions, some women utilize informal collective practices and social networking as key mechanisms for conducting economic activities. Examples include networks of female traders in markets, groups of home-based producers, and small-scale entrepreneurial networks. These networks function as spaces for exchanging information, sharing resources, and supporting one another in sourcing products and managing businesses.

For instance, one female entrepreneur explained that the procurement of goods often does not rely solely on formal trade channels but also occurs through networks of intermediaries who facilitate the supply of goods quickly and conveniently:

> "In the past, things were not like today. Now everything is more modern and convenient. Goods from Thailand can be delivered directly to the shop, and we can use our phones to order products for sale." (Boonma, interview, 30 July 2024)

In some cases, female entrepreneurs also rely on trading relationships to establish informal credit systems, which help reduce limitations in business capital. As one informant explained:

> "My sales are not always very high, so when I buy ingredients for cooking, I must choose shops that sell at reasonable prices. If I buy expensive ingredients, I cannot sell the food at a high price because people will not buy it. I usually get goods from suppliers I trust, and sometimes I pay them after I sell my products and then take new supplies." (Khamla, interview, 20 July 2024)

These social networks function as social capital, enabling women to gain access to economic resources and strengthen their bargaining power within a border economy largely shaped by the state and large capital groups (Bourdieu, 1986).

Beyond networking, female entrepreneurs also employ strategies to manage state regulations by selecting more flexible channels for importing goods. For example, river transport is often preferred because it is perceived as faster and less bureaucratically complex compared to formal customs procedures.

Such patterns reflect the nature of border trade systems, which do not operate solely under strict state regulations but rely heavily on personal relationships among traders, transport providers, and local officials (Thongsamut, interview, 7 July 2024). These relationships create opportunities for female entrepreneurs to negotiate bureaucratic procedures through familiarity with officials or through informal practices, sometimes expressed in the form of small tokens of appreciation in exchange for smoother trading processes (Suwan, interview, 21 July 2024).

In another dimension, female entrepreneurs also strategically operate small-scale businesses-such as home-based retail shops or restaurants-as a way to minimize state surveillance and regulatory pressure. Because such businesses are relatively small and generate modest income, they often attract less attention from state authorities, allowing entrepreneurs to maintain greater flexibility in their economic activities. As one female entrepreneur explained regarding her negotiation with the tax collection system:

> "We pay taxes according to our income, but sometimes we talk with the tax collectors because our earnings are different each month. Some months we sell well, some months we don't, so we explain that sometimes business is slow." (Khamphaeng, interview, 28 July 2024)

These strategies reflect the everyday negotiations undertaken by women within the power structures of the border state. This observation resonates with James Scott's (1985) argument that socially vulnerable groups often rely on subtle forms of adaptation, negotiation, and social networking in order to preserve their livelihood spaces.

Overall, the findings indicate that border areas are spaces where state authority, capital, and gender relations collectively shape the opportunities and constraints experienced by women. However, female entrepreneurs in Houayxay should not be viewed merely as passive recipients of development processes. Instead, they actively employ a range of strategies-including social networking, relationships with state officials, and flexible business practices-to negotiate the constraints of border spaces and to create economic opportunities and bargaining power within the evolving border economy.

6.3 Border Urban Economic Dynamics and the Changing Social Status and Roles of Lao Women

The development of Houayxay City under border economic policies-such as the opening of the R3A route and the establishment of the Special Economic Zone-has not only resulted in economic growth and an expansion of cross-border trade, but has also generated new social spaces that simultaneously create opportunities and constraints for Lao women entrepreneurs in renegotiating their social status and roles. The border city thus functions not merely as an economic space, but also as a gendered space of practice (Radcliffe, 2006), where power

relations between women and men are continuously reshaped, contested, and renegotiated under the combined influences of market forces, state policies, and entrenched cultural norms.

Social Mobility through Entrepreneurship: Opportunities and Contradictions

The expansion of the service sector and cross-border trade in Houayxay City has created new economic spaces that allow some Lao women to assume the role of women entrepreneurs, thereby enabling a certain degree of upward social mobility. Within the flexible and small-scale trading environment of the border economy, women have gained access to economic opportunities that were previously confined to the domestic sphere. Having their own sources of income allows women to access economic resources and increases their decision-making power regarding household expenditures, investments, and family life planning. For instance, some women have been able to purchase land in their own names or hire employees to assist with their businesses (Khamphaeng, interview, 28 July 2024). These developments have gradually shifted decision-making power within households from being predominantly controlled by men toward more shared arrangements in which women have greater voice and participation (Kabeer, 1999).

However, the expansion of women's economic roles does not necessarily lead to a direct transformation of gender power structures. Rather, it represents a process of bargaining through which women attempt to reposition themselves within households and society (Kandiyoti, 1988). Participation in economic activities thus becomes an important strategy through which women enhance their bargaining power within a social structure that continues to be shaped by patriarchal norms.

Such transitions are not driven solely by a desire for greater control or authority. Instead, they are rooted in practical necessities and efforts to achieve economic security (Chant, 2007). Many women recognize that relying solely on a spouse’s income may not be sufficient to cope with economic uncertainties in a border city context characterized by intense competition, income fluctuations, and rising living costs. Entrepreneurship therefore becomes both a strategy for building economic stability and a space in which women can pursue greater autonomy in financial decision-making and life choices.

In some households, women’s increasing economic roles have led to adjustments in the division of labor within the family. Women may negotiate new arrangements, such as encouraging husbands to participate more actively in domestic work, childcare, or assisting with business activities (Waewphet, interview, 4 June 2024). This reflects subtle shifts in power relations within everyday life. Nevertheless, such adjustments often occur as practical negotiations at the household level, rather than representing permanent structural transformations. As one respondent explained:

> “Nowadays men and women should have equal rights. Whatever we do, we can do it together. We share the work and help each other in everything.” (Pin, interview, 31 July 2024)

In addition, business success contributes to the accumulation of social capital and social recognition for women in the border urban context. Women who succeed as entrepreneurs are increasingly recognized as important contributors to household and community economies. As a result, they may gain higher social status and broader access to economic and social networks. However, from a gender perspective, women remain closely associated with traditional expectations as homemakers and primary caregivers. Even when their economic status improves, social expectations regarding femininity and domestic responsibility often remain unchanged. Consequently, women frequently experience a double burden, balancing their roles as entrepreneurs competing within the border market with their responsibilities as household caregivers-roles that are still widely perceived as women’s natural duties (Elson, 1999; Antonopoulos, 2009). This situation is reflected in the experience of one respondent:

> "I have lived in Houayxay since 2008. I opened a pizza shop in September 2023 because I have a child and no one to take care of them. If I open a shop, I can run the business and look after my child at the same time." (Buayen, interview, 16 July 2024)

The tension between women's improved economic status and the persistence of gendered responsibilities reflects the limitations of social mobility within the border economic context. While the border economy creates opportunities for women to improve their social positions and bargaining power in certain dimensions, it does not fully transform structural gender inequalities. Entrepreneurship thus becomes both a space of opportunity and a site of tension, where women continuously negotiate and manage competing expectations and responsibilities in their everyday lives (Kabeer, 2012; Cornwall, 2016).

Gendered Advantages in Border Economies

The border-city context of Houayxay has generated certain gendered advantages in particular types of economic activities, especially in the service sector, tourism, and cross-border trade. These sectors rely heavily on interpersonal interaction, trust-building, and the ability to maintain long-term relationships with customers and business partners. Within this context, Lao women entrepreneurs are often able to transform socially constructed "feminine" attributes-such as communication skills, politeness, attentiveness, and the ability to maintain social relationships-into strategic resources for conducting business and negotiating economic opportunities (Kandiyoti, 1988; Elson, 1999).

In this sense, gender does not function solely as a constraint on women's participation in economic life. In certain contexts, it can also be mobilized as a resource for creating opportunities and enhancing bargaining power within the border economy. This perspective was reflected in the experience of one female entrepreneur, who explained the perceived advantages of women in business:

> "From my perspective, women actually have many advantages over men in business. One reason is that we are women-we tend to be more humble and less ego-driven. Women also have certain social skills that help us build relationships. We can work comfortably with both men and women. For example, when coordinating with senior officials who are women, men sometimes face social boundaries. But for us as women, it is easier to approach them. In many ways, women have advantages in negotiation and communication." (Nonglak, interview, 17 July 2024)

Fieldwork findings indicate that many women entrepreneurs rely on such interpersonal skills when negotiating with customers and business partners from abroad, particularly from Thailand and China, which maintain intensive economic interactions with Houayxay. The ability to build familiarity, friendliness, and trust enables women to expand their business networks and maintain long-term customer relationships (Kaewta, interview, 9 July 2024).

These dynamics are reflected in trading practices that depend heavily on trust-based relationships, such as informal credit arrangements, allowing customers to take goods before making payment, or negotiating flexible pricing. Such practices remain common within the border economy, where personal networks and mutual trust continue to play a more significant role than formal institutional mechanisms in regulating economic exchanges.

In addition, the cultural image of the Lao woman characterized by traditional attire such as the sinh, politeness, gentleness, and a strong connection to local cultural values-can also be mobilized as a form of cultural capital in business activities. This is particularly evident in the tourism and service sectors, where cultural representation becomes an important strategy for differentiating products and services. Such cultural imagery helps create a distinct identity for businesses and adds symbolic value to economic activities in a highly competitive border

market. By combining cultural capital with gendered roles, women entrepreneurs are able to connect local economies with cross-border markets more effectively.

However, these gendered advantages should not be understood solely as opportunities. They also contain important structural limitations. Reliance on feminine images such as politeness and gentleness may reinforce traditional gender expectations and confine women to economic activities that are perceived as appropriate for women, such as service work, caregiving roles, or small-scale businesses. Meanwhile, areas involving large-scale investment, policy-level decision-making, and the control of key economic resources often remain dominated by men and powerful economic actors. This perspective was also reflected in the views of a local trade officer:

> "Most of the vendors in the market are women because they are better at this type of work. They are good at speaking and negotiating with customers. Men usually work behind the scenes or take on heavier physical tasks." (Udom, interview, 6 July 2024)

In this sense, gendered advantages in borderland businesses can be understood as a double-edged sword (Chant, 2007). On the one hand, women are able to strategically mobilize gendered attributes to access economic opportunities and enhance their bargaining power in everyday economic practices. On the other hand, these strategies continue to operate within patriarchal structures that predefine the boundaries of opportunity and limitation.

Therefore, the success of women entrepreneurs in Houayxay reflects the dynamic process of gendered negotiation within the border economy. Women actively use gender as a resource to access economic opportunities, expand social networks, and strengthen their bargaining power in everyday life. At the same time, they must navigate and negotiate within broader social structures that continue to define and constrain gender roles.

Structural Impacts: Risks and Spaces of Vulnerability

Although the development of border cities has enabled some Lao women to improve their economic status and achieve upward social mobility through entrepreneurship, the same development process has simultaneously produced structural vulnerabilities for many others. This is particularly evident among small-scale women entrepreneurs who are unable to access key resources, development programs, or economic opportunities allocated by the state and large capital groups.

A number of women entrepreneurs face significant barriers in accessing financial capital, government support programs, and benefits associated with development initiatives in the area, such as enterprise promotion schemes, formal credit systems, or secure commercial spaces. These limitations often stem from constraints related to financial capital, bureaucratic knowledge, legal requirements, and policy conditions that tend to favor large-scale investors or external capital rather than small local entrepreneurs. As a result, many women entrepreneurs operate their businesses under conditions of high uncertainty and must rely heavily on informal markets and personal networks to sustain their livelihoods.

Furthermore, border economies are inherently volatile spaces, shaped by fluctuations in exchange rates, the movement of capital, and competition from large-scale investors operating both domestically and across national borders. In the case of Houayxay, the city increasingly functions as a transit point toward Ton Pheung, which has emerged as a hub of large-scale commercial activities and casino businesses.

One respondent described the changing economic environment as follows:

> "These days it is much quieter than before. Many shops around here have started to close down. Some people have moved on to other types of work, while others have relocated to Ton Pheung. There are casinos there, more money, and more people, so businesses sell better. The shops here have been left abandoned." (Chanvisai, interview, 11 July 2024)

The expansion of large-scale capital inevitably affects small local businesses operated by women. Large enterprises are able to access goods in bulk, operate with lower costs, and utilize more efficient management systems. This creates unequal competition between large investors and small-scale entrepreneurs (Wongsai, interview, 11 July 2024).

As a result, the role of women who previously functioned as key intermediaries in distributing goods within local markets has increasingly been challenged by large business networks with greater economic capacity. Many small-scale women entrepreneurs must therefore exert significant effort to sustain their businesses, often by working longer hours, absorbing higher financial risks, and coping with continuous market pressures.

These burdens extend beyond economic challenges and also affect women's physical and mental well-being, particularly in contexts where women must simultaneously manage responsibilities in both the marketplace and the household.

In many cases, women must continuously move between domestic work, agricultural labor, and market trading in order to remain close to their children and manage household responsibilities. For instance, one respondent, Mani, explained that she simply "endures the exhaustion" in order to perform multiple roles simultaneously (Mani, interview, 25 July 2024). Similarly, Joy noted that she has recently been particularly busy as she must manage both her business and the care of her young child (Joy, interview, 29 July 2024). These experiences highlight that even as women increasingly participate in economic activities, family care responsibilities remain primarily assigned to them.

At the same time, border economic development has also affected migrant women workers and unskilled female laborers in special economic zones. These workers are often drawn into production and service sectors under precarious employment conditions, characterized by low wages, limited job security, lack of social protection, and vulnerability to exploitation or harassment in the workplace. Despite their important role in sustaining the border economy, these women frequently receive the fewest benefits from the development process.

Moreover, border economic development has contributed to the commodification of the image, beauty, and cultural representation of the "Lao woman" in response to the demands of the tourism and service industries. While such commodification may generate short-term economic benefits, it may also undermine women's dignity, the cultural meaning of their identities, and their broader social status in the long term. Without mechanisms to protect labor rights and strengthen women's bargaining power within cultural production processes, women risk being reduced to cultural resources consumed by the market (Shepherd, 2002).

In summary, the relationship between border urbanization and gender dynamics in Houayxay is complex and non-linear. Border economic development policies function simultaneously as "spaces of opportunity" and "spaces of vulnerability" for Lao women.

On the one hand, women are able to use border spaces to improve their economic status, expand their roles in the public sphere, and strengthen their bargaining power within households and communities. On the other hand, the same development processes continue to operate within unequal power structures, overlapping labor burdens, and persistent traditional gender norms.

Therefore, the bargaining processes of Lao women in Houayxay should not be understood solely in terms of empowerment or oppression. Rather, they represent a dynamic process that simultaneously opens and constrains opportunities. Women in border areas thus emerge as both beneficiaries and bearers of the costs of development, acting as active agents who must employ diverse strategies to manage their lives, negotiate power relations, and navigate the shifting dynamics of the border economy in an era of globalization.

Conclusion

The relationship between border urbanization and gender dynamics in Houayxay is complex and non-linear. Border economic policies function simultaneously as spaces of opportunity and

spaces of vulnerability for Lao women. On one hand, women utilize border spaces to enhance economic status, expand public roles, and strengthen bargaining power within households and communities. On the other hand, these changes remain constrained by unequal power structures, overlapping labor burdens, and unresolved traditional gender norms.

Women's negotiations in Houayxay thus cannot be understood solely as empowerment or oppression. Rather, they represent a process that both opens and limits space at the same time. Border women are simultaneously beneficiaries and bearers of the costs of development-as active agents who deploy diverse strategies to manage their lives, negotiate power, and survive within the shifting dynamics of the globalized border economy.

7. Discussion of Research Findings

This study examines the roles of Lao women entrepreneurs within the context of border economic development in Houayxay City, Bokeo Province, Lao PDR. The findings suggest that border economic development should not be understood solely as an economic transformation driven by state policies and cross-border trade. Rather, it represents a complex social process that reshapes gender relations, livelihood strategies, and women's bargaining power in everyday life. The discussion below situates the findings of this study in relation to existing literature on border economies, gender relations, and women's bargaining power.

7.1 The Border City as a "Social Space" of Gendered Negotiation

The findings indicate that Houayxay City functions not only as an economic hub shaped by cross-border trade and development policies but also as a social space where gender relations are continuously negotiated. Through participation in trade and small-scale entrepreneurship, Lao women actively engage in economic activities that allow them to reposition their roles and social status within both household and community contexts.

This interpretation is consistent with borderland perspectives that conceptualize border areas as dynamic spaces where power, economic activities, and cultural interactions intersect, creating opportunities for local actors to pursue livelihoods within structural constraints. As argued by Jonathan Rigg (2009), border regions in Southeast Asia often function as spaces where local communities adapt to economic transformations by strategically engaging with emerging market opportunities.

In the case of Houayxay, Lao women utilize the border city as a practical arena for transforming their livelihoods-from primarily unpaid household labor to more visible participation in the market economy. The border therefore becomes not only a geographic boundary but also a socially produced space that enables women to negotiate new forms of economic participation and social recognition.

7.2 Women's Entrepreneurship and the Construction of Everyday Bargaining Power

Another key finding of this study is that women's participation in entrepreneurship contributes significantly to the construction of bargaining power in everyday life. Through income generation, access to resources, and the expansion of social networks, women entrepreneurs gain greater influence over household decisions, including expenditure, investment, and family planning.

These findings reflect shifting gender dynamics at the micro level, where women's economic contributions increase their ability to participate in decision-making processes within the household. However, this transformation does not necessarily indicate a complete departure from patriarchal structures. Instead, women's economic participation often occurs alongside the continued performance of socially expected roles as mothers, wives, and caregivers.

This pattern aligns with the concept of bargaining with patriarchy proposed by Deniz Kandiyoti (1988), which emphasizes that women frequently negotiate their positions through strategies of adaptation within existing patriarchal systems rather than through direct confrontation. In

the context of Houayxay, women's entrepreneurship therefore represents a form of pragmatic negotiation in which economic participation coexists with traditional gender expectations.

7.3 Social Networks as a Key Mechanism for Risk Mitigation

The study also highlights the critical role of social networks in supporting the livelihoods of women entrepreneurs within the border economy. These networks include informal market connections, women's business groups, relationships with traders across the border, and interactions with local officials and intermediaries.

Such networks function as important mechanisms for reducing uncertainty, accessing information, and navigating regulatory environments in everyday economic activities. In border economies where formal institutional support may be limited, social capital becomes an essential resource that enables women to sustain their businesses and adapt to fluctuating market conditions.

This finding resonates with gender and development scholarship that emphasizes the importance of social capital in women's economic empowerment. Scholars such as Naila Kabeer (2012) have argued that social networks often provide women with critical access to resources, information, and opportunities, particularly within informal or semi-formal economic sectors.

7.4 Persistent Structural Constraints and Vulnerabilities

Despite the opportunities created by border economic development, the findings also reveal persistent structural constraints that continue to shape women's economic experiences. While some women have been able to establish small businesses and improve their household incomes, many remain vulnerable within the broader political and economic structures that govern border development.

Decision-making processes related to development planning, infrastructure investment, and economic policy remain largely dominated by state institutions and large-scale capital. As a result, women's roles within the border economy are often limited to small-scale entrepreneurship or labor participation rather than active involvement in shaping development strategies.

These structural inequalities highlight the uneven distribution of power within border economic development processes. Although border economies may generate new livelihood opportunities, they do not automatically transform underlying gender hierarchies or structural inequalities.

7.5 Conclusion and Theoretical Contribution

Taken together, the findings of this study suggest that the roles of Lao women entrepreneurs in Houayxay City cannot be understood simply as a byproduct of expanding border trade. Instead, they reflect an ongoing process through which women negotiate economic opportunities, social expectations, and structural constraints within the borderland context.

Previous studies on women in border economies have highlighted women's significant participation in small-scale and informal cross-border trade. For example, research by Kazuko Kusakabe and Zin Mar Ou (2007) demonstrates that women play crucial roles in cross-border trading networks in the Greater Mekong Subregion, often relying on social networks as key mechanisms for accessing economic opportunities. The findings of this study support this perspective, as Lao women in Houayxay similarly rely on social networks to sustain their entrepreneurial activities and manage economic risks.

However, this study also reveals an important development beyond earlier research. While previous studies often describe women as small-scale traders or laborers within border economies, the findings presented here indicate that some Lao women have expanded their roles into more complex entrepreneurial activities involving cross-border business relationships with traders and customers from neighboring countries, particularly Thailand and China. This reflects the evolving nature of contemporary border economies, where expanding

regional trade networks create new opportunities for women to participate in transnational markets.

At the same time, the findings confirm that women's economic empowerment remains embedded within existing patriarchal structures. In line with Kandiyoti's concept of bargaining with patriarchy (Kandiyoti, 1988), Lao women entrepreneurs continue to balance their business activities with socially expected roles within the family. Their empowerment therefore emerges through negotiation and adaptation rather than through the dismantling of gender hierarchies.

Building on these insights, this study proposes the analytical concept of "Bordered Bargaining Power." This concept refers to women's bargaining power that emerges from the interaction between gender relations, border economic structures, and cross-border social networks. In border regions such as Houayxay, women's bargaining power is not shaped solely within the household but also through their participation in cross-border trade, entrepreneurial networks, and regional economic exchanges.

By introducing the concept of Bordered Bargaining Power, this study contributes to expanding feminist analyses of women's bargaining power beyond the household level toward a broader spatial perspective. Understanding women's agency therefore requires attention to the specific social and economic dynamics of border regions, where transnational interactions and regional economic transformations create new possibilities-as well as new constraints-for women's participation in economic life.

8. Recommendations

Based on the findings that highlight the roles of women entrepreneurs in Houayxay City within the context of border economic development, this study proposes recommendations at three levels: the policy level, the local/spatial level, and the academic and research level. These recommendations aim to support forms of economic development that are attentive to gender dimensions and the insecurities faced by women.

8.1 Policy-Level Recommendations

The state should design border economic development policies that take into account the roles and lived conditions of small-scale entrepreneurs, particularly women entrepreneurs, who play a crucial role in driving local economies yet often lack systematic support. Development policies that focus predominantly on attracting large-scale investment or promoting special economic zones may inadvertently marginalize small-scale entrepreneurs and displace them from their traditional economic spaces.

Therefore, the state should develop supportive measures that enable the sustainability of small businesses, such as improving access to flexible financial resources, providing business management training tailored to women's contexts, and designing regulatory frameworks that do not impose excessive burdens on small-scale entrepreneurs. Such measures are essential to ensure that border economic development does not reproduce gender inequality or concentrate benefits solely among large-scale capital holders.

8.2 Spatial and Local Mechanism Recommendations

At the local level, it is important to promote and strengthen networks of women entrepreneurs in Houayxay City, including occupational groups, social networks, and local women's organizations. The findings indicate that social capital plays a vital role in mitigating risk and enhancing women's resilience amid the volatility of the border economy.

Local authorities and non-governmental organizations should act as intermediaries linking these networks with sources of capital, knowledge, and markets at both local and cross-border levels. Additionally, they should support the use of digital platforms as alternative spaces for entrepreneurship, which can help reduce constraints related to physical space, mobility, and the uncertainty of trading activities in border areas.

8.3 Academic and Future Research Recommendations

Future research should expand the analytical framework to include comparative studies of women entrepreneurs in other border cities in Lao PDR or in Thai–Lao border areas, in order to capture the diversity of bargaining strategies and adaptive practices under different development contexts. Furthermore, greater attention should be paid to gender in conjunction with class, age, and ethnicity, to more fully reflect the complexity of women's lived experiences.

In addition, systematic research is needed on the impacts of digital technologies and online platforms on women's economic and social mobility in border areas. The findings of this study suggest that online spaces are emerging as new arenas for bargaining power and entrepreneurship among women, highlighting a significant knowledge gap that warrants further scholarly investigation.

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Health communication for media literacy regarding dietary supplement advertising among the elderly in Songkhla province

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Abstract

This research is a qualitative study aiming to the development of health communication skills to promote media literacy in advertising dietary supplements among the elderly in Songkhla province. This research used data collection methods through in-depth interviews and focus group discussions with a sample group of elderly people in Songkhla province. This study reveals that effective and targeted communication should take into account several important factors, for example, the readiness of the elderly, the context of the area, access to technology, and a thorough understanding of nutritional supplements. Currently, elderly people in Songkhla province live in a multicultural context that blends traditional ways of life with the rapidly expanding digital urban environment. For the development of health communicators, the focus must be on educating the elderly about dietary supplement advertising, coupled with media literacy. This research offered a guidelines for developing media literacy regarding dietary supplement advertising among the elderly in Songkhla Province. These trained media eldery will be a vital force in creating a society aware of misleading advertising practices for dietary supplements among the elderly in Songkhla province.

Keywords: Health Communication, Media Literacy, Supplement Advertising, The Elderly

Introduction

Currently, the elderly are one of the age groups that access social media for up to 6 hours a day. They are also a high-risk group that is often targeted by scammers and is the group that spreads the most fake news. The issue of media literacy among the elderly is an urgent problem that needs to be addressed, and is no less important than managing other structural aspects. A survey on media and digital literacy among Thais revealed that the elderly group is a particularly concerning factor, as they have the lowest media literacy score at 63 percent. Most of them use social media platforms like Facebook and Line primarily for consuming media, communicating, and searching for information online which can lead to misunderstandings, misinterpretations, and even deception, especially regarding health-related content. For example, they might be told that taking this medicine or herbal remedy will cure their illness, even though this is not true, or they might be

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scammed into buying counterfeit products. Elderly people often lack the experience to verify the facts. (Thai Mung News Agency, 2021)

Songkhla province is another area with a large number of elderly people, totaling 247,586, divided into 106,986 men and 140,600 women. This is the second highest number of elderly people in the southern region, after Nakhon Si Thammarat province. (Bureau of Registration Administration, Department of Provincial Administration, 2022) A study found that these elderly people in Songkhla province were highly receptive to advertisements about food and drug products, with the majority receiving information from television and expert personnel. This has become a problem in daily life because people are misled and engage in the behavior of buying and consuming large quantities of the product. The solutions to this problem stem from a lack of clear consumer protection policies and plans, and a lack of media literacy skills necessary for consumer protection. (Chutha Sangkhachart and colleagues, 2008)

Media literacy issues are problems that need to be addressed, and the elderly should not be left to passively accept the changes that are occurring. Conversely, older adults should understand the changes in society in which they are a key component, and be prepared to cope with these changes. By being active senior citizens, they are ready to learn and willing to communicate and share useful information with other senior citizens in order to create a high-quality aging society. (Sirinthorn Pibulphanuvath, Nantiya Duangbhummes and Kwanjit Sasivongsaroj, 2020) Experts and relevant stakeholders have suggested approaches to promoting media literacy among the elderly, such as starting with initiatives within the community. By creating transformational leaders who can act as agents to pass on knowledge to elderly people in the community, and by promoting collaborative activities between youth and the elderly, the emphasis is on jointly verifying information before making decisions. This includes raising awareness through traditional media with content that senior citizens are interested in, in order to prevent them from being misled or deceived by online media, thereby promoting media literacy as mentioned above, effectively. Citizens can access learning resources and activities that promote media literacy, leading to development and enabling them to proudly move towards the goal of becoming "digital citizens." Government agencies, the private sector, civil society, and all sectors must work together to support measures promoting media literacy, as well as build continuous and strong public participation. (Thai Mung News Agency, 2021)

Therefore, the aim is to raise awareness and media literacy among elderly people in Songkhla province who are facing problems with dietary supplement advertising. Researchers of this study and the National Broadcasting and Telecommunications Commission (NBTC) have therefore organized the "Media-Savvy Seniors: Critical Thinking, Media Literacy" project. The research led to the creation of a curriculum to develop media literacy skills among the public for creative and responsible use. In order to make this project a tangible success and to enable its application in academic fields, the organizers conducted research concurrently with the project. The knowledge gained from this project can be used as information for other stakeholders in their future endeavors.

Research Objectives

1. To study the health communication patterns for media literacy on dietary supplement advertisements among the elderly in Songkhla province.

2. To evaluate the effective development of health communicator for media literacy on dietary supplement advertisements among the elderly in Songkhla province.

Literature Review

1.Concepts regarding the elderly and their use of media

The eldery refers to the later stages of human life, generally defined as individuals aged 60-65 years and older. While Surakul Jen-Ombrom (1998) defined the definition of an elderly person as using three criteria: 1) Aging based on actual age; 2) Aging based on physical changes; and 3) Aging based on mental changes. The elderly are a group with unique characteristics, and we can study these characteristics from their behavior in using the media. Studies found that the eldery use media to meet a variety of needs, including receiving information, entertainment, and applying the content to their daily lives. As shown in the research study, "Development of Television Programs for the Elderly," by Jaruwan Nitipaibul, Santhat Thongrin, and Witayathorn Thokaew (2016), regarding the acceptance, demand, and utilization of television programs for the elderly, it was found that the top three television programs utilized most frequently were: 1) To receive information; 2) To create joy, happiness, and alleviate loneliness; and 3) To apply the content to one's daily life. Furthermore, it was found that variables influencing media consumption behavior among the elderly include age, education level, occupation, income, marital status, and place of residence. For social media, a new and popular medium among the elderly, it was found that elderly people have diverse needs for using social networks, as shown in the research by Kantapol Bantatthong (2014) on online social network usage behavior and satisfaction among elderly people in Bangkok which found that elderly individuals aged 60-65 years old were most satisfied with using online social networks, while those aged 66 years and older were the least satisfied with using social media. This is because this group of elderly people may have more health problems than other groups, such as vision problems or disabilities related to finger or hand use, and therefore may not be able to use online social networks. In summary, older adults are highly satisfied and motivated to use social media.

2.The concept of communication for health promotion

This concept is a process that directly contributes to improving health at both the individual and societal levels, and incorporates new cultural elements through various media types as appropriate in order to be able to influence the health behaviors of the target group as desired. Numerous research studies have clearly demonstrated the use of communication theory in promoting health which can help empower the presentation of health issues to the public and encourage people in society to seek out and learn more about health, or can create a healthy lifestyle for yourself. Past health communication has focused on one-way communication, which is flawed and unsuitable for communicating complex health issues. Two-way communication, which is a model of participatory communication, is a process. The characteristics of participatory communication are as follows (Suri Thammikaboworn, n.d.):

1. The goal of communication is to create understanding and a shared sense of belonging, fostering relationships.

2. All stakeholders have the right to participate.

3. It involves participating in multiple roles at each stage.

4. The flow of information and news is omnidirectional.

5. News, information, and content related to the community.

6. The roles of receiver and sender of the message alternate.

The elements of health communication, also known as the elements of communication for public health development and this sutdy will use the term "well-being." These components are crucial in health communication. The absence of any one component may result in the health communication process being unsuccessful or not achieving the intended objectives of the communicator. According to Hathairat Lekklang (2007), the components of health communication consist of five elements:

1. The communicators, organizations, or individuals who convey health messages are typically healthcare professionals at various levels, including administrators, academics, public health officers, disseminators, motivators, opinion leaders, and the media. The sender must be able to reach the target audience, be credible, and gain the trust of the target audience.

2. As the dimension of well-being encompasses many aspects, the message conveyed is crucial in achieving the goals of the issue. Effective health communication requires that the information meets the needs of the recipient, is easily understood, and can be put into practice.

3. Information channels for implementing health projects or communicating health-related issues should be as effective as possible. In other words, to align with the message, the recipient, and the communication goals, mixed media or the use of multiple media is likely to be the most effective.

4. The recipient of the message is a crucial factor in the implementation of health communication projects or for promoting well-being. Therefore, each project, issue, or story must be carefully considered before being communicated. This involves defining the scope of the audience, known as the target group. In addition, it is necessary to study the demographic and psychological characteristics of the target audience.

5. The outcomes of communication, in the case of health communication which is goal-oriented, should be specified to align with the communication objectives which refer to changing the knowledge, attitudes, and behaviors of the recipient of a message regarding health, as desired by the sender, which will have a positive impact on the political, economic, and social development of the country, and they should be able to access, understand, evaluate, use, and communicate health information as needed to promote and maintain good health throughout life.

3. The concept of health literacy.

It involves building knowledge, understanding, and social skills that define individual motivations and abilities to access, understand, and use information for better health. This includes developing knowledge and understanding of the health context, and changing attitudes and motivations to promote appropriate health behaviors independently, which in Thai, there are other terms with

similar meanings, such as health literacy, health awareness, or health intelligence, etc. The components of health literacy according to Nutbeam's (2008) concept consist of 3 levels as follows:

Level 1 basic health literacy includes the ability to read and write in order to understand health-related content. This is considered a fundamental reading and writing skill necessary in the health context. Examples include reading consent forms for medications, writing healthcare information forms, understanding both written and verbal information from doctors, nurses, and pharmacists, and following instructions such as taking medication and scheduling appointments.

Level 2, Interactive Health Literacy, includes the competence to use knowledge and communication to participate in healthcare; it encompasses intellectual literacy and social skills, which enables individuals to participate in their own health care, such as asking knowledgeable people for advice, and conveying their emotions and knowledge to others, leading to improved health capabilities.

Level 3 Critical Health Literacy includes the ability to evaluate available health information in order to make decisions and make choices in promoting and maintaining one's own health on a continuous basis. Regarding tools for measuring health literacy, several academics have developed such tools, for example, The eHealth Literacy Scale (eHEALS), an electronic health literacy scale that uses a self-reporting approach (Norman & Skinner, 2006). eHEALS is designed to assess an individual's cognitive skills in using health information technology and to help determine the appropriateness of an eHEALS program for an individual, measured across six areas, which include traditional culture, information, health, computers, media, and scientific literacy, among others.

4. Concepts related to media literacy.

Media literacy is the perspective of individuals who receive and interpret media content based on what they see, with awareness of the impact of the media and with mindfulness in their consumption. The objective of media literacy is the empowerment of individuals so that they can control the media and not be dominated by it (Potter, 2005). Media literacy helps to strengthen the capacity of media consumers and to help them become aware of how media content influences their behavior. Simply put, media literacy means not blindly believing everything we read, hear, and listen to, but being able to think, analyze, question, and ask questions such as: Is it true or false? Who provided the information? What message are they trying to convey? Is there a hidden agenda? Who is the target audience? Who benefits? etc.

The essential skills for media literacy include: 1. Access Skills, 2. Analysis Skills, 3. Content Evaluation Skills, 4. Creativity Skills, and 5. Participation Skills. In addition to these skills, two other components must be considered: environmental factors that have contextual implications for the individual, such as the access to media and social media literacy policies, which play a role in helping media consumers become more media-savvy, and individual competences, which depend on the recipient's personal ability to analyze both the content and context, vary from person to person. Furthermore, media literacy has four other related dimensions: 1) perception, 2) emotions/ feelings, 3) aesthetics, and 4) morality, which vary among different recipients of information. Each aspect may not be dependent on the others; for example, some people may be

more skilled in one dimension than another. However, those with high media literacy skills tend to be able to work well together across all dimensions (Center for Media Literacy, 2008).

Research Methodology

This study is a qualitative research project covering four areas:

1. In terms of content, this includes communication formats for health awareness, media literacy regarding dietary supplement advertising among the elderly, and the process of training health professionals who are media literate regarding dietary supplement advertising among the elderly.

2. Geographical Area: This study focuses specifically on Mueang District, Songkhla Province.

3. In terms of area, this study focuses specifically on Mueang District, Songkhla Province.

4. In terms of time, during the years 2023-2024.

The demographic data for this research was gathered through in-depth interviews with 13 key informants, including elderly individuals, local officials or community leaders, provincial public health officials, and representatives from consumer protection associations, and focus group meetings were held with 30 elderly people in Mueang District, Songkhla Province.

The research tools are divided into two categories:

1. Structured questionnaire regarding communication patterns and the development of media literacy among the elderly in Songkhla province concerning media literacy in relation to dietary supplement advertising, which has been reviewed by experts in communication studies, is divided into three parts:

Part 1:	Opinions on media literacy communication patterns regarding dietary supplement advertising among the elderly in Songkhla Province.
Part 2:	Opinions on training health professionals to be media-literate regarding dietary supplement advertising among the elderly in Songkhla province.
Part 3:	Guidelines for creating media communication for media literacy regarding dietary supplement advertising among the elderly in Songkhla Province.

2. The suggested questions for focus group discussions have been reviewed by media and communication experts and are as follows:

Part 1:	Opinions on the approach to training health professionals to be media literate regarding dietary supplement advertising among the elderly in Songkhla province.
Part 2:	Guidelines for developing media literacy among health professionals regarding media literacy in relation to dietary supplement advertising among the elderly in Songkhla Province.
Part 3:	Communication patterns of health professionals in Songkhla province regarding media literacy in advertising dietary supplements for the elderly.
Part 4:	Guidelines for creating media communication for media literacy regarding dietary supplement advertising among the elderly in Songkhla Province.

Assessing the reliability of a tool

An interview-based study of communication patterns and the development of media literacy regarding dietary supplement advertising among the elderly in Songkhla province. This involves having experts assess the relevance of the research question, determining whether it aligns with the research objectives.

Data collection

1. In-depth interviews with 13 key informants regarding communication patterns and the development of media literacy among the elderly in Songkhla province concerning dietary supplement advertising.

2. Conduct focus group discussions and in-depth interviews with sample groups regarding approaches to training health professionals in media literacy concerning dietary supplement advertising among the elderly, developing media literacy knowledge and understanding among health professionals regarding media literacy in dietary supplement advertising, studying ommunication patterns of health professionals regarding media literacy in advertising dietary supplements for the elderly, and the creation of communication materials for media literacy in addressing dietary supplement advertising among the elderly in Songkhla Province.

Data analysis

The researchers used qualitative data analysis through content analysis. Data from literature reviews and interviews were used to draw conclusions, recorded using coding sheets, and presented in descriptive and analytical induction.

Results

Regarding the advertising situation for dietary supplements for the elderly in Songkhla Province, this is based on the compilation of consumer trends and advertising media in Songkhla Province (data projected to be summarized in 2025). It was found that elderly people in southern Thailand prioritize knee strength, sleep, and physical rehabilitation, with the following 10 most popular products:

Table 1 Advertisement for the top 10 most popular dietary supplements in Songkhla Province (surveyed in 2025).

No.	Product	Content	Channel
1	Ensure Gold	A complete formula for building muscle mass.	Pharmacy sign, activity booth at the International Conference Hall, Prince of Songkla University.
2	Amway Nutrilite	100% natural plant extract.	Facebook Group (Songkhla People's Gathering Group), Word of Mouth
3	Calcine / UC-II	Nourishes knee joints and reduces cracking sounds.	Leaflets distributed at flea markets, vinyl banners displayed in front of community shops.
4	Ovaltine Gold	Contains Ginkgo biloba leaf extract to nourish the brain.	Advertisements on the back of tuk-tuks/wooden songthaews (shared taxis), Lee Wiwat Department Store.
5	Double T	Blood detoxification, reduces fat and blood pressure.	Local community radio, TikTok (reviews from real users in the area).
6	Blackmores	A world-class, trustworthy brand.	LED signs at Koh Hong intersection, pharmacies throughout Hat Yai.
7	Boom Collagen	Nourishes skin and joints.	Facebook Ads (targeting Songkhla area), billboards along the Asian Highway.
8	C-Min-L	Reduces acid reflux and inflammation.	Clinic brochures, YouTube short videos (demonstration of use).
9	Nimm	Nourishes bones and joints.	Southern Agricultural Fair booth, TikTok Live
10	Ensure Diabetes Care	Controlling blood sugar levels for diabetes.	An X-stand sign in front of the pharmacy department of a private hospital in Songkhla.

Furthermore, it was found that advertising for dietary supplements in Songkhla province, particularly in areas frequently seen by the elderly, such as vinyl banners and brochures, remains very effective, especially in fresh market areas (Such as Kim Yong Market, Plaza Market) because elderly people still go to the market themselves as a routine. Online media, such as Facebook and TikTok are the main channels that children in Songkhla use to order things for their parents. They often look at reviews in the southern dialect or use presenters who are locals to build trust, and market through events that senior citizens can participate in, and they often have booths at

festivals, such as the Songkhla Local Products Fair or the Red Cross Fair are important sales boosters for dietary supplements, and point-of-sale advertising makes the products clearly visible. Advertising dietary supplements for the elderly is not inherently bad or illegal, but sometimes I find that some advertisements are unfair, involve product counterfeiting, or make exaggerated claims, which could have negative impacts on the elderly, who are the target audience of the advertisement, as follows:

1. Physical harm is the most severe impact, as the bodies of older adults already undergo age-related decline. Exposure to harmful contaminants from exaggerated advertising claims can further damage their health (For example, pain relief for knee joints in 3 days) often secretly contains steroids to achieve quick results, which can lead to facial swelling (Moon Face). Osteoporosis or gastric bleeding can affect liver and kidney function, potentially leading to chronic kidney failure.

2. Delayed treatment can occur because people are misled by advertisements and stop taking their doctor's medication, believing that dietary supplements can "cure" diseases. For example, curing cancer or diabetes can cause patients to abandon hospital treatment, leading to conditions that worsen to an irreversible level.

3. Economic loss results in unnecessary financial loss, as these products are often overpriced. By using promotional sales strategies such as buy-one-get-one-free or membership programs, senior citizens are forced to use their savings or pension funds for these services instead of spending them on nutritious, staple foods.

4. Psychosocial impact refers to the accumulation of stress and disappointment when the product doesn't produce the advertised results. This may cause elderly individuals to feel guilty for wasting a large amount of money or to become discouraged from treating their illness. It also contributes to family conflicts. Often, children and grandchildren warn the elderly, but they don't listen because they are easily swayed by the sellers' persuasive words, leading to arguments at home.

To prevent such problems, it is necessary to communicate health awareness to promote media literacy regarding advertising of dietary supplements for the elderly in Songkhla province. To communicate effectively and appropriately with the target audience, several important factors should be considered, such as the readiness of the elderly, the context of the area, access to technology, and a thorough understanding of nutritional supplements. Currently, elderly people in Songkhla province live in a multicultural context that blends traditional ways of life with the rapidly expanding digital urban environment. Modern-day elderly individuals need to understand the diverse range of healthcare options, incorporating reliable traditional medical knowledge combined with modern medical expertise. This ensures that the chosen healthcare approach aligns with their cultural heritage and does not conflict with modern medical principles. There is a growing trend of increased access to information technology among the elderly. The use of smartphones and applications like Line and Facebook has become part of daily life in order to bridge the social gap and communicate with children. However, media literacy skills remain unequal, making the elderly a vulnerable group exposed to distorted information and fake news, regarding the benefits of health products or dietary supplements that are frequently advertised through various media. The communication model for promoting media literacy regarding dietary supplement advertising among the elderly in Songkhla province must be implemented through a

mechanism of training senior leaders in media literacy (Training of Trainers for Media Literacy Elderly). This concept is based on the principle that older people understand older people best, which training is provided for senior citizen representatives to become media-literate citizens who can effectively impart knowledge and mentor people in their communities. These individuals need to have knowledge of dietary supplements, understand the differences between medications, food, and herbs, and how to reduce the misuse of these products, which is a significant problem currently occurring in Songkhla province: communication skills. This enables the dissemination of health information in simple language to the community, fostering widespread understanding of accurate information. It also allows for communication aimed at risk screening and alerting about unsafe products or exaggerated advertising claims. This process must take into account the risk of consuming harmful products. Simultaneously, this group of media-literate citizens must manage networks or connect with health agencies at the sub-district and village levels. This process can create a sustainable surveillance mechanism, following these guidelines.

1. In Songkhla province, communication through "role models" and "thought leaders" leverages community power to its fullest. Communication is most effective when channeled through close acquaintances, such as village health volunteers (VHVs) because they have direct access to the elderly's homes and speak the same language (Southern Thai), trust is built. Alternatively, religious leaders, such as Buddhist monks or imams, could also be suitable to incorporate health care and mindfulness into religious activities is a channel that elderly people find favorable. Interestingly, many elderly people in Songkhla province still listen to local radio programs as it is an easily accessible medium and uses listening, which is suitable for the physical condition of elderly people who have visual limitations, listening to the radio also allows them to perform other daily tasks. Additionally, using local radio presenters (DJs) who speak the Southern Thai dialect to guide people in being aware of fake supplements, or local influencers such as Juree Lekburapa and Manorah Ekachai, could be beneficial as friendly and trusted by older listeners, to provide insightful feedback and raise awareness about the misleading advertisements for dietary supplements currently circulating.

2. Using regional dialects and folk entertainment as a medium to convey meaning is often more difficult than using the Southern Thai dialect. This includes translating complex academic information into easily understandable and humorous Southern Thai. This could help elderly people remember better, or perhaps through performances of Manora dance or adapted shadow puppetry, for example, telling jokes about being scammed into buying overly exaggerated supplement claims is a highly memorable format in the Songkhla area.

3. Communication channels should be a media mix, which may need to consider the local context. For example, in a community with a community radio station, news could be disseminated through the village's regular broadcasting station which includes inserting warning spots during times when elderly people frequently listen to them. Furthermore, it must be acknowledged that an increasing number of elderly people in the Songkhla area are using online media, with the Line application serving as their primary channel in communication, and the elderly people can create "Good Morning Monday" images that subtly incorporate information about checking FDA (Food and Drug Administration) registration numbers. Comparative advertising that exaggerates claims is more easily transmitted than long articles, or even through word-of-mouth in "coffee shop

discussions" or village meetings which is considered the most effective channel for warning systems, and this information can be communicated informally.

4. The content strategy should focus on building "critical thinking skills"—recognizing and avoiding misleading advertisements such as "cured within 3 days," "no doctor's medication needed," or "cures all diseases." and the content presented can also incorporate verification of advertising information, such as teaching how to photograph labels to send to children or grandchildren, or using simple applications to check FDA registration numbers. Furthermore, content creation must utilize emotional appeal techniques, such as conveying concerns about family or maintaining health to be with grandchildren. It is a highly effective tool for persuasive communication, encouraging the elderly to be discerning and not be misled by advertisements for dietary supplements that often make "all-purpose" claims or use phrases like "the real thing" or "insider information" which is often a sign of misinformation, so it's important to teach older adults how to spot "warning signs" in advertisements.

For the target audience, after becoming media literate regarding supplement advertising, the expectation in the communication process is that elderly individuals will provide a positive feedback loop, where they question the advertisements they see. For example, elderly people start asking their children, grandchildren, or community health volunteers before buying ("Is this authentic?"), or verifying the authenticity of products and services, such as checking the FDA registration number or expiration date themselves. It also enables them to protect themselves from misleading supplement advertising, such as alerting friends or gatherings of people they know are being deceived, creating a community watchdog network. However, there are other variables that can have a ripple effect, such as politeness or consideration (soft power) which sometimes, elderly people buy these products out of politeness to the sellers who are from the village, even if they suspect exaggerated advertising or have unrealistic expectations about the treatment. In cases where elderly individuals have chronic illnesses, a "nice to try" feedback structure can emerge. Currently, this reduces media literacy and may create negative feedback/ barriers in the communication process.

The process of developing health communicators for media literacy on dietary supplement advertisements among the elderly in Songkhla province which must stem from creating groups of elderly people who are media-literate regarding nutritional supplements, and who then pass on this immunity to their networks and other elderly groups. This can be explained by the model "Health Literacy as a personal assest" presented by Don Nutbeam (2008) as follows:

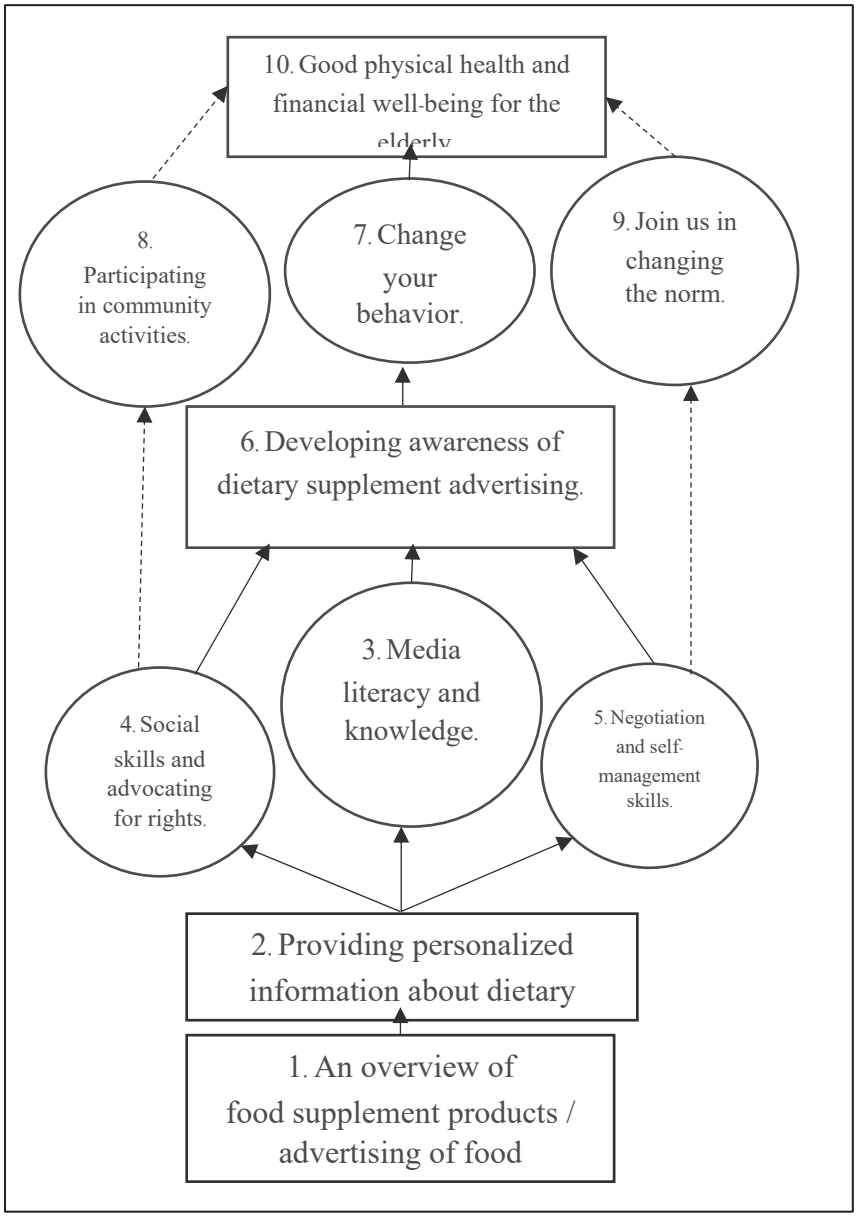


Figure 1 Guidelines for developing media literacy regarding dietary supplement advertising among the elderly in Songkhla Province.

Source: Adapted from Don Nutbeam's (2008) "Health Literacy as a Personal Asset".

The guidelines for developing media literacy among the elderly in Songkhla province regarding dietary supplement advertising begin with a basic understanding of dietary supplement products and advertising targeting the elderly in Songkhla province. Because most elderly people still can't distinguish between dietary supplements and medications, some even mistakenly believe them to be medicine, and sometimes they lack understanding of advertising practices, it's crucial to clarify this aspect for them, following that, information will be provided on how to be aware of and understand dietary supplement advertising in a way that is suitable for each individual. Because the learning capacity of older adults declines with age, their learning abilities are different from

those of teenagers or working-age adults. Therefore, it is necessary to adapt the learning content to suit the physical capabilities of older adults which requires acquiring essential skills to be aware of dietary supplement advertising, including: Social skills and rights advocacy, media literacy, and negotiation and self-management skills, this will help improve awareness of dietary supplement advertising among the elderly, potentially changing their past behavior of falling victim to supplement advertising. It also encourages senior citizens to participate in community activities so that other senior citizens can become media literate like themselves and it sets a new standard for media literacy regarding dietary supplement advertising among the elderly themselves. The ultimate outcome of developing media literacy among health professionals regarding advertising of dietary supplements for the elderly is improved physical health and the prevention of financial losses for senior citizens, such as being scammed out of money or buying a product that doesn't match the advertisement. This approach is viewed not as an individual task, but as the responsibility of all sectors where the elderly live, to collectively enhance awareness and understanding of nutritional supplements, so that people can live longer and healthier lives.

Discussion and Conclusion

Regarding communication strategies for health awareness, media literacy in dietary supplement advertising, and the training of health professionals in media literacy related to dietary supplement advertising among the elderly in Songkhla province, which is the complex challenges posed by current technology and marketing continue to create significant challenges. Many dietary supplement advertisements evade scrutiny by spreading through direct-to-consumer (DTC) systems on social media, which agencies like the Thai Food and Drug Administration (FDA) cannot thoroughly monitor. Furthermore, the practice of sharing unverified information in Line groups among the elderly (with good intentions towards friends) has become a catalyst for the rapid spread of rumors and exaggerated information, exceeding the capacity of government agencies to address the issue. Furthermore, deeply ingrained beliefs about the use of traditional herbs, or "spirit-prescribed medicine," in southern Thailand remain a significant obstacle to scientific communication as some older adults choose to trust information from close acquaintances and sources of information more than warnings from the government. Therefore, future communication models must focus on a transition from information-giving to dialogue, aiming to understand the origins of beliefs and gradually modify attitudes. Previously, Nanthiya Duangphummes et al. (1960) attempted to create a media literacy curriculum for Thai elderly people and found that participatory processes were important in promoting learning and the study found that participatory processes are crucial in promoting learning, requiring participation in developing content and learning methods, and in the implementation of the curriculum. The development of the curriculum required information derived from the experiences of "insiders" who play a role in driving work related to the elderly and media literacy at the national level (Crane & O'Regan, 2010) by providing opportunities for those involved in elderly care and media literacy from government agencies, the public sector, and the private sector, media literacy will be fostered, which aligns with the aforementioned research. Meanwhile, Wilaiwan Isaradej (2021) studied the health status of the elderly and developed health-promoting activities suitable for the elderly in urban society through online communication and it presents a

model for promoting well-being suitable for the elderly in urban society through online communication, and the study found that the government focuses on developing the capabilities of senior citizens to manage knowledge, information, and online communication content which aligns with internet usage patterns, where individuals can search for all types of information. Therefore, health-promoting activities suitable for the elderly in urban society should focus on five areas: physical, mental, intellectual, social and environmental aspects, and social relationships, appropriate well-being promotion for the elderly in urban society involves online communication through websites, pages, Line, Facebook, and YouTube, by learning according to their interests, needs, opportunities, readiness, and learning potential, senior citizens gain knowledge and life skills and they are adaptable to changes and able to apply the knowledge they have gained to benefit themselves and others.

However, this research may not have analyzed the components of the communication process, which is a perspective that shows it can be applied, as in the work of Sirintorn Bhibulbhanuvat et al. (2020). By using elements of the communication process to decode and create roles and content that are relevant to the sender and receiver of the same age and location, the media can be designed to understand and align with their interests. Transforming media literacy content into the "Stop-Think-Ask-Act" media literacy mantra is a way to design easily understandable content suitable for the elderly, with personal communicators delivering it, which further enhances audience engagement. Furthermore, Kanjana Kaewthep (Kaewthep, 2000) suggested that the main goal of creating media literacy among the elderly is to allow participants to express their feelings, analyze problems, and propose solutions. This will build confidence and value one's own thoughts and beliefs, leading members to voluntarily accept and comply. This created a space for sharing stories, strengthening relationships among members, and fostering a shared sense of community pride.

Additionally, this research confirms the established framework for health communication among the elderly and the framework for developing media literacy skills. However, a specific finding of the study is that the elderly in Songkhla province live in a blended culture that combines traditional medical beliefs with modern medical knowledge. Furthermore, decisions regarding health information from the media are often made based on linguistic familiarity or similar cultural communication backgrounds. This indicates that effective communication approaches for the elderly in this area should deviate from the general context to best align with the health communication practices of the target group in the region.

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Tourism behavior and management framework of Malaysian big bike tourists in Songkhla province: A literature review

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Abstract

This article is a documentary research using secondary data from a study of relevant documents, concepts, theories, and research. The objective of this research is to develop a research conceptual framework by study examines the concepts, theories, and various factors related to the travel behavior of Malaysian tourists visiting Songkhla province by big bike. This study examines relevant documents, concepts, theories, and research, divided into 5 main areas as follows: 1) Concepts and theories related to tourism; 2) Concepts related to large motorcycles; 3) Concepts and theories related to decision-making; 4) Concepts and theories related to tourist behavior; and 5) Concepts and theories related to the marketing mix for develop a suitable research framework for studying the travel behavior of Malaysian tourists in Songkhla province using big bikes.

Keywords: Travel behavior, big bike, Malaysian tourists

Introduction

Currently, the tourism industry remains a key economic driver for many countries around the world, including Thailand. In 2024, Thailand's total tourism revenue reached 2.76 trillion baht, with 1.83 trillion baht from international tourists and 0.93 trillion baht from domestic tourism by Thai citizens (Tourism and Sports Economics Division). Furthermore, tourism has a ripple effect on many business sectors, considering its value-added benefits, job creation, and income distribution to local communities across the country. However, this also means that the tourism industry faces increased competition, requiring businesses to adapt and seek new avenues for expansion, attract new customer segments, or create unique selling points to gain a competitive advantage.

The forms of tourism in 2025 will be more diverse than before, leading today's tourists to have different purposes and goals for travel, whether it's nature tourism, cultural tourism, religious tourism, medical tourism, health tourism, activity and sports tourism, or niche tourism.

However, most tourists are well-informed about the places they want to visit and plan their trips carefully, thanks to digital technology and innovations that have made travel more convenient. This is mostly used for researching and gathering information about tourism, and travel

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experiences are widely shared online. This makes it necessary for tourism businesses looking to penetrate new tourism segments to create memorable experiences for tourists, add various amenities, and integrate technology into their businesses. The tourism industry is often characterized by constantly changing expectations and competition. Both customer satisfaction standards and the need to adapt business plans to align with changing consumer behavior are crucial. Entrepreneurs should focus on developing unique selling points that differentiate them from competitors in the same industry, creating added value for both products and services, and offering novel and distinctive experiences unique to each locality.

One of the emerging and growing tourist segments in Thailand is tourists who enjoy riding large motorcycles, or big bikes, which are becoming increasingly popular. This is reflected in the Thai big bike market, which has shown continuous growth every year. In particular, over the past 5 years, there has been high growth of 20-30% per year. Starting from 2020, with 13,423 registrations, in 2021 there were 16,603 registrations, in 2022 there were 19,962 registrations, in 2023 there were 23,985 registrations, and in 2024 there were 27,000 registrations. It is projected that by 2025, the number of big bikes will increase to 34,000 units, and this trend is expected to continue rising over the next 5 years. The figures clearly show that the big bike market is experiencing rapid growth, driven by government policies promoting investment in the domestic production of large motorcycles.

This has led to foreign manufacturers establishing production bases in the country, significantly lowering domestic prices. This has led to foreign car manufacturers investing in production bases in the country, significantly lowering domestic prices. Coupled with the emergence of over 13 Big Bike brands from Europe, America, China, and Japan, and service centers distributed throughout Thailand, along with the entry of commercial banks offering Big Bike financing, consumer accessibility has been much greater than five years ago. The primary target customers are high-income individuals with high purchasing power, lower risk of bad debt, and less susceptibility to economic fluctuations than general motorcycle customers.

Riders or owners of large motorcycles view big bikes as lifestyle products that reflect their identity. This is a result of motorcycle manufacturers developing a wider variety of sub-segments to cater to the diverse uses and lifestyles of increasingly individualistic consumers. This is combined with a new form of marketing communication that doesn't focus solely on functional benefits, but rather on emotional value, to convey that motorcycles are not just vehicles for daily routines, but also a trusted companion that can go everywhere with you. Most big bike riders use them primarily for tourism and to create experiences different from the general public, such as riding into forests, climbing mountains, or accessing new tourist destinations that are inaccessible by conventional transportation.

Thailand shares borders with four neighboring countries: Cambodia, Laos, Myanmar, and Malaysia. In the southern region, four provinces border Malaysia: Songkhla, Satun, Yala, and Narathiwat. These provinces share borders with four Malaysian states: Kelantan, Perak, Kedah, and Perlis, which are located in northern Malaysia. There are 7 interconnected land immigration checkpoints, comprising: 1) Narathiwat Province, with 2 land immigration checkpoints: Suai Kolok Immigration Checkpoint in Suai Kolok District and Buketa Immigration Checkpoint in Waeng District; 2) Yala Province, with 1 land immigration checkpoint: Betong Immigration Checkpoint in

Betong District; 3) Songkhla Province, with 3 land immigration checkpoints: Ban Prakop Immigration Checkpoint in Na Thawi District, Sadao Immigration Checkpoint in Sadao District, and Padang Besar Immigration Checkpoint in Sadao District; 4) Satun Province, with 1 land immigration checkpoint: Wang Prachan Immigration Checkpoint in Khuan Don District.

Songkhla province has the highest value of border trade with Malaysia. In 2024, the total value of Thai-Malaysian border trade was 306,679 million baht. This is due to Songkhla being a major center for rubber processing, rubberwood processing, and seafood processing industries in southern Thailand. In addition, Songkhla province boasts a diverse range of tourist attractions. Songkhla boasts numerous natural attractions, including beautiful beaches like Chalatat Beach, cultural and historical sites such as the old town with its Sino-Portuguese architecture, shopping areas in Hat Yai city, and border towns like Sadao. It also hosts important festivals such as the Vegetarian Festival, Songkran, and the Chakkraphra tradition. Convenient transportation links, including railways, roads, and Hat Yai International Airport, make Songkhla a central hub for trade, transportation, investment, and tourism in lower southern Thailand.

Although the violence in the 3 southern border provinces has impacted the province's economy and tourism, Songkhla continues to experience growth in tourism and investment. Data from the Tourism Authority of Thailand indicates that a large and growing number of Malaysian big bike tourists are visiting Thailand each year. Malaysian big bike tourists are increasingly traveling to Thailand during Malaysian holidays such as Chinese New Year and school breaks, as well as to participate in important Thai festivals such as Songkran and Loy Krathong. These Malaysian big bike tourists enter Thailand through the Sadao border crossing, which is the main border checkpoint.

Globalization and the entry into the ASEAN Economic Community have brought about changes and impacts on border tourism in several ways. These include contributing to an increase in the number of tourists, the ASEAN Community reducing travel restrictions, streamlining immigration procedures, and developing transportation infrastructure connecting countries, all of which have led to a significant increase in the number of tourists visiting Thailand. Furthermore, the development of information technology, which has made travel information more accessible to people worldwide, coupled with social networks that help disseminate travel information, share experiences, travel routes, and facilitate cross-border travel, has transformed travel and led to an increase in personal travel.

Particularly in Songkhla province, there has been an increase in international tourism by big bike. As tourism evolves, businesses related to the tourism industry need to adapt to meet the changing demands of tourists, based on the readiness and capabilities of tourism operators.

This led to the research question: "What are the travel behaviors of Malaysian tourists using big bikes in Songkhla province?" The objectives of this study are to develop a research framework on the travel behaviors of Malaysian tourists using big bikes in Songkhla province, to enhance the capacity of tourism businesses in Songkhla to prepare for potential impacts, and to propose policy guidelines for the government and strategies for the private sector to adapt in order to provide appropriate and impressive services to this group of Malaysian big bike tourists.

Research Objectives

The objective of this research is to develop a research conceptual framework by study examines the concepts, theories, and various factors related to the travel behavior of Malaysian tourists visiting Songkhla province by big bike.

Literature Review

The research team studied relevant documents, concepts, theories, and research, dividing the literature review into 5 themes as follows:

1.Concepts and theories related to tourism

The International Association of Scientific in Tourism (IASET) defines tourism as temporary travel from a permanent place of residence to another, excluding activities related to earning money. Based on this definition, tourism has 5 important characteristics (Boonlert Jittangwattana, 2005), as follows: 1) Tourism is the movement of people from their permanent residence to different places 2) Tourism must have two main principles: traveling to a destination and staying overnight 3) The travel and overnight stay must not be at the place of permanent residence or work, and the activities during the stay must be different from those of the local people 4) The journey to the destination must be temporary, for a short period of time, with a plan to return within 180 days and 5) The destination must be for tourism or visiting purposes only, not for permanent residence or work.

The Tourism Development Office, Ministry of Tourism and Sports (2003) defines tourism as travel for the purpose of relieving stress and seeking new experiences, with the condition that the travel is temporary and the traveler is not forced to travel.

Paitoon Pongsabut and Vilas Wongpongsabut (1909) define tourism as visiting a foreign place that is not the person's permanent residence, and that the visit is temporary and not for the purpose of employment.

Nisa Chatchakul (2008) defines tourism as a journey from one point to another, from the starting point to the destination. It must consist of at least three factors: 1) travel, 2) overnight stay, and 3) eating out.

From this definition, it can be concluded that tourism is a temporary, voluntary journey from a person's usual place of residence to another location, without the purpose of employment or earning income. Therefore, the characteristics of tourism can be classified into three types: 1) temporary travel from one's usual place of residence to another; 2) voluntary travel; and 3) not for employment or earning income.

The objectives of tourism are so diverse that they have given rise to many different forms of tourism. Scholars have described the objectives of group tourism into three main groups, as follows: 1) Holiday tourism, such as travel for leisure and visiting relatives in other areas; 2) Business tourism, such as travel for conferences, bidding on projects, and organizing seminars; and 3) Travel for other purposes, such as educational trips, health treatments, sports, religious activities, etc.

Tourism comes in many forms. Here, travel can be broadly categorized into 3 types: 1) Tourism based on travel arrangements, 2) Tourism based on travel style and residence, and 3) Tourism based on the purpose of the trip.

Businesses that support travel and tourism activities are collectively called "tourism businesses." Tourism businesses may be products or services produced to meet the needs of tourists and locals, or they may be businesses specifically involved in producing goods and services to meet the needs of tourists. The tourism business is therefore related to production in many fields. Generally, the tourism industry comprises six main business sectors: 1) Tour operations, 2) Accommodation, 3) Food and beverage, 4) Souvenir and merchandise sales, 5) Transportation, and 6) Recreation and entertainment.

2. Concepts related to large motorcycles

Big bikes are motorcycles with an engine displacement of 250 cc or more. In Thailand, they are becoming increasingly popular due to lower prices and the availability of big bike financing from leading banks, making them more accessible and affordable for consumers. As a result of the government's policy adjustments in 2022 to promote investment in big bike production, more foreign companies have established manufacturing bases. This has led to a significant increase in both exports and domestic sales of large motorcycles from 2023 to the present.

Motorcycles can be classified according to two main criteria:

1) Classification of motorcycles by engine size using the Japanese Hazardous Sub region (HS) Code as a criterion, which can divide motorcycles into 4 categories as follows:

1.1 Lightweight motorcycles are classified under HS codes 871110 and 871120, referring to motorcycles with engine displacement of 50-250 cc.

1.2 Middleweight motorcycles are classified under HS code 871130, referring to motorcycles with engine displacement of 251-500 cc.

1.3 Heavyweight motorcycles are classified under HS code 871140, referring to motorcycles with engine displacement of 501-800 cc.

1.4 Super Heavyweight motorcycles are classified under HS code 871150, referring to motorcycles with engine displacement of 800 cc and above.

2) Based on the UN/ECE definition, motorcycles can be divided into three categories:

2.1 Mopeds are in category L1e, meaning two-wheeled vehicles with a cylinder capacity of no more than 50 cc and a speed of no more than 50 km/h. They resemble bicycles with motors.

2.2 Scooters are in category L3e, meaning two-wheeled vehicles with a cylinder capacity of more than 50 cc and a speed of more than 50 km/h. They are characterized by a large windshield, a fuel tank under the seat, and an engine designed for low torque at low RPMs, unable to achieve high speeds. They are intended for general use, suitable for short distances, typically not exceeding 100 km.

2.3 Motorcycles are in category L3e, which refers to two-wheeled vehicles with a cylinder capacity of more than 50 cc and a speed of more than 50 km/h. They typically have the fuel tank located in the middle between the seat. These are large motorcycles similar to scooters but with a larger cylinder capacity. They can also be further subdivided into several categories based on their usage, as follows:

2.3.1 Cruiser / Custom (Chopper / Bobber): This type of motorcycle is built according to the rider's taste and can be customized or rebuilt as desired. The engine emphasizes low RPM and moderate speed, focusing on group touring. The riding posture prioritizes comfort, with a low seat, high handlebars, both feet extended forward, and gear and brake levers at a comfortable foot-level position.

2.3.2 Sport/Performance: These motorcycles have a shape similar to race cars on a track, meaning they are aerodynamically designed for high-speed driving. The handlebars are low and far from the seat, requiring the driver to crouch down constantly to minimize wind resistance. In addition, the motorcycles are designed to be lightweight for good acceleration, and the engines emphasize torque and horsepower at high RPMs.

2.3.3 Touring: These motorcycles are designed for long-distance riding. They are large and heavy, with large engines and large seats. The driving posture is designed to maximize comfort for both the driver and passengers, and they are equipped with luggage racks and various amenities for long-distance travel.

3. Concepts and theories related to decision making

McGrew and Wilson (1982) defined decision-making as choosing from available alternatives or options.

Williams (2002) Decision-making is a process, not a static, unchanging action. On the contrary, the decision-making process involves the environment or surrounding factors in the consumer's decision-making process. The decision-making process is part of consumer behavior, whether it's the decision to purchase goods, general consumer products, or the "consumption" of goods and services in the tourism sector. The purchasing decision process consists of 5 steps: 1) Need Recognition 2) Information Search 3) Evaluation of Alternatives 4) Decision- Making of Purchase and 5) Post Purchase Behavior.

Suphawadee Boonyawong (1985) described decision theory as a theory that shows the cyclical nature of the decision-making process, which can be divided into the following steps:

1) Define the goal of the choice by setting alternatives; there may be several alternatives.

2) Gather information about those alternatives, such as tourist destinations, ease of travel, and costs of accessing the tourist destination. Also, gather information about yourself, such as interests, values, abilities, and attitudes.

3) Compare the information about the tourist destination that you have gathered with the information about yourself to decide on the possibilities and the potential consequences after making a choice.

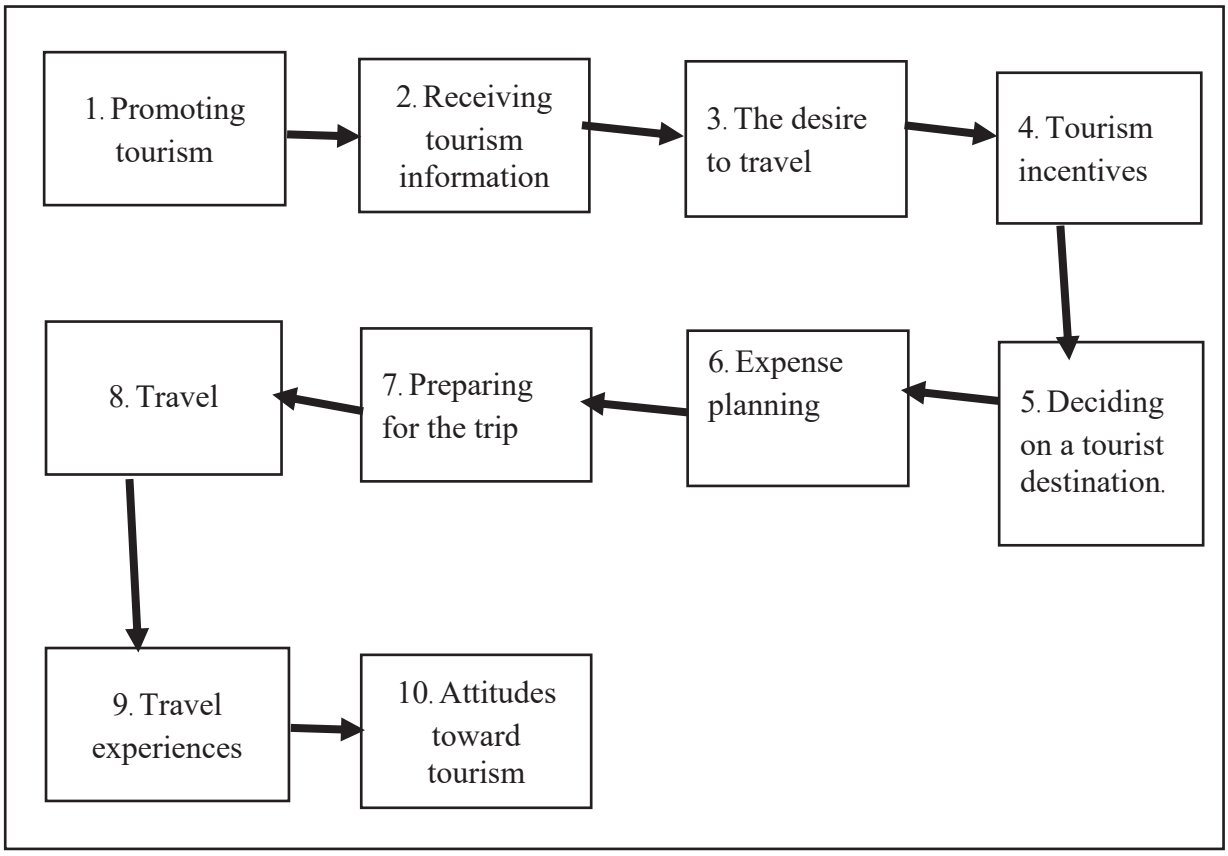
4) Clarify or gain a basic understanding of one's own values, and then incorporate them into the decision-making process when choosing the most interesting travel destination.

5) Evaluate all options and make a decisive decision, or conduct further research. If it's a decisive decision, the individual will re-evaluate the decision for reassurance. If it's a decision requiring further research, the individual will return to the first step and repeat all steps until a decision is made, based on the initial concepts and theories.

In summary, decision-making is the process by which an individual thinks and considers how to systematically solve a problem. It involves gathering information and defining the problem, analyzing the information and determining alternatives, and then making a decision to choose the option that will lead to a predetermined goal in a step-by-step manner.

Boonlert Jittangwattana (2000) described the travel decision-making process as follows: When an individual want to travel, they will first decide where to go, what type of service to use, and how long the trip will last. This travel decision-making process can be divided into 10 steps, Show in figure 1.

Figure 1: Chart showing the travel decision-making process of tourists



Source: Boonlert Jittangwattana (2000).

4. Concepts and theories related to tourist behavior

Tourist behavior refers to an individual's expression while engaging in tourism activities. It stems from several factors that influence decisions and actions. According to Cronbach (1972) and its application to tourism, seven key components can be identified:

1) Goal: Every tourist behavior arises from a specific goal or need. For example, conservation-minded tourists may aim to create prestige and demonstrate to others that their travels

do not harm the environment and maintain the integrity of the ecosystem. This goal is the primary motivation that dictates the actions and activities tourists choose to engage in.

2) Readiness: Readiness refers to the level of ability, maturity, and physical and mental condition of the tourist necessary to achieve the activity's goals. For example, tourists who love adventure and enjoy mountain climbing or other challenging activities must be physically fit, have the skills and knowledge about those activities, and be mentally prepared to cope with risks or obstacles during the trip.

3) Situation: Situation refers to external factors or events that are conducive to carrying out the activity or may be obstacles in meeting the needs. For example, when traveling to islands, it is advisable to choose a time when the sea is calm and avoid traveling during thunderstorms. The environment and context of the location affect the decisions and behavior of tourists.

4) Interpretation: Before taking action, tourists consider and interpret the situation to choose the most appropriate method or timing to meet their needs. For example, a tourist might decide that lunchtime is the best time to stop and have a break, or choose the safest route for each activity. This interpretation helps tourists make rational and efficient decisions.

5) Response: This involves taking action based on the decisions made from interpreting the situation. For example, a tourist decides to travel during a holiday to relax, so they must plan the trip, manage tourist attractions, book accommodations, prepare equipment, and organize various activities in advance to achieve their set goals.

6) Consequences: Results occur after the tourist's actions and may align with expectations or differ from intentions. For example, a tourist may plan a relaxing holiday, but a protest at the airport prevents flights from landing, disrupting their vacation plan. These results reflect the actual experience and success of the trip.

7) Reaction to Thwarting: If the outcome is not as expected, tourists may experience disappointment. This provides an opportunity to re-evaluate and reinterpret the situation. They may adjust their response, seek alternative activities, or sometimes even abandon their desire because they perceive it as beyond their capabilities or impossible to achieve.

Therefore, tourist behavior is an expression of individuals directly related to the use of goods and services in the tourism industry, as well as the decision-making process that influences their expressions in various aspects of their travel.

The most basic way to define tourist behavior is to divide tourists into two groups based on their travel characteristics: 1) Tourists and 2) Travelers. Tourists are individuals who purchase all-inclusive tour packages from a tour company, while travelers are individuals who plan their own trips, such as buying their own flights, booking their own accommodations, and choosing their own itinerary.

Perreault and Dorden (1979) proposed 4 models of tourist behavior:

1) Budget Travelers: Generally, these travelers have moderate incomes but seek low-cost vacations or trips.

2) Adventurous Travelers: These travelers are well-educated and have moderate to high incomes. They enjoy adventurous activities during their vacations or trips.

3) Vacationers Travelers: This is a small group of travelers who often take time to plan their next trip, including where and how to travel. This group is relatively enthusiastic but has relatively low incomes.

4) Moderate Travelers are tourists who love to travel but are not interested in weekend getaways or sports; they prefer long-duration trips.

5. Concepts and theories related to the marketing mix

The concept of the marketing mix, or 4 Ps, consists of Product, Price, Place, and Promotion. These factors are stimuli that influence buyer behavior, evoking feelings and creating desires. These desires arise from seeking information about things that can satisfy those desires, a process known as information searching, which leads to decision-making and ultimately, purchasing behavior—the fulfillment of one's own needs. Or what we call information searching to make purchasing decisions and resulting in purchasing behavior that satisfies one's own needs. These stimuli can be divided into 1) Inside Stimulus, it is something that causes a physical or mental imbalance in the body, leading to a need to restore that balance, and 2) External Stimulus These are stimuli related to the marketing mix that marketers develop and use to make buyers aware of imbalances, generate needs, and ultimately lead to purchases.

5.1 Product

Product refers to anything that satisfies consumer needs, providing them with benefits and value. Generally, products are divided into two types: tangible products, also known as general goods, and intangible products, which are in the form of various services. In the tourism industry, products are intangible, categorized as experiential products that emphasize time and the value of experiences occurring at a specific point in time. They can be seen and felt.

Therefore, tourist attractions can be classified as service products. Examples include customer service, travel planning consultation, adapting conditions to customer needs, payment services, online booking and reservation, guarantees, and customer satisfaction.

5.2 Price

The monetary value of a product is considered when consumers purchase goods or services. Consumers typically compare the perceived value of the product or service with its price. For example, if consumers perceive the value of the product or service as higher than its price, they will likely make a purchase based on that price. Therefore, pricing for goods, services, or activities should be appropriate to the quality of the product or the level of service provided by the provider. Furthermore, it should take into account the market average value in each area and time period.

Factors to consider when pricing goods and services in the tourism business include:

1) Characteristics of the target customer group or tourists. Tourist groups are diverse and can be differentiated in terms of physical attributes, age, gender, income, and personal preferences,

such as prioritizing quality over price, or not caring much about quality but focusing on lower prices.

2) The objectives of the entrepreneur or owner of the tourist attraction that they communicate.

3) Long holidays, festivals, or peak tourist seasons. During periods with a large number of tourists, the entrepreneur has more bargaining power in setting or increasing prices.

4) The size of the purchase. For large quantities, the entrepreneur or owner of the tourist attraction may be willing to sell goods to consumers at a lower price than for smaller quantities. For example, tourists traveling in groups may receive larger discounts than those booking only one room, in order to incentivize purchases.

It can be seen that price is a crucial element influencing consumer behavior, especially during the evaluation of alternatives and purchasing decisions. From the consumer's perspective, when evaluating alternatives, they consider the appropriateness of the price, value for money, and compare prices with other products. In the context of pricing tourism products, such as travel to tourist destinations, tourists consider the appropriateness of the entrance fee, the value for money of the visit, and the overall cost of the trip compared to other tourist destinations. This means that price information is a vital part of the decision-making process in marketing, aiming to attract attention and stimulate the target market to become buyers and consumers.

5.3 Place

In the tourism business, the owner of the tourist attraction is considered the producer. The producer needs to determine where their product should be sold to make it convenient for consumers. This may involve selling directly to consumers or going through intermediaries to distribute the tourism products. Selling through intermediaries for tourism products means that tour operators have travel agents. Conversely, selling directly to consumers sometimes means consumers want to choose their own products, such as selecting their own airline, hotel, or tourist destination.

Factors to consider in managing distribution channels include the delivery channels for tourism products and services. This includes delivering information and services to buyers or consumers conveniently and reaching the target audience most effectively.

5.4 Promotion

This is a crucial aspect of customer communication, aiming to inform customers or persuade them to purchase goods and services through special offers. It's also a marketing activity designed to raise awareness of products and services.

Marketing promotion can change consumer attitudes from indifference to desire, or from negative to positive. It can be implemented in various ways, for example:

1) Advertising through television, radio, print media, and billboards. Currently, there is a significant amount of online advertising available on platforms like Facebook, Line, and Instagram. These channels have made information and promotions easily and quickly accessible to consumers.

2) Public relations involves educating people about an organization or business, building a positive image, and focusing on information dissemination rather than aggressive persuasion. Examples include newsletters, news releases, and press releases.

3) Direct sales involve direct interaction with customers, who may be distributors or consumers. This can be done through visits to inform them of new information, or by providing training to distributors in various areas to encourage them to create unique tour programs.

4) Sales promotion aims to accelerate consumer purchasing decisions. This may involve participating in travel fairs that offer opportunities to meet target groups and providing discounts or special offers during specific periods within the event.

5) The production of audiovisual materials such as brochures, posters, maps, films, and photographs is another tool that helps consumers make informed decisions, plan their trips, and see examples of the actual location before actually visiting the product or place.

Relevant literature and research

Suwicha Sritan and Preeda Chaiya (2017). This research aimed to study the perceptions and motivations of Thai tourists towards tourist attractions in Mae Chaem District, Chiang Mai Province, during their holidays, based on the opinions of 400 Thai tourists selected using convenient sampling. Quantitative data was collected using questionnaires, with descriptive statistics (mean and standard deviation) and inferential statistics (ANOVA and Factor Analysis). The research findings showed that most Thai tourists have a relatively high to very high level of awareness regarding travel to Mae Chaem District, Chiang Mai Province, across all factors (5.14–5.77). The top 5 factors influencing tourist decisions to visit are: 1) awareness of the beauty of the tourist destination, 2) awareness of the abundance of natural resources in the tourist area, 3) awareness of responsibility towards tourists, 4) awareness of the unique local identity, and 5) awareness of sincerity in service. Furthermore, three main components were found to be most important in influencing travel to Mae Chaem District: the readiness of hospitality and basic infrastructure, followed by the unique traditions, arts, and culture, and finally, the physical and environmental aspects of the tourist destination.

Nantaporn Sriwilai et al. (2013) studied factors influencing the decision to choose to travel to Nakhon Phanom Province. This article aims to study the factors influencing the decision to travel to Nakhon Phanom Province and to compare these factors categorized by gender, age, education level, total monthly income, occupation, and place of residence. The population used in this study consisted of tourists visiting Nakhon Phanom Province, totaling 152,549 people. A sample size of 400 people was determined. The research instrument used was a questionnaire. Statistical analysis included percentages, means, standard deviations, t-tests, and F-tests. The research findings revealed that: 1) Two variables influenced the decision-making of tourists visiting Nakhon Phanom province: accommodation and the information received. 2) A comparison of the factors influencing the decision-making of tourists visiting Nakhon Phanom province was also conducted. The study found that sample groups with different genders, ages, total monthly incomes, education levels, and places of origin perceived no significant differences in the factors influencing tourists' decisions, both overall and in specific aspects related to accommodation and the information

received. However, sample groups with different occupations perceived statistically significant differences ($p < .05$) in the factors influencing tourists' decisions, both overall, related to accommodation, and related to the information received.

Chadakorn Sathit (2013) studied the factors influencing Thai tourists' decisions in choosing accommodation in Wang Nam Khiao District, Nakhon Ratchasima Province. The objective was to examine the 7Ps marketing mix: product, price, distribution, promotion, personnel, physical characteristics, and process, as well as to study the motivational and image factors that influence Thai tourists' decisions to choose accommodation in Wang Nam Khiao District, Nakhon Ratchasima Province. The sample group for this study consisted of Thai tourists who traveled and stayed overnight in Wang Nam Khiao District in 2013. Non-probability sampling was used, specifically the accidental sampling method. Data was collected using a five-level questionnaire. Data was analyzed using statistical software to determine the mean, standard deviation, and multiple regression analysis. The results of the study examined the 7Ps marketing mix factors in the service industry. The study found that location and personnel factors, overall, had a significant influence on accommodation choices, with mean values of 3.98 and 3.64, respectively. Product factors, physical characteristics, price, service processes, and marketing, overall, had a moderate influence, with mean values of 3.33, 3.30, 3.18, 3.16, and 2.99, respectively. Motivational factors, specifically status and reputation and physical attributes, had a moderate influence, with mean values of 3.30 and 3.05, respectively. Cultural and interpersonal motivational factors had a weak influence, with a mean value of 2.02. Image factors, including environment, impression, attitude, and information channels, had a moderate influence, with mean values of 3.22, 3.17, 2.92, and 2.74, respectively. A study on the decision-making process of Thai tourists choosing accommodation in Wang Nam Khiao District, Nakhon Ratchasima Province, revealed that the sample group prioritized location the most, with an overall average of 4.33. Room condition, room rates, and staff hospitality were rated high, with averages of 4.30, 3.72, and 3.53 respectively. Safety and reputation were rated moderately, with averages of 3.02 and 2.93, while in-room amenities were rated low, with an average of 1.95.

Yanin Changlam (2025) conducted a qualitative research study on the tourism behavior of Thai tourists in Ayutthaya Province. The study involved in-depth interviews with 10 informants who had traveled in the past six months. The informants were selected using purposive sampling and divided into two groups: five overnight travelers and five day-trippers. Data was analyzed using descriptive and triangulation techniques, comparing data between groups and linking it to relevant literature. The results showed that tourist characteristics such as age, occupation, and income significantly influenced their travel behavior and patterns. Simultaneously, tourist attraction components such as beauty, comfort, and attractiveness were important factors influencing travel decisions. The decision-making process stemmed from the alignment between personal needs and the characteristics of the attraction, leading tourists to be more likely to repeat visits when the attraction met their needs. This research therefore enhances understanding of the relationship between tourist characteristics, attraction components, and decision-making behavior, which is beneficial for tourism development planning, especially in cultural tourism cities.

Kachent Wattanakosol (2025) conducted research on tourist behavior and needs towards natural tourist attractions in Bueng Kan Province. Using a quantitative research methodology with a randomly selected sample of 400 tourists in the area, the research instrument was a questionnaire. Data was analyzed using descriptive and inferential statistics. The findings revealed that most tourists were locals, preferred traveling with close friends, were first-time visitors, traveled by private car, spent no more than 5,000 baht, chose popular destinations found online, and preferred overnight stays at resorts for relaxation. The most popular destination was Phu Sing Wildlife Sanctuary. Regarding tourism needs, the research found a high level of demand, with the highest demand for tourism personnel and the lowest for tourism products. Furthermore, personal factors such as age, education, occupation, and income significantly influenced tourist behavior and needs, except for gender, which showed no significant difference. The research concluded that the seven components of the marketing mix can be used as a guideline for the effective development and management of natural tourist attractions in Bueng Kan Province.

Wanida Mana (2013). This research aimed to study the factors influencing Thai tourists' decisions to visit the Royal Ratchaphruek Park. The researcher used a quantitative method with a questionnaire administered to a sample of 400 Thai tourists visiting the Royal Ratchaphruek Park. The factors influencing the decision to visit the park were ranked according to the respondents' opinions, and the data was analyzed using basic percentage statistics. The results showed that the respondents' opinions regarding the factors influencing their decision to visit the Royal Ratchaphruek Park varied. The researcher ranked the eight factors from most to least liked by the respondents as follows: The most liked factor was the product, followed by the tourism program (Programming), then the personnel (People), and finally the channels (Channel, etc.). The most important factor in the survey was distribution, ranked 5th; followed by process factors (Process), 6th; business partnerships and alliances (Partnership), 7th; and promotion factors (Promotion). The factor that received the least positive feedback from respondents was price (Price).

Siripen Dabphet (2011). This research aimed to study the demographic characteristics and tourism behavior of first-time and repeat tourists, as well as to examine the attraction factors, push factors, and tourism components that influence tourists' choice of tourist destinations. This quantitative research used questionnaires to collect data from 400 Thai tourists. Statistical analyses included percentages, frequencies, means, standard deviations, and t-tests. The results showed that there were no significant differences in the demographic characteristics of first-time and repeat tourists. The majority of both groups were female, aged between 21-30 years, held a bachelor's degree, and had an average monthly income of approximately 5,000-10,000 baht. However, when considering the tourism behavior of the two groups, differences were found in their travel purpose, the tourist attractions visited, and the decision-making process in choosing tourist destinations. The push factor that attracted both groups to the tourist destination was their interest in historical sites. The attraction factor influencing first-time tourists was the availability of tourism resources and the ease of travel and access to the tourist destination. While tourism resources are an attractive factor that encourages repeat visits to a destination, the tourism element that influences the choice of destination for both groups of tourists is transportation.

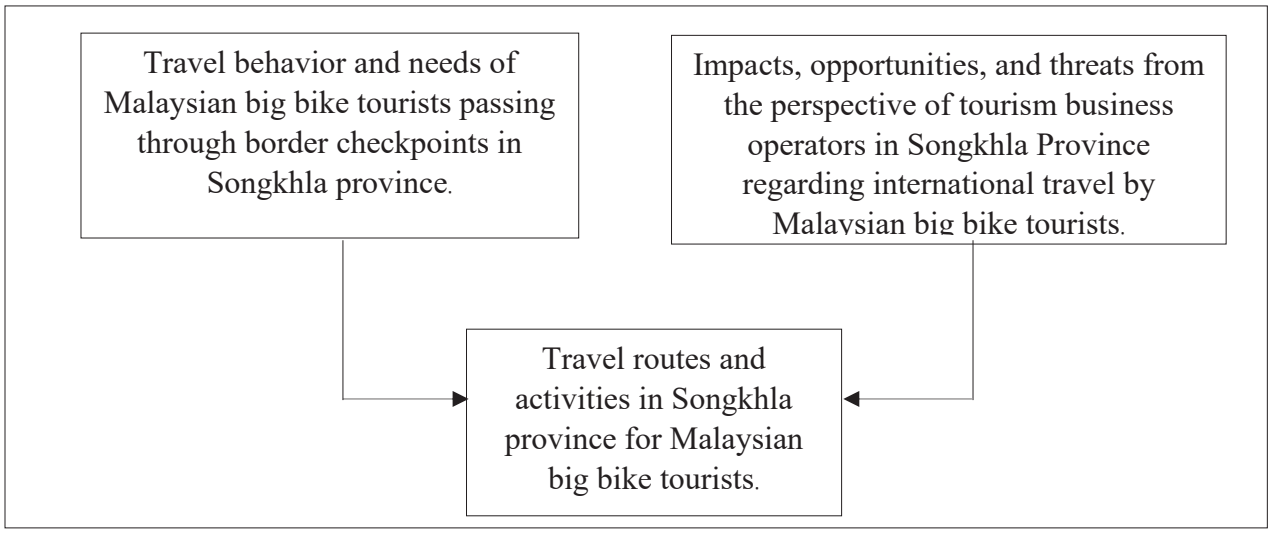
Research Methodology

This is a documentary research study using secondary data from relevant documents and research to investigate, analyze, and synthesize information. It examines theoretical concepts and various components to develop a research framework related to the travel behavior of Malaysian tourists using big bikes in Songkhla province.

Results

The outcome of this research is the development of a research framework to study the relationship between travel behavior and motorcycle (big bike) usage among Malaysian tourists in Songkhla province.

Figure 2. Research Conceptual Framework



Source: Research team

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Developing a Conceptual Framework of Agri-tourism under a Cross-Border Tourism Context

Teeraporn Tongkachok[1] and Cheewanan Kunpitak[2*]

Abstract

This article aims to develop a conceptual framework that explains the development of agritourism within the context of cross-border tourism. agritourism in a cross-border tourism. Using a qualitative design, it systematically reviews and synthesizes academic and policy literature from 1994 to 2025. Applying thematic analysis to integrate three theoretical domains: agritourism potential, tourism route development, and cross-border mobility.

The results of the review led to the creation of a detailed framework that linked three important parts: 1) the area's potential for agricultural tourism, which includes how well it can manage tourists, provide services, and attract visitors; 2) elements of the agricultural tourism route, such as available resources and activities, the layout and order of stops, the route's identity and theme, collaboration among stakeholders, and necessary infrastructure; and 3) the situation of cross-border tourism, which involves frequent, short-distance travel by land and a focus on convenience and safety. This conceptual framework clarifies the systemic relationships between agritourism potential, agritourism routes, and cross- border tourism conditions, thereby establishing a foundation for future empirical research.

The practical implications enable local authorities to design agritourism routes, thereby supporting sustainable community-based tourism and equitable income distribution in border areas.

Keywords: Agri-tourism, Cross-Border Tourists and Conceptual Framework

Introduction

Agri- tourism has gained increasing attention worldwide as a tourism form that integrates agricultural resources, farmers' livelihoods, and local knowledge into experiential learning for visitors, contributing to income diversification and sustainable grassroots economic development (Phillip, Hunter, & Blackstock, 2010; Barbieri, 2013). In Thailand, agri-tourism has been employed as a policy tool to strengthen rural communities, reduce inequality, and add value to the agricultural sector. In response, government agencies and relevant organizations have established systematic standards, guidelines, and management mechanisms for agri- tourism and community- based tourism to support sustainable development across economic, social, and environmental dimensions (Lane & Kastenholz, 2015; Global Sustainable Tourism Council, 2018; Na Songkhla & Somboonsuke, 2012).

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Agrotourism is increasingly recognized as a key strategy for strengthening grassroots economies and advancing sustainable development, particularly in areas with strong cross-border connectivity. In Thailand's lower southern region, it serves a strategic function as both an international travel corridor and a destination for cross-border tourists from neighboring countries, especially Malaysia, whose numbers have steadily increased (Tepsongkhla, 2007; Tourism Malaysia, 2024). These tourists differ from typical international visitors in their preference for short, frequent, and independent trips, often using private vehicles and traveling with family members or small groups, reflecting the growing trend of self-drive tourism along the Thailand–Malaysia border (Azmi, 2011; Tourism Malaysia, 2024). Such characteristics generate distinct demands regarding activity design, travel duration, and accessibility, setting border-based agrotourism apart from conventional agrotourism contexts.

Although many border areas possess agricultural and community-based cultural resources suitable for agrotourism development, the design and management of agrotourism routes that respond effectively to the characteristics and needs of cross-border tourists remain limited. Existing studies in Thailand have largely examined agrotourism potential, impacts, or route development within domestic contexts, including the southern region and other areas (Na Songkhla & Somboonsuke, 2012; Nacknoppakhun, 2023). However, research explaining the conceptual relationship between area-based agrotourism potential and the suitability of agrotourism routes—particularly in cross-border contexts characterized by distinct travel patterns and motivations—remains scarce. This gap underscores the need for a theoretical framework that links agrotourism potential with route development capable of effectively accommodating cross-border tourists, serving as a foundation for future empirical research and context-sensitive agrotourism planning in border areas.

Objectives

To systematically review and synthesize the literature on agri-tourism, tourism route development, and cross-border tourism in order to develop an integrated conceptual framework for agri-tourism in a cross-border context

Literature Review

1. Concept of Agri-tourism

1.1 Definition of Agri-tourism

The academic literature provides a range of definitions of agritourism proposed by various scholars, as outlined below

The Department of Tourism, Ministry of Tourism and Sports (2010) defines agri-tourism as tourism that emphasizes learning about rural agricultural livelihoods through tourists' participation in farming activities, aiming to enhance cultural understanding while generating economic benefits alongside conservation.

Rattanawanna (2019) views agri-tourism as tourism based on natural environments and agricultural activities, such as crop cultivation, animal husbandry, integrated farming, fisheries, orchards, and

organic agriculture, highlighting the diversity of activities that can be developed as tourism attractions.

Similarly, the Office of Technology Development and Transfer, Agricultural Land Reform Office (2022) characterizes agri-tourism as tourism that integrates learning and recreation in agricultural areas or farming communities through hands-on participation, grounded in environmental and ecosystem conservation.

From an international perspective, Sahoo et al. (2023) conceptualize agri-tourism as a business model that integrates agricultural production or processing with tourism to provide learning experiences, enjoyment, and income generation, while Business Events Thailand (2023) emphasizes farm-based travel involving nature experiences and agricultural activities.

Van Zyl, et.al. (2021) further highlight agri-tourism as farm visits for recreational, educational, and commercial purposes, with a strong emphasis on authentic on-farm experiences.

Synthesizing these perspectives, agri-tourism can be defined as a form of tourism grounded in agricultural resources, farmers' livelihoods, and local culture, offering experiential learning through participation in agricultural activities to create value in learning, leisure, conservation, and community income generation.

1.2 Agri-Tourism Potential

The academic literature conceptualizes agri-tourism potential from multiple perspectives.

Phuong, et. al. (2024) approach agri-tourism potential through a multidimensional framework encompassing agricultural and climatic resources, local culture, policy support, infrastructure, environmental conditions, accessibility, and stakeholder participation, reflecting a systems perspective on sustainable development.

Phillip, Hunter, and Blackstock (2010) emphasize that agri-tourism potential depends not merely on landscape aesthetics or activities, but on the presence of active farming practices that enable authentic tourist–farm interactions.

In summary, agri-tourism potential is a broad term that refers to an area's ability to manage and grow its agricultural resources, livelihoods, culture, and natural resources in a way that supports sustainable, experience-based tourism.

1.3 Components of Agri-tourism Potential

Based on the Quality Standards for Agri-tourism Destinations proposed by the Department of Tourism, Ministry of Tourism and Sports (2010), this framework provides an appropriate basis for explaining agri-tourism potential, as it encompasses four key dimensions: management, carrying capacity, service provision, and attractiveness. The framework emphasizes destination quality enhancement grounded in participation, social responsibility, and environmental sustainability. Agri-tourism potential comprises four core components:

1) Management Potential

The capacity for systematic planning, governance, and resource management to ensure sustainable destination operations, including development planning, site management, safety, waste management, resource conservation, community participation, networking, and marketing.

2) Carrying Capacity and Support Facilities Potential

The readiness of a destination to provide adequate infrastructure, facilities, and basic services aligned with visitor needs and local environmental conditions, including accessibility, utilities, tourism information, visitor services, personnel readiness, and appropriate tourism periods.

3)Service Provision Potential

The ability to deliver meaningful visitor experiences through agricultural learning and hands-on activities, effective communication tools, product displays, seasonal programs, events, related services, and inclusive service delivery for diverse visitor groups.

4) Attractiveness Potential

The ability to create distinct and memorable experiences through local identity,
agricultural knowledge and technology, indigenous wisdom, tourism route linkages, unique product development, inspirational knowledge sharing, and the application of modern technologies.

Understanding agri-tourism potential is essential for agri-tourism route development, as it enables the design of routes and activities aligned with local strengths and readiness. Accordingly, this study adopts the framework of the Department of Tourism (2010) as an analytical basis for assessing area-based agri-tourism potential and guiding context-sensitive development strategies.

2. Concept of Agri-tourism Routes

2.1 Definition of Agri-tourism Routes

Lane (1994) explains that agri-tourism constitutes a component of rural tourism that integrates agricultural resources, rural livelihoods, and countryside landscapes into travel experiences, with "routes" functioning as mechanisms that link multiple attractions into a coherent journey while helping to mitigate environmental impacts.

Sharpley and Sharpley (1997) view agri-tourism routes as organized travel systems that connect agricultural activities, products, and local communities, thereby facilitating income distribution and generating economic value for rural areas.

Phillip et al. (2010) emphasize the importance of *working agriculture*, conceptualizing agri-tourism routes as tools for systematically sequencing learning activities and visitor participation based on active farming practices.

In summary, agri-tourism routes can be defined as the systematic organization and linkage of agricultural activities, resources, rural livelihoods, and community assets to create continuous tourism experiences that promote learning, visitor engagement, and sustainable area development.

2.2 Components of Agri-tourism Routes

Barbieri (2013) identifies the core components of agri-tourism routes as agricultural resources, learning activities, farmer participation, and business-oriented management, all of which contribute to economic value creation and sustainability.

Pedrosa, Martins, and Breda (2022) view tourism routes as stakeholder-based systems organized around a shared theme, functioning both as travel itineraries and collaborative networks. Accordingly, agri-tourism routes comprise four key elements: (1) route structure and configuration (e.g., linear, circular, or network-based forms connecting farms and communities); (2) thematic focus and product clusters guiding activity and site selection; (3) stakeholder collaboration among

farms, communities, public agencies, and tourism operators; and (4) infrastructure and visitor support, including accessibility, signage, facilities, and services aligned with visitor mobility and length of stay.

Similarly, Kastenholz et al. (2015) emphasize that high-value tourism routes should be experience-based, highlighting storytelling, place identity, and active stakeholder participation within local communities.

Moulin and Boniface (2001) distinguish two interrelated dimensions of agri-tourism routes: 1) the route level, which involves sequencing farm and community stops, managing travel distance and time, and designing coherent, story-driven travel experiences; and 2) the network level, which focuses on collaborative arrangements among farmers, local communities, tourism businesses, and public authorities for joint planning, standard-setting, management, and marketing.

Jenjitrsilp (2021) proposes that effective agri-tourism route development should incorporate: 1) tourism networks that integrate agri-tourism sites with nearby natural or cultural attractions rather than operating in isolation; 2) alignment with target groups, ensuring route design reflects tourist behavior (e.g., family-oriented or youth-focused routes); 3) appropriate duration, such as one-day trips or overnight programs aligned with activity intensity; and 4) accessibility and transportation, emphasizing convenience, safety, and clear wayfinding between route nodes.

Synthesizing these perspectives, the components of agri-tourism routes can be summarized into five dimensions:

1)agricultural resources and activities, including actively operating farms combined with learning and participatory experiences;

2)route structure and configuration, encompassing stop sequencing, travel distance and time, and route form adapted to local contexts;

3)themes, identity, and experiences, using food or agricultural themes to frame site selection, activities, and storytelling;

4)stakeholder networks and collaborative governance; and

5)infrastructure, accessibility, and alignment with target visitor groups.

3. Concept of Cross-Border Tourism

This section defines cross-border tourism and analyzes Malaysian cross-border tourist behavior.

3.1 Definition of Cross-Border Tourism

Timothy (1998) defines cross-border tourism as travel within and around border areas between two countries, in which tourists cross political boundaries for purposes such as leisure, shopping, or seeking experiences derived from differences between the two sides. Importantly, borders and border regions themselves may also function as tourist attractions.

Similarly, Boonchai and Freathy (2020) describe cross-border tourism as international travel occurring in border areas, driven by both economic and experiential motivations.

According to Wachowiak (2006), cross-border tourism is typically characterized by short-distance and frequent travel, largely due to ease of access and cultural familiarity within borderland regions.

In summary, cross-border tourism refers to international travel that takes place in border or transboundary areas, where tourists cross political boundaries for leisure, shopping, and experiential purposes. Such travel is commonly short in duration and facilitated by the accessibility and familiarity of border regions, encompassing both economic and cultural dimensions.

3.2 Tourist Behavior of Malaysian Cross-Border Tourists

Understanding the behavior of Malaysian tourists, who represent a key market for Thailand's border tourism, is essential for developing destinations aligned with market demand.

1)Socio-Demographic Characteristics

Previous studies indicate that Malaysian tourists visiting southern Thailand are predominantly in the early to middle working-age group (approximately 25–44 years), with a relatively balanced gender distribution and middle-income status (Kuncharin & Mohamed, 2011; The Nation Thailand, 2024). Many are repeat visitors who are familiar with the area, particularly Hat Yai, which serves as a primary destination (Kuncharin & Mohamed, 2011; Halal Times, 2024).

2) Travel Patterns and Mobility

Malaysian tourists typically enter southern Thailand by land through the Sadao–Bukit Kayu Hitam and Padang Besar border checkpoints, using private cars or vans (Praman, 2007; Bank of Thailand, Southern Region Office, 2024). Their trips are generally short and frequent, especially during weekends or public holidays, ranging from same-day visits to stays of one to three nights. Most travel as Free Independent Travelers (FITs), planning their trips independently (Market Research Thailand, 2025).

3) Consumption Preferences and Destinations

Malaysian tourists show strong preferences for local cuisine, particularly halal food and street food, as well as shopping for local products and souvenirs (Kuncharin & Mohamed, 2011; Praman, 2007). Popular destinations include Songkhla, Phatthalung, and Nakhon Si Thammarat (Market Research Thailand, 2025).

These behavioral patterns highlight opportunities to develop short-duration agri-tourism routes linking border cities with agricultural communities in ways that align with Malaysian travel characteristics.

Table 1 below synthesizes the conceptual framework components derived from the review of relevant literature on agri-tourism potential, agri-tourism route development, and cross-border tourism conditions, forming the basis of the integrated framework proposed in this study.

Table 1 Synthesis of Conceptual Framework Components

Domain	Dimensions/Sub-components	Key Sources
Agritourism Potential	Management Potential: Development planning, site governance, safety, community participation, networking, marketing	Department of Tourism (2010); Phuong et al. (2024)
	Carrying Capacity Potential : Accessibility, utilities, tourism information, visitor services, personnel readiness	Department of Tourism (2010); Naaksane & Phansawang (2018)
	Service Provision Potential : Agricultural learning activities, communication tools, seasonal programs, inclusive services	Department of Tourism (2010); Phillip et al. (2010)
	Attractiveness Potential: Local identity, agricultural knowledge, indigenous wisdom, unique products, technology application	Department of Tourism (2010); Kastenholz et al. (2015)
Agritourism Route Components	Agricultural Resources & Activities: Active farming practices, learning experiences, participatory activities	Barbieri (2013); Phillip et al. (2010)
	Route Structure & Configuration: Stop sequencing, travel distance/time, linear/circular/network forms	Pedrosa et al. (2022); Moulin & Boniface (2001)
	Themes, Identity & Experiences: Food/agricultural themes, storytelling, place identity	Kastenholz et al. (2015); Jenjitrsilp (2021)
	Stakeholder Networks: Farmer-community-agency collaboration, joint planning, standard-setting	Pedrosa et al. (2022); Moulin & Boniface (2001)
	Infrastructure & Target Alignment: Accessibility, signage, facilities, visitor mobility alignment	Jenjitrsilp (2021); Barbieri (2013)
Cross-Border Tourism Context	Travel Patterns: Short-duration stays, high-frequency visits, land-based mobility	Timothy (1998); Wachowiak (2006)

Domain	Dimensions/Sub-components	Key Sources
	Tourist Characteristics: FIT travelers, family groups, private vehicles, repeat visitors	Kuncharin & Mohamed (2011); Market Research Thailand (2025)
	Destination Expectations: Accessibility, convenience, safety, halal food availability	Praman (2007); Bank of Thailand (2024)

Research Methodology

1. Research Design

This study adopted a qualitative research design using a systematic literature review and thematic synthesis to develop a theoretical conceptual framework of agri-tourism under a cross-border tourism context. The aim was to integrate existing theoretical and policy-based knowledge into a coherent analytical structure.

2. Data Sources

The study relied exclusively on secondary data published between 1994 and 2025, including peer-reviewed journal articles, academic books, theses, and official tourism policy documents. The literature covered three main domains: agri-tourism and rural tourism, tourism route development, and cross-border tourism dynamics.

Relevant materials were retrieved from academic databases such as Scopus, ScienceDirect, and Google Scholar using keywords including "agri-tourism," "tourism routes," and "cross-border tourism." Only sources providing clear definitions, structural components, or theoretical perspectives relevant to the research objectives were included.

3. Analytical Procedure

The analysis was conducted in three stages.

First, key definitions and conceptual components were extracted from selected sources.

Second, extracted concepts were categorized into three domains:

- Agri-tourism Potential (management capacity, carrying capacity, service provision, attractiveness),
- Agri-tourism Route Components (resources, route configuration, thematic identity, stakeholder collaboration, infrastructure), and
- Cross-Border Tourism Context (short stays, frequent visits, land mobility, accessibility, convenience, and safety).

Finally, the three domains were integrated into a systems-oriented framework linking destination capacity, route mechanisms, and cross-border mobility conditions. The analysis relied on comparative examination across multiple sources to enhance conceptual consistency.

Results

The literature synthesis results in an integrated conceptual framework that explains agri-tourism development within a cross-border tourism context (Figure 1). The framework highlights the structured relationships among area-based agri-tourism potential, agri-tourism route development, and cross-border tourism context.

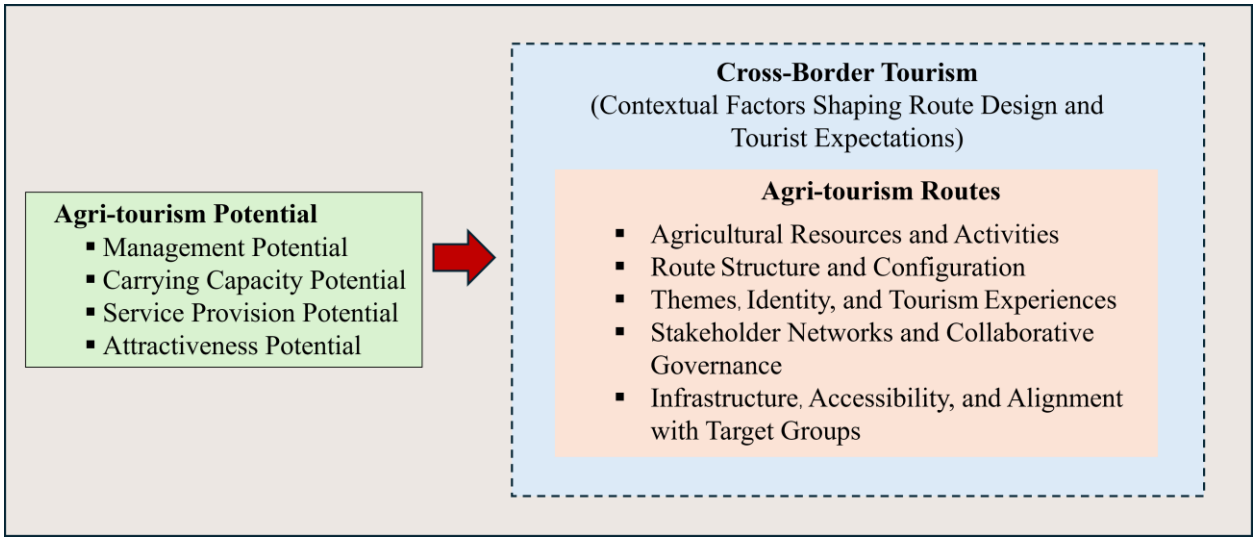


Figure 1. Conceptual Framework of Agri-tourism under a Cross-Border Tourism Context
Source : Authors' Synthesis based on the Literature Review.

The results indicate that area-based agri-tourism potential functions as the foundational structural component of development. This potential consists of four interrelated dimensions: management capacity, carrying capacity, service provision, and destination attractiveness. Together, these dimensions determine the readiness and suitability of local areas for structured agri-tourism route formation.

The findings further demonstrate that agri-tourism route development operates as an organizational and spatial mechanism translating local agricultural capacity into integrated and market-responsive tourism systems. Route development encompasses the configuration of spatial structures, thematic clustering of agricultural products and experiences, and stakeholder collaboration within local networks. Through this mechanism, dispersed agricultural resources are organized into coherent and market-oriented tourism routes.

Importantly, the framework positions cross-border tourism as a contextual conditioning factor influencing route design and operational configuration in border regions. Characteristics such as accessibility, mobility patterns, travel frequency, length of stay, infrastructure conditions, and safety considerations shape how agri-tourism potential is structured into viable routes.

This conceptual framework operates through a clear cause-and-effect relationship in which all three components perform distinct yet interconnected roles within a coherent system. Specifically, area-

based agri-tourism potential serves as the starting point that determines the readiness of agricultural resources, management capacity, and service provision. Agri-tourism route development is the process of turning this potential into real tourism experiences that meet market demand. This is done by planning the routes, creating an identity, and coordinating with stakeholders. Cross-border tourism conditions, in turn, serve as the external factor that defines the design parameters of agritourism routes—including duration, activity types, and accessibility standards—to align with the travel patterns of Malaysian tourists. Therefore, a lack of readiness in any single component inevitably diminishes the overall effectiveness of the system.

Overall, the framework illustrates a structured relationship in which area-based potential provides foundational capacity, route development mechanisms operationalize this capacity, and cross-border mobility conditions shape its configuration in border contexts. This integrated model thus provides a systematic analytical basis for subsequent empirical investigation and context-sensitive agritourism planning in border areas.

Discussion and Conclusion

The developed conceptual framework advances the understanding of border agritourism by moving beyond isolated analyses of resources or activities to examine the systemic relationship between area based potential and the travel patterns of cross border tourists. This approach extends the foundational work of Phillip et al. (2010), whose typology of agritourism emphasized the centrality of active farming practices, by demonstrating that agricultural authenticity alone is insufficient without alignment with destination management capacity and cross-border mobility conditions.

The framework further builds upon Lane and Kastenholz's (2015) evolutionary perspective on rural tourism, which highlighted the importance of stakeholder collaboration and place identity in route development. The present study extends this perspective by incorporating transnational movement as a structural conditioning factor— an dimension largely absent from domestic-focused frameworks. In doing so, it responds to Timothy's (1998) call for greater theoretical attention to the role of political boundaries and border dynamics in shaping tourism behavior and destination development.

The potential of the area—encompassing management, accessibility, carrying capacity, service provision, and attractiveness— is considered a crucial foundation for development. However, consistent with Pedrosa et al.'s (2022) systems perspective on tourism routes, this potential yields meaningful outcomes only when translated into coherent route structures that align with tourist behavior, including mode of travel, frequency of visits, duration of stay, and activity preferences.

Therefore, cross-border travel is not merely a supplementary context but a determining factor in whether area-based potential can be developed into sustainable tourism routes and experiences. This finding aligns with Wachowiak's (2006) characterization of cross-border tourism as shaped by short distances and cultural familiarity, while extending it to the specific operational demands of agritourism route design.

This conceptual framework thus contributes to existing theory by demonstrating that cross-border tourism function not merely as background context but as active determinants of route viability

and tourist experience quality. It provides a practical guideline for designing routes and managing destinations in ways that align with both sustainability goals and the behavioral characteristics of cross-border tourists. Nevertheless, empirical validation in actual border areas remains necessary to test the framework's applicability and refine its components.

Acknowledgement

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SESSION 4:

Social Sciences

Synthesis of Approaches to the Study of Local Politics in Songkhla Province in the Contemporary Context

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Abstract

The interaction and tension between the concepts of globalization and internationalization (glocalization) and the contemporary emphasis on localism or localization have significantly influenced paradigm shifts in proposals for educational management across various fields of knowledge in society. This dynamic has prompted a re-examination of the processes through which new knowledge in contemporary local politics is produced. Such reconsiderations are frequently reflected in ongoing debates concerning the epistemological foundations of political science and public administration. These debates seek to enhance understanding of local political studies from an alternative perspective. This objective is pursued through the synthesis of approaches to the integrated study of local politics in the southern region of Thailand within a contemporary context. The broader research framework initially identifies three southern provinces—Songkhla, Surat Thani, and Nakhon Si Thammarat—as case study areas. Nevertheless, the present article confines its analysis to Songkhla Province as the principal case study. This research adopts a qualitative research methodology. Primary data were collected through in-depth interviews with 14 key informants selected through purposive sampling. Secondary data were obtained through documentary research, including a review of graduate-level studies—namely theses, dissertations, and independent studies—from three master's degree programs in political science and public administration. The selection criteria for educational institutions encompassed universities representing leading global research-oriented groups, institutions emphasizing wisdom and moral development grounded in religious principles, and universities focused on local or community-based development. The data were analyzed using logical relational analysis, and the findings were subsequently interpreted to generate comprehensive conclusions.

Keywords:
Localization, Globalization, Glocalization

Introduction

Songkhla Province is geographically located on the eastern side of the lower southern region of Thailand. It shares boundaries with several neighboring areas. To the north, it borders Nakhon Si Thammarat Province and Phatthalung Province. To the east, it is adjacent to the Gulf of Thailand. To the south, it borders Yala Province, Pattani Province, as well as the states of Kedah and Perlis

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of Malaysia. To the west, it borders Phatthalung Province and Satun Province. Songkhla Province covers an area of approximately 7,393.889 square kilometers, or about 4,853,249 rai. In terms of size, it ranks 27th largest among Thailand's provinces and is the third largest province in the southern region, following Surat Thani Province and Nakhon Si Thammarat Province.

In terms of administration, Songkhla Province comprises 16 districts, 127 sub-districts, and 1,023 villages. Local administrative organizations include one Provincial Administrative Organization, 48 municipalities, and 92 Sub-district Administrative Organizations. As a provincial area with large-scale administrative units, Songkhla's governance structure has continually evolved in response to ongoing urban expansion. In addition, the proportion of the population and the rapid rate of economic growth, together with the development of political structures, have collectively driven Songkhla Province to function as a political center in another significant dimension. This is reflected in the presence of two city municipalities—Songkhla City Municipality and Hat Yai City Municipality—which underscore the province's political advancement and its role as a key arena for political activities at both national and local levels in southern Thailand.

At the same time, the expansion of higher education institutions under the supervision of the Ministry of Higher Education, Science, Research and Innovation has resulted in a total of nine institutions in Songkhla Province (Songkhla Provincial Data, n.d.). These institutions encompass groups focused on technological development and innovation promotion, local and community development, as well as world-class research development. These institutional groups serve as a model for synthesizing a framework for the study of local politics in southern Thailand within a contemporary context for this research.

Based on an assessment of educational institutions offering instruction in local politics in Songkhla Province, this study identifies the world-class research development group as the primary analytical model. This group designs knowledge development based on graduate-level curricula in public administration, particularly the Master of Public Administration (MPA) program. The program emphasizes the production of graduates equipped with knowledge, understanding, and analytical skills to address public administration challenges at the regional level. Graduates are expected to apply advanced administrative knowledge effectively in their professional roles in alignment with local and regional needs, particularly in southern Thailand. Moreover, the program has produced high-quality graduates who are widely recognized for academic excellence and responsiveness to organizational needs, thereby contributing both directly and indirectly to enhanced efficiency and effectiveness in public sector administration. The instructional approach emphasizes research-based learning as a core component of knowledge creation, with the goal of enabling students to apply research-driven insights to problem-solving and public sector development in a systematic and appropriate manner.

Research Objectives

1. To explore key issues identified through research related to the study of local politics.
2. To review the epistemological positions reflected in studies of local politics.

3. To synthesize approaches to the study of local politics that are aligned with the current state of local political knowledge.

Literature Review

The study of local politics constitutes a dynamic field of inquiry shaped by changing socio-political conditions and evolving modes of knowledge production. Traditionally situated at the intersection of political science and public administration, local political studies have developed through interdisciplinary engagement, generating diverse conceptualizations of governance, power, and administration. As local governance has become increasingly complex, conventional state-centered and institution-focused approaches have proven insufficient, leading to the emergence of multiple research paradigms and epistemological positions.

Local political studies are therefore informed by different assumptions concerning ontology, epistemology, and methodology. Following Guba and Lincoln (1994), this study adopts three major paradigms—positivism, post-positivism, and critical theory—as its primary epistemological reference points. The positivist paradigm is grounded in the scientific method and assumes the existence of a single objective reality. It emphasizes causal explanation, prediction, and generalization, typically employing quantitative methodologies and focusing on formal institutions and administrative structures of local government.

Post-positivism retains a commitment to systematic and rigorous inquiry while acknowledging the limitations of strict objectivism in social research. It adopts methodological pluralism by integrating quantitative and qualitative approaches and emphasizes triangulation, reflexivity, and critical scrutiny rather than claims to absolute truth. This paradigm has been particularly influential in contemporary local political studies that seek to balance empirical rigor with contextual sensitivity.

Critical theory, by contrast, conceptualizes reality as socially constructed and historically produced through power relations, ideology, and discourse. Its methodological orientation prioritizes critique, dialogue, and transformative inquiry, often employing discourse analysis to expose embedded structures of domination. Epistemologically, critical theory challenges universal truths and foregrounds marginalized voices, making it particularly relevant to the study of inequality, participation, and power asymmetries in local politics.

Contemporary approaches to local political studies increasingly move beyond traditional concerns with decentralization, administrative functions, and local development management. Scholars are encouraged to expand their analytical perspectives by adopting diverse paradigms capable of producing more empirical, contextualized, and critical understandings of local political dynamics. This shift emphasizes epistemology, ontology, and methodology as central analytical concerns,

enabling local politics to be examined through the interactions among political actors, institutions, and the broader national political system.

Evolution of Local Political Studies

Based on the evolutionary trajectory of political science (Prathan Suwannamongkol, 2019), approaches to the study of local politics can be broadly classified into three phases. The pre-behavioralism approach emphasized structural–functional analysis and political institutions. Studies during this period focused on local government as the lowest tier of governance, examining organizational structures, functions, and service delivery roles. Comparative studies of local government were prominent and continue to influence contemporary research.

The behavioralism approach shifted attention toward political behavior at the local level, particularly citizen participation. It emphasized scientific research methods to analyze political behavior systematically, employing both quantitative and qualitative techniques. Theoretical perspectives such as elite theory, group theory, and psychological approaches contributed to a more nuanced understanding of local political dynamics.

The post-behavioralism approach placed greater emphasis on the application of political knowledge to address social and community problems. Scholars increasingly argued that academic inquiry should contribute to social improvement, leading to expanded research on civic engagement, social movements, community rights, gender equality, environmental politics, and social justice issues. This phase significantly broadened the scope of local political studies.

Traditional Paradigm of Local Politics

The traditional paradigm of local political studies is closely associated with the separation of politics and administration. Shah (2006) notes that governance problems in the United States during the eighteenth and nineteenth centuries—particularly patronage and corruption—led to bureaucratic reforms and the emergence of this idea, articulated by Woodrow Wilson and reinforced by Max Weber's theory of bureaucracy. These perspectives laid the foundation for public administration as a discipline and profoundly shaped local governance systems (Pisit Jombunruang, 2009).

However, this paradigm has been widely criticized. Imrie and Raco (2000) argue that decentralization under the traditional model overemphasizes hierarchical relationships and centralized control, prioritizing formal institutions and legal frameworks while marginalizing citizen participation. Similarly, Udom Thumkhosit (2008) contends that traditional local governance is characterized by rigid power structures dominated by national and local elites, positioning citizens as passive recipients of public services. These limitations have become increasingly evident in the context of complex and rapidly changing socio-political environments.

New Paradigm of Local Politics

In response to these limitations, contemporary scholars have proposed alternative analytical frameworks. This study adopts an integrated approach grounded in three key paradigms: New Public Service (NPS), political economy through public choice theory, and New Public Management (NPM).

The New Public Service framework emphasizes democratic governance, civic engagement, and public values. Denhardt and Denhardt (2007) argue that public administrators should "deliver democracy" rather than merely provide services. NPS prioritizes participation, collective ownership, and ethical legitimacy, offering a normative critique of market-oriented governance models.

Public choice theory, developed by scholars such as Buchanan, Tullock, and the Ostroms, reconceptualizes public administration as a decentralized and multi-centered decision-making process. It treats individuals as rational actors operating within institutional constraints and emphasizes participation, decentralization, and institutional design to align individual incentives with public interests.

New Public Management represents a reform movement that applies private-sector management techniques to the public sector. Rooted in neoclassical economics and institutional economics, NPM emphasizes efficiency, performance measurement, and results-oriented accountability (Hood, 1991). While NPM has enhanced administrative efficiency, critics argue that it has introduced market-oriented values that risk undermining democratic accountability, particularly at the local level.

Epistemological Debate between Political Science and Public Administration

A central epistemological debate concerns the distinction between political science and public administration. Political science focuses on the study of the state, power, political institutions, and political behavior, emphasizing competition for authority and influence over public policy. Public administration, by contrast, is an interdisciplinary field concerned with managing public affairs and organizing collective action effectively.

Despite their differences, the two disciplines are deeply interconnected. Political science provides analytical tools for understanding power relations, while public administration contributes managerial and operational perspectives. This interdependence is particularly evident in local political studies, which require integrated analyses of power, administration, and citizen participation. Accordingly, this study adopts a multidisciplinary perspective consistent with the UNESCO–ISCED classification and Thailand's higher education framework.

Review of Local Politics in Thailand

Thai scholarship on local politics reveals a persistent knowledge gap. Although interest increased following decentralization reforms after the 1997 Constitution, coherent and widely accepted conceptual frameworks remain limited (Damrong Wattana et al., 2001). Local politics has often been treated as a secondary field within political science, overshadowed by state-centered studies (Sumamarn Chawna, 2005; Olan Thinbangteo, 2018).

Recent studies identify key debates concerning corruption, administrative efficiency, power monopolization, political party influence, and electoral conflict at the local level (Abhichat Satitniramai et al., 2013). Scholars also emphasize the need for interdisciplinary and context-sensitive approaches, particularly in Southern Thailand, where political dynamics require area-based and field-oriented analysis (Ekarin Tuansiri, 2017; Aussiri Lapie, 2023).

Research Methodology

This study adopts a qualitative research design, employing documentary research and in-depth interviews as its principal methods of data collection. The research framework is designed to systematically synthesize knowledge on local politics through political science and public administration perspectives, with particular emphasis on epistemological positions, research paradigms, and contemporary local political dynamics in Southern Thailand.

The research utilizes two primary categories of data sources. First, documentary research focuses on graduate-level studies, including master's theses and independent studies in political science and public administration. These documents are reviewed to synthesize conceptual frameworks, analytical approaches, and thematic trends related to local politics. The objective is to distill an integrated body of knowledge reflecting the multidimensional scope of local politics, local government, and local administration.

Document selection adheres strictly to research ethics. To protect institutional identities and prevent potential impacts on contributors' academic status, the names of educational institutions are anonymized. Document evaluation follows Scott's (1990) four criteria: authenticity, credibility, representativeness, and meaning.

The document selection process is guided by the following criteria:

1. Graduate-level research conducted within the service areas of higher education institutions located in Songkhla (representing research-intensive universities)
2. Research titles explicitly grounded in political science and/or public administration;
3. Research topics directly related to, or integrative of, local politics, local government, and local administration;
4. Analytical approaches aligned with pre-behavioralism, behavioralism, post-behavioralism, or critical perspectives; and

5. Institutional consent for public dissemination of academic work.

Second, to complement documentary synthesis and enable theory construction, the study incorporates qualitative survey research through in-depth interviews with key informants. Semi-structured interview guides are employed to elicit reflective insights on epistemological positions, knowledge production, and the contemporary study of local politics in Southern Thailand.

To ensure relevance to the "contemporary context," documentary analysis is limited to works published within a five-year period (2018–2022). Only graduate research with comparable academic rigor is included—specifically, master's theses (12 credits) and independent studies (6 credits) focusing explicitly on local politics. Studies outside this scope are excluded. All identified documents are first catalogued and then systematically reviewed prior to thematic classification by institution and program.

Documentary data are drawn from three institutional clusters: Public administration programs in Songkhla (research-intensive institutions): 75 studies;

A total of 14 key informants are selected using purposive and snowball sampling techniques to ensure representativeness and analytical depth:

1. Five graduate-level faculty members in political science and public administration, selected through purposive sampling. Inclusion criteria include formal appointment as program faculty under national graduate education standards and experience supervising theses or dissertations on local politics;
2. Six experts and administrators in political science, public administration, and related social sciences, selected through purposive sampling. These individuals have served as external examiners, policy designers, or practitioners with direct experience in local politics;
3. Three graduate students selected through snowball sampling, each representing one institutional unit. Inclusion criteria include active or completed thesis or independent study research on local politics.

The primary research instrument is a semi-structured interview guide developed through a multi-stage process. Research objectives serve as the analytical foundation for the literature review, which focuses on theories of local politics, governance, administration, and epistemological debates between political science and public administration. These insights inform the development of a conceptual framework, which is subsequently translated into interview themes and guiding questions.

Instrument validity is assessed through expert review. Three specialists—experts in Southern Thai local politics, political science education, and public administration—evaluate the interview guide for content validity. Their recommendations are incorporated through iterative revisions prior to field implementation.

Data collection proceeds in two stages. First, documentary data are compiled and organized into a comprehensive bibliography of graduate-level research published between 2018 and 2022, in both digital and print formats. Studies are categorized by province, discipline, and institutional orientation.

Second, in-depth interviews are conducted with key informants to examine epistemological positions underpinning local political studies and to contextualize contemporary political, administrative, and governance dynamics in Southern Thailand. Interview data complement documentary findings and support comparative and integrative analysis across cases.

Qualitative data analysis employs typological analysis and systematic comparative analysis to identify patterns, similarities, and differences across documents and interview narratives (Timulak, 2009). Data from interviews are analyzed through interpretive and descriptive techniques, comparing epistemological orientations and knowledge-production practices across institutions and individuals (Jumpon Nimpanich, 2007).

Documentary data are subjected to content analysis, including frequency counts of research topics classified into three categories: local politics, local government, and local administration. Analytical attention is also given to research approaches and paradigms reflecting contemporary Southern Thai contexts.

Findings are synthesized using thematic analysis and intercoder agreement procedures to ensure analytical rigor. Results are presented in a structured analytical narrative aligned with the study's objectives.

Results

This study is grounded in a knowledge-construction stance in public administration that integrates three interrelated dimensions: professional public administration skills based on administrative theories and concepts; innovation in public administration through the application of analytical and problem-solving capacities in real-world situations; and adaptive capacity in a pluralistic society through openness to diverse perspectives and constructive deliberation. This epistemological position informs the design of public administration learning management, structured in accordance with the 2015 Thai Qualifications Framework for Bachelor's Degrees in Public Administration, which identifies five core modules: organization and management, public policy, human resource management, public administrative theory, and public finance and budgeting.

These modules collectively emphasize organizational behavior, leadership and change management, disaster risk management, public service innovation, strategic public policy administration, human resource planning and development, ethics, conflict management, research

methodology, and fiscal sustainability. Together, they provide an integrated foundation for producing advanced administrative competencies that extend beyond traditional bureaucratic management toward innovative and governance-oriented public administration practices.

Within this framework, master's degree programs are conceptualized as analytical units for examining the production of knowledge related to local politics in Songkhla Province. The study recognizes that local political knowledge is not static but varies according to political contexts, institutional dynamics, and socio-cultural conditions. Importantly, the adoption of public administration as a primary analytical lens in local political studies aims to transcend theory-bound administrative analysis and move toward advanced public sector innovation aligned with the vision of the Songkhla Provincial Administrative Organization: *"A model city for sustainable public service innovation through collaborative well-being."*

Simultaneously, the emergence of "glocalization" as a governing context has reshaped local governance and public administration education. Local authorities increasingly adapt global concepts—such as smart cities, governance-based administration, and participatory management—to local realities. This transformation necessitates enhanced administrative capacities in managing public missions, budgets, and human resources amid dynamic and rapidly changing local conditions. In Songkhla, this includes applying public administration knowledge to technological innovation in local government, bargaining mechanisms between local and national political actors, natural resource and environmental management, inequality reduction through public service redesign, and conflict management for social cohesion, particularly in the southern border provinces.

Empirical studies on Songkhla's local politics further illustrate the province's distinctive political identity. Saroop Ritthichu et al. (2003) trace the historical evolution of local politics in the Songkhla Lake Basin from 1896 to 1991, highlighting how political movements, patron-client relations, and ideological struggles shaped contemporary local political culture. Phinyo Phitthayakupt (2006) demonstrates that since Thailand's first election in 1933, Songkhla's political landscape has been dominated by the Democrat Party, supported by strong patronage networks and deeply embedded local political trust.

More recent studies indicate significant changes. Warunee Leelertphan (2017) explains the persistence of southern regionalism and political loyalty through cultural transmission and local political socialization. However, Bukhori Yima (2020) reveals that the 2019 general election marked a turning point, with unprecedented political competition and the entry of more than 30 political parties, challenging long-standing electoral dominance.

Overall, the literature reveals that studies of Songkhla's local politics have largely relied on political science epistemologies, emphasizing actors, ideologies, and power networks. This has inadvertently marginalized systematic public administration perspectives. Consequently, this study seeks to address this knowledge gap by synthesizing contemporary academic outputs (2018–2022)

through a public administration lens, positioning public administration as an alternative and complementary theoretical framework for advancing local political studies in Songkhla Province.

This study aims to synthesize research outputs on local politics in Songkhla Province produced by leading global research-oriented academic institutions during the academic years 2018–2022. The dataset comprises a total of 75 graduate-level research works in public administration. The synthesis reveals that 35 studies are directly related to local politics, local government, and local administration, accounting for 46.67 percent of the total. This finding reflects a growing trend in local political knowledge production that diverges from mainstream political science by emphasizing administrative management, organizational dynamics, and public service delivery at the local level.

Based on content analysis categorized by research objectives, the findings can be summarized into three major thematic dimensions that collectively depict the contemporary landscape of local politics in Songkhla Province.

1) Findings on Local Government Studies

Research directly focusing on local government constitutes a relatively small proportion, accounting for 2.86 percent of the relevant studies. These works primarily examine the roles and status of local administrative officers—particularly village headsmen, subdistrict heads, and assistant village heads—as operational actors within the structure of provincial administration.

However, when considering studies that integrate local government within broader frameworks of local administration, the number increases significantly. These studies highlight structural relationships between territorial administration and local administrative organizations, emphasizing leadership roles, legal authority, hierarchical relations, and the unique socio-political complexities of the southern border provinces, including religious, cultural, and security dimensions.

A key finding indicates that while territorial administration remains necessary as a supportive governance mechanism at the local level, its role must evolve from command-based authority toward collaborative coordination with local administrative organizations and citizens. Legitimacy, transparency, and participation emerge as critical foundations for this transformation.

2) Findings on Local Administration Studies

Local administration constitutes the largest body of research, representing 51.43 percent of the relevant studies. This dominance reflects an epistemological orientation that prioritizes organizational management, human resources, and public service delivery at the local level.

Thematic coverage includes job satisfaction, quality of work life, organizational commitment, leadership, emotional intelligence, human resource management, good governance, diversity management, and innovative work behavior. Collectively, these studies underscore the importance of administrative capacity and organizational performance in achieving effective local governance.

The synthesized findings demonstrate that local administration in Songkhla Province increasingly aligns with New Public Management reforms and contemporary public sector management paradigms, emphasizing efficiency, performance outcomes, and satisfaction among both public servants and service recipients. At the same time, many studies stress the centrality of good governance principles in the culturally diverse context of the southern border region, where public trust is a crucial condition for the legitimacy of local administrative organizations.

3) Findings on Local Politics Studies

Research explicitly addressing local politics accounts for 14.29 percent of the relevant studies. These works focus primarily on citizen participation, community mechanisms, public perceptions of state performance, and the management of public issues such as disaster response, public safety, and health services.

A significant finding is that local politics in Songkhla and neighboring areas is increasingly analyzed through the lens of citizens as stakeholders rather than through traditional power-based or electoral competition models. Expanding participatory spaces in public service design and local problem-solving emerges as a key mechanism for reducing conflict and enhancing state legitimacy, particularly within the context of the southern border provinces.

Overall, the findings indicate that studies of local politics in Songkhla Province grounded in public administration have generated a distinctive body of knowledge that interprets politics through administrative practice, governance mechanisms, and public service delivery rather than through conventional political science power-centered frameworks. This trend signifies a meaningful shift toward a context-sensitive and administratively grounded approach to local political analysis that aligns with contemporary governance challenges.

Discussion and Conclusion

The synthesis of research on local government and local administration, integrated with perspectives from local politics, provides a comprehensive portrayal of the contemporary local political landscape in Songkhla Province. The findings demonstrate that knowledge production in this field has increasingly shifted from a narrow focus on institutional structures toward a multidimensional understanding of governance that emphasizes human capital, citizen participation, ethical leadership, and innovation-driven administration.

From the perspective of local government and local politics, the reviewed studies highlight the need to redesign organizational goals toward the concept of a "happiness-oriented organization."

This reconceptualization requires rethinking structural relationships between territorial administration and local administrative organizations in response to changing societal values and the dynamics of *glocalization*. Local governance mechanisms that rely solely on formal administrative actors are no longer sufficient to meet public expectations. Instead, the findings underscore the importance of active citizenship, local ownership of resources, and community participation as defining characteristics of 21st-century local politics. Human capital development is therefore understood not only as internal capacity building within local organizations but also as the empowerment of citizens as co-producers of public value through partnerships between the state and local communities.

The studies further emphasize collaborative leadership in addressing urgent social problems, particularly drug abuse in the southern border provinces. Effective problem-solving requires cooperation between formal leaders exercising legal authority and informal leaders whose legitimacy derives from public trust. The integration of religious leaders, community leaders, and educational institutions emerges as a crucial governance mechanism for addressing drug-related threats that intersect with broader security concerns. This approach reflects a governance-oriented model of local politics that prioritizes social cohesion, peacebuilding, and long-term community resilience.

In terms of local administration, the findings reveal a strong concentration on internal organizational management, human resource development, and performance enhancement. Influenced by New Public Management reforms, local administrative organizations increasingly emphasize productivity, performance outcomes, and strategic management aligned with organizational visions and missions. Indicators such as job satisfaction, quality of work life, organizational commitment, communication effectiveness, and workplace environment are consistently identified as key determinants of administrative effectiveness. However, the evidence also suggests that efficiency-oriented reforms must be balanced with organizational culture, employee well-being, and contextual sensitivity, particularly in multicultural settings.

The principle of good governance is central to administrative studies in the southern border context. Public trust, transparency, participation, accountability, and value for money are repeatedly identified as essential foundations for legitimate local governance. Importantly, evaluations based on citizens' perceptions are shown to be more effective in driving meaningful administrative improvement than internal assessments alone. These findings support the argument that governance reform must be citizen-centered and responsive to pluralistic social realities.

Finally, the review highlights the growing importance of innovative behavior and ethical leadership in local administration. Innovation is facilitated by supportive work environments, collaborative leadership styles, open communication, and shared learning spaces within organizations. Ethical and emotionally intelligent leadership reduces resistance to change and enhances organizational effectiveness by fostering trust, mutual respect, and constructive feedback mechanisms.

In conclusion, the integrated analysis demonstrates that contemporary studies of local politics and administration in Songkhla Province increasingly adopt a public administration–oriented epistemological stance. This perspective moves beyond power-centered political analysis toward governance frameworks that prioritize participation, innovation, ethical leadership, and community empowerment. Addressing the existing knowledge gap therefore requires continued synthesis of political and administrative paradigms to generate context-sensitive, policy-relevant, and sustainable models of local governance in Southern Thailand.

The review of research directly related to local politics identifies five studies (14.29%) that primarily employ quantitative and mixed-method approaches. These studies focus on citizen participation, public needs assessment, community security mechanisms, public safety policies, and the quality of frontline public health services in conflict-affected areas of Southern Thailand. Collectively, they reflect key dimensions of local politics, particularly public participation, citizen perceptions of state mechanisms, and the interaction between communities and local-level governance structures in Songkhla and neighboring provinces.

The findings indicate that local politics research in this context emphasizes the political landscape as experienced by citizens, positioning the state primarily as a provider of essential public services. Rapidly changing social and security conditions require local administrative organizations to move beyond legally prescribed mandates toward more flexible, proactive, and citizen-centered service delivery models. Innovations such as one-stop service centers, decentralized service units based on zoning, and front-office administrative mechanisms illustrate adaptive responses driven by public expectations and demands. These developments signal an emerging political phenomenon in which citizen feedback becomes a critical driver of organizational transformation and public sector competitiveness.

A second major theme concerns citizen participation in the co-design of basic public services, particularly within the conflict-prone southern border provinces. Beyond the roles of military agencies and special development institutions, local administrative organizations increasingly emerge as key actors in integrated security and peacebuilding efforts. Community-based mechanisms—such as village security units and volunteer networks—highlight the necessity of empowering citizens as political actors who share responsibility for public safety, conflict management, and social cohesion. This reinforces the importance of political participation as a foundation for sustainable peace and local legitimacy.

In addition, five studies (14.29%) demonstrate a cross-cutting linkage between local politics, local administration, and local government. These works examine drug control through community leadership, public perceptions of governance performance, organizational structures affecting citizen happiness, volunteer disaster response capacity, and policy effectiveness of state welfare programs. Together, they reflect a shift toward redefining local organizations as "new organizational forms" that integrate governance and administration to achieve both routine and special missions, particularly in the southern border context.

Finally, one integrated study (2.86%) explicitly connects local politics, administration, and government through an analysis of violence, peace negotiations, and governance alternatives in the southern border provinces. This study underscores the need for integrated conflict management mechanisms, decentralized political authority, and governance models sensitive to multicultural contexts. The findings suggest that local administrative organizations should play a more active role in grassroots peacebuilding, complementing formal peace negotiations with community-based governance mechanisms that respect local identity, leadership subjectivity, and cultural legitimacy.

The overall findings from studies on local politics in Songkhla Province indicate a growing effort to generate new knowledge across local politics, local government, and local administration, including integrated perspectives. However, most research remains concentrated on local administrative studies, particularly through the application of public administration theories. A dominant theme is the role of innovation in enhancing organizational performance, policy implementation, and internal management within local administrative organizations. Empirical evidence suggests that innovation capacity is closely linked to person–organization fit, leadership styles, and trust within organizations, especially in the context of the southern border provinces. Research further highlights that effective public service delivery depends not only on citizen satisfaction but also on the competencies and motivation of service providers. Consequently, continuous assessment of internal organizational factors—such as human resource management, budgeting, and role allocation—is essential. These findings emphasize the need for adaptive and flexible local administrative organizations, conceptualized as "mobile organizations." Additionally, citizen-centered service evaluation supports the development of context-specific solutions, particularly in conflict-affected and multicultural areas. Overall, the literature underscores the importance of innovation, participation, and good governance in strengthening local administrative organizations and advancing sustainable local development.
The review of postgraduate research on local politics in Songkhla Province reveals an epistemological integration between political science and public administration perspectives. However, meta-analysis indicates a clear dominance of public administration frameworks, particularly in studies directly related to local administration, which account for over half of the reviewed works. These studies primarily emphasize organizational management, administrative reform, productivity, and human resource development as key analytical lenses. The findings reflect an academic orientation toward strengthening local governance through administrative rationality rather than normative political analysis. This tendency is reinforced by Songkhla's role as a regional hub characterized by institutional diversity, cross-border connectivity, and strategic geopolitical significance. Such conditions encourage the formation of specialized administrative organizations tailored to specific territorial functions. Empirical insights further suggest that higher education institutions in the region contribute to this epistemological stance by promoting applied, policy-oriented research. Moreover, ongoing debates on special local governance structures in the southern border provinces underscore the need for adaptive administrative models. Collectively, these factors explain why local political studies in Songkhla predominantly adopt a public administration epistemology to address complex, place-based governance challenges.

The synthesis identifies 35 studies aligned with the local politics approach out of 75 reviewed works (46.67 percent), with most employing quantitative research methodologies and public administration–oriented analytical frameworks. The findings indicate a dominant epistemological orientation consistent with the behavioralism approach. Among the six identified approaches, behavioralism accounts for the largest share, comprising 13 studies (37.14 percent). These studies primarily examine individual and organizational behavior within local administrative settings, including job satisfaction, work happiness, leadership, trust, governance, organizational commitment, and innovation. Methodologically, they rely heavily on hypothesis testing and statistical analysis to explain relationships between variables. The use of empirical, numerical data serves as the principal basis for knowledge production. Collectively, this body of research reflects a strong alignment with public administration epistemology, emphasizing managerial rationality and administrative performance. The dominance of quantitative behavioral studies underscores an effort to explain local political phenomena in Songkhla through measurable administrative outcomes. This pattern highlights the role of public administration as the primary analytical lens in local political studies within the province.

Epistemological Positions Reflected in the Study of Local Politics in Songkhla Province

The review and synthesis of graduate-level theses and minor theses on local politics in Songkhla Province reveal a pluralistic epistemological landscape that integrates perspectives from both political science and public administration. However, meta-analysis of 35 selected studies demonstrates a clear epistemological inclination toward public administration. Of these works, 18 studies (51.43 percent) focus directly on local administration, while the remainder integrate administrative frameworks with related disciplinary perspectives. This pattern indicates that local politics is predominantly conceptualized through administrative rationality rather than normative or institutional political analysis.

Empirical evidence from public administration graduate programs in research-intensive universities highlights an effort to generate applied knowledge responsive to local governance challenges. Research themes emphasize organizational management reform, adaptive administrative capacity, human resource development, productivity enhancement, and governance effectiveness. These themes reflect a pragmatic epistemological stance that prioritizes problem-solving, policy applicability, and measurable administrative outcomes, particularly within local government organizations.

Four key factors explain the dominance of public administration epistemology in local political studies in Songkhla. First, Songkhla's role as a regional hub—with economic, educational, and geopolitical significance—has fostered diverse and specialized public organizations requiring context-specific administrative models. The province's strategic position, including its connection to the southern border provinces and neighboring countries, necessitates adaptive governance structures and specialized administrative units. Universities in the region thus function as knowledge centers supporting administrative innovation tailored to complex territorial governance.

Second, studies emphasize modern organizational productivity and citizen-oriented public service delivery. Research increasingly integrates public administration with business management, economics, and digital governance, moving beyond traditional hierarchical command structures.

Short-term strategies focus on innovation-oriented human resource development, while long-term strategies emphasize organizational culture transformation, participatory decision-making, and mobility-oriented public organizations. These approaches reinforce an epistemology grounded in behavioralism and managerial effectiveness.

Third, there is a deliberate effort to construct a distinctive public administration identity that supports policy innovation for southern local politics. Research increasingly aligns with the new public governance paradigm by integrating administrative theory, digital transformation, and cross-sectoral collaboration. This epistemological repositioning reflects the expectation that public administration must transcend classical models to respond to rapidly changing political, technological, and social contexts, particularly in multicultural and conflict-sensitive areas.

Fourth, the emergence of a new public administration paradigm driven by big data and digital technology significantly shapes knowledge production. Studies highlight the transition from static data systems to dynamic information platforms, the use of digital tools for policy design, and the application of evidence-based decision-making. This shift supports the integration of theoretical knowledge with practice-based insights, reinforcing an applied epistemology that values both scientific rigor and contextual relevance.

Analysis of research approaches shows that behavioralism and post-behavioralism dominate local political studies in Songkhla. Behavioral and post-behavioral approaches account for 10 studies (28.57 percent), primarily employing quantitative methods to examine citizen participation, service satisfaction, leadership effectiveness, policy perception, and public behavior. Behavioralism combined with pre-behavioralism accounts for 8 studies (22.86 percent), focusing on leadership, motivation, organizational commitment, and bureaucratic performance.

Pure post-behavioralism appears in only two studies (5.71 percent), employing qualitative and mixed methods to address community-based problem-solving, public participation, and social empowerment. Fully integrated approaches combining pre-behavioralism, behavioralism, post-behavioralism, and critical perspectives are rare but significant, particularly in studies addressing governance alternatives and peacebuilding in the southern border provinces.

Overall, the findings confirm that the epistemological foundation of local political studies in Songkhla is predominantly rooted in public administration, with strong behavioral and managerial orientations. This reflects a broader trend toward applied, interdisciplinary, and policy-relevant knowledge production aimed at strengthening local governance capacity and responding effectively to complex regional challenges.

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Strategic Asymmetry in ASEAN-China Maritime Cooperation: A Chicken Game Analysis of the South China Sea Code of Conduct

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Abstract

This study investigates ASEAN-China political-security cooperation in maritime security, focusing specifically on the negotiations surrounding the South China Sea Code of Conduct (CoC). The research problem centers on understanding why cooperation persists despite significant power asymmetries and the absence of binding agreements, a question inadequately addressed by existing literature that emphasizes norms, diplomacy, or legal frameworks. Employing a strategic-interaction approach grounded in a chicken-game model informed by public goods theory, the analysis draws upon official policy statements, negotiation positions, and observed maritime behavior to deduce strategic preferences from patterns of interaction. The findings reveal that while ASEAN-China cooperation has effectively managed tensions and prevented escalation, it results in asymmetrical outcomes that favor China's strategic flexibility and constrain ASEAN's institutional influence. This ongoing non-binding cooperation reflects a stable but suboptimal equilibrium whereby both sides prefer collaboration over conflict, despite the lack of formalized institutional mechanisms. By conceptualizing maritime security as a strategically negotiated public good, this study contributes to academic discourse by explaining the durability of cooperation under power imbalance and the limitations on institutionalization, offering a framework that complements norm-based and legal analyses and can be applied to ASEAN's relations with other external partners.

Keywords: ASEAN-China relations, Political-security cooperation, South China Sea, Code of Conduct, Strategic interaction, Power asymmetry

Introduction

ASEAN's political-security cooperation with external partners is a cornerstone of peace and stability among Southeast Asian countries that encourages dialogue, fosters trust, and partners in transnational security. Such cooperation spans a plethora of issues, including counterterrorism, maritime security, disaster response, and the handling of interstate conflicts. By interacting with leading international powers and regional actors, ASEAN enhances its capacity to mediate conflicts and to uphold a rules-based regional order which can minimize tension and improve the security of its member states.

Of all ASEAN's external relationships, relations with China are especially important as China's presence in the region grows in an increasingly strategic context, which raises concerns of power imbalance in the region. The economic influence of China and its military modernization have increased its influence in the affairs of Southeast Asia, compelling ASEAN to be more circumspect when engaging with China and to respect the autonomy of the region and the role of its multilateral

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bodies. And this balancing act underlines the strategic significance for ASEAN to keep its members together, while at the same time preserving its identity as a coherent regional player amid external powers.

Another major area of interaction between ASEAN and China involves maritime security at the South China Sea, a critical strategic and economic region at the centre of competing claims on sovereignty. The South China Sea is an essential theatre in which cooperation, competition and strategic calculus play out in tandem as claimant states and great powers contend with deep-seated competing interests for territorial autonomy, freedom of navigation and access to critical resources.

Diplomatic interventions to assuage such tensions and trust building programmes are manifestations of where, the role of political-security cooperation in this contested area shows the potential and scope of both. According to Jones (2012) as well as Acharya and Seng (2006), ASEAN and China have undertaken steps to build mechanisms for dialogue and crisis prevention; however, mistrust and conflicting national interests are still major stumbling blocks to regional stabilization.

Research Objectives

1. To examine ASEAN–China maritime security cooperation in the South China Sea under conditions of power imbalance.
2. To analyze the negotiations of the South China Sea Code of Conduct (CoC) using a chicken game framework to assess strategic choices and payoffs.
3. To explain why political-security cooperation between ASEAN and China persists despite the absence of binding rules and enforceable commitments.

Literature Review

1. ASEAN as a Security Community and Institutional Actor

ASEAN has often been studied as a site of security community formation, stressing common norms, restraint, and consensus-based decision-making among its constituent nations (Acharya, 2014). In this context the literature demonstrates that it can build the habit of consistent interaction among ASEAN members against a backdrop of internal heterogeneity, different regime types and weak enforcement mechanisms. Unlike formal alliances, or other mechanisms of coercion, political-security cooperation amongst ASEAN has developed according to institutionalized dialogue, confidence-building measures and the normative rejection of the use of force. Seen from this angle, ASEAN's centrality does not emanate from empirical power; rather, the group constitutes an institutional broker and agenda-setter in regional security governance. The likes of the ASEAN Regional Forum (ARF), the East Asia Summit (EAS) and the ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus) are examples of ASEAN-driven mechanisms aimed at embedding major powers within multilateral frameworks that prioritize dialogue and gradual norm diffusion. The former provides an institution of this strategy, enabling ASEAN to reduce power

asymmetry by mediating the rules and procedures of security interactions throughout the region (Acharya & Seng, 2006).

Nonetheless, ASEAN's commitment to consensus and non-interference, critics contend, also limits its ability to address security threats, especially those which include external powers, decisively. The lack of legally binding mechanisms for enforcement and the necessity to accommodate divergent national interests can restrict ASEAN's capacity to convert norms to concrete results. Such limitations emerge particularly in politically sensitive fields like maritime security, where external strategic interests intersect with sovereignty concerns. Hence, an additional study to systematically review this dynamic can help explain better understanding.

2.ASEAN–China Political-Security Cooperation

ASEAN–China relations literature focuses heavily on a joint approach of cooperation that is complementary with strategic circumspection. Through dialogue-based processes, ASEAN has always endeavoured to socialise China into regional norms, perceiving institutional engagement as a way to address uncertainty and minimize confrontation (Jones, 2012; Koga, 2023). China, for its part, has been actively attending ASEAN-led gatherings where it portrays itself as a responsible regional actor while pursuing its strategic interests.

ASEAN-China political-security cooperation has enhanced in many dimensions, such as confidence-building initiatives, non-traditional security cooperation, and maritime discussions. But that partnership has developed in the context of enduring conflicts, most significantly over the South China Sea. Researchers are observed to acknowledge that in both the legitimacy and stability afforded by ASEAN-centric multilateralism, China has also expressed a preference for more flexible mechanisms that respect strategic autonomy and bilateral leverage (Koga, 2023).

Consequently, maritime security has become a space where collaboration and competition meet. In terms of the negotiation of the CoC, ASEAN's attempt to institutionalize rules-based conduct, while China's approach is a balancing act between engagement and strategic reservation. This highlights the limits or shortcomings of norm-based cooperation in the face of power asymmetry, along with different national strategic priorities.

3.Public Goods, Asymmetry, and Strategic Interaction

Public goods theory offers a helpful lens through which to view these dynamics. Peace and regional stability can be viewed as collective goods that produce benefits throughout a region, yet their provision entails distributional ramifications (Besley & Ghatak, 2006). Those actors with greater resources, or greater strategic capability, are likely to exert more influence over the production and maintenance of these goods (Nexon et al., 2021). Even in asymmetric environments, cooperation can endure, although the outcome may be uneven, as long as all parties prefer cooperation to breakdown.

4.Norm-Based Cooperation and Its Analytical Limits

Existing studies on ASEAN–China political-security cooperation have largely emphasized norm-based and institutional explanations, highlighting ASEAN's role in promoting dialogue, consensus, and confidence-building mechanisms in regional security governance. These pieces of work are useful for understanding the persistence and avoidance of open warfare, including in sensitive domains like maritime security. Nevertheless, scholars have argued that the ASEAN-led regionalism tends to foreground procedural engagement to the detriment of substantive constraint, particularly when dealing with major powers (Jones & Smith, 2007; Narine, 2017).

In the South China Sea, ongoing cooperation has been combined with a growing unequal distribution of material power and China's growing strategic potential. This also means that norm-based and institutional considerations alone are inadequate to account for the results of ASEAN–China maritime cooperation, in particular when cooperation is ongoing and non-binding rules are formed and in the absence of changes to the fundamental power hierarchy. Indeed, as works in asymmetric cooperation and hierarchy show, weaker actors are not bound to engage either because norms inhibit stronger entities, but because cooperation is still preferable to escalation in such a condition of unequal power (Lake, 2009; Kang, 2007). This analytical lacuna prompts a strategic-interaction framework.

These limitations demonstrate the necessity for an analytical framework which can embrace sustained cooperation under contexts of mutual risk as well as persistent power asymmetry. Strategic-interaction models, including the chicken game, are especially helpful when actors hope to escape the worst-case scenario of escalating conflict, and they have different strategic preferences between each other. Rather than assuming normative convergence or institutional constraint, that framework focuses attention on strategic choice in a condition of shared risk, offering a useful lens through which to view ASEAN–China maritime cooperation relative to the South China Sea Code of Conduct.

Building on these strands of scholarship, this study addresses a gap that has been implied but not systematically examined in existing work: why ASEAN–China maritime cooperation persists despite pronounced power asymmetry and the absence of binding institutional outcomes.

Research Methodology

Using secondary data from official ASEAN and ASEAN–China documents, policy statements, and expert assessments, this study adopts a qualitative research design. The strategic interactions in maritime security cooperation are analyzed using the game-theoretic framework of the chicken game. This model helps to conceptualize the strategic choices that actors in the regional security arena make between active engagement and strategic reservation. The methodological approach is guided by well-known principles based on qualitative case study research (Yin, 2018).

The research does not aim at measuring cooperation outcomes or effectiveness as a whole, but rather to interpret strategic choices and patterns of interaction within an institutional setting characterized by asymmetry. It is important to pay attention to the framing, maintenance, and limitation of cooperation in terms of ASEAN-led mechanisms and how these processes shape peace and stability as regional public goods.

Conceptual Frameworks

1.Rational Decision-Making Process

This study takes into account rational decision-making as an underlying topic within ASEAN and the dialogue partners. A "rational decision" is defined as a choice made through a logical and systematic process, where all available information is carefully considered, potential outcomes are evaluated, and the option that best aligns with the desired goals is selected (Ruth, 2023). It is especially pertinent in strategic situations, such as the game of chicken, when agents have to reflect on both their own preferences and those of others. In these games, each player is presumed to think rationally, weighing the costs and benefits of cooperation versus confrontation. The outcome is highly contingent on what each side thinks about the other's behavior, which makes rational calculation critical to avoiding mutually destructive consequences.

2.Geopolitics

This study engages with the discussion on geopolitics and this debate in this inquiry, which has great significance for the conditions of rational decision-making. Geopolitical concerns act as a framework that shapes the risks and opportunities ASEAN faces when making decisions in the chicken game, where power dynamics influence choices between cooperation and escalation. Through the examination of these geopolitical dynamics, the research aims to explore how shifts in regional and global power relations shape the strategic choices of ASEAN and its partners, ultimately guiding their decision-making processes.

3.Public Goods and the Provision of Public Goods

Public goods are thus central to understanding the dynamics of ASEAN's political security cooperation in this research. A public good is defined in two primary terms: it is non-excludable, meaning that no one can be excluded from benefiting from it, and it is non-rivalrous – one person's consumption of the good does not cause another person to be less able to consume it. In the context of ASEAN, particularly in the context of this research, security, peace and regional stability are defined as primary public goods. These are collective benefits shared by all member states as well as external dialogue partners to ensure the well-being of the region.

The provision of public goods refers to the mechanisms and processes through which these goods are made available and maintained. In the case of ASEAN, the assurance of regional security and stability frequently entails the cooperation of external actors and the collective endeavour of ASEAN member states. ASEAN's position on security as a public good revolves around the equilibrium of the interests of the group's constituent states by promoting cooperation with external

powers to tackle common issues. Security, peace, and stability are public goods, and so they play a role in the rational decision processes. There are some stakes for ASEAN, while the status quo and influence are some stakes for the outside forces.

To this effect, that provision affects the way in which ASEAN measures cooperation versus risk as it applies to the chicken game and in turn their combined outlook to regional peace and stability.

4.Chicken Game Framework

The chicken game is employed in this study as an analytical framework rather than a predictive or purely formal model. It is particularly suitable for analyzing strategic interactions in which actors seek to avoid mutually damaging outcomes while simultaneously attempting to maximize strategic advantage. In the ASEAN–China context, both actors share an interest in avoiding open conflict in the South China Sea, which would undermine regional stability and economic development. At the same time, they pursue divergent strategic objectives regarding maritime authority, institutional control, and freedom of action.

Within this framework, "active engagement" refers to strategies that prioritize binding institutional commitments and rule-based constraints, such as ASEAN's push for a binding Code of Conduct. "Strategic reservation," by contrast, reflects preferences for flexibility, non-binding arrangements, and the preservation of unilateral or bilateral maneuverability. These strategic choices are not binary in practice, but the framework allows for analytical simplification that highlights underlying incentives and trade-offs.

The chicken game is particularly useful because it captures the tension between cooperation and confrontation under conditions of mutual risk. Unlike the prisoner's dilemma, which assumes incentives to defect even when cooperation would be mutually beneficial, the chicken game reflects situations in which actors fear the worst-case outcome more than suboptimal cooperation. This distinction is critical in the South China Sea context, where escalation risks incentivize continued engagement despite persistent disagreement.

Results: ASEAN–China Maritime Security and the Code of Conduct

South China Sea maritime security constitutes one of the most complex and consequential areas of ASEAN–China political-security cooperation because the South China Sea dispute remains a complex and multifaceted challenge for ASEAN and China. In contrast to other domains of engagement, maritime security directly implicates sovereignty claims, strategic military positioning, and long-term assertive behaviour over sea lines of communication. For this reason, cooperation here not only reflects diplomatic preferences, but also reveals strategic behaviour both from ASEAN and China side. Hence, the negotiation of the Code of Conduct (CoC) provides a particularly suitable empirical case for examining how ASEAN and China engage in political-security cooperation under conditions of power asymmetry and strategic competition.

The maritime security between ASEAN and China involves contested seas, economic interests, and power competition (Chinvanno & Anantasirikiat, 2024). ASEAN seeks calm, cooperation, and clear rules. While China joins these discussions, China is involved in these conversations but does the work to bolster their own standing, to get stability without limiting freedom of action, as reflected in the delayed CoC finalisation. China a preference for a non-binding and flexible Code of Conduct which circumvents external oversight and ASEAN-led monitoring frameworks, sharply contrasts with the views of certain ASEAN nations advocating for a strong, legally binding agreement. This essential disagreement persists in hindering consensus on critical aspects like scope, definitions, and enforcement. (Lin & Pou, 2025).

Although the CoC was never intended to resolve territorial sovereignty or maritime boundary disputes, it was envisioned as a mechanism to maintain peace and stability in the South China Sea through crisis management, confidence-building, and rules-based engagement. Despite this relatively limited and pragmatic mandate, progress toward a finalized CoC has been repeatedly delayed. As Thayer (2013) demonstrates in his work, subsequent efforts to operationalize the 2002 Declaration on the Conduct of Parties (DOC) and negotiate a binding CoC were hindered by persistent disagreements over scope, procedural arrangements, and intra-ASEAN unity. While ASEAN gradually strengthened its institutional cohesion—particularly following the 2012 crisis and Indonesia's shuttle diplomacy—China continued to emphasize gradualism, consensus, and the prior implementation of the DOC rather than accepting binding commitments. Thayer concludes that although ASEAN has enhanced its centrality and collective diplomatic capacity, CoC negotiations are likely to remain protracted, reflecting enduring strategic asymmetries and China's reluctance to accept legal constraints on its behaviour. Taken together, the CoC negotiations illustrate a strategic interaction in which both ASEAN and China value regional stability but differ fundamentally in how much constraint they are willing to accept in order to secure it.

The construction of artificial islands by China and its expansion of military infrastructure in contested areas like the Spratly Islands illustrate this strategy of selective engagement from China's end (Lee, 2023). China's actions significantly alter the regional security environment by shifting the balance of power in China's favor, while ASEAN's capacity to respond collectively remains constrained. Despite continued diplomatic engagement, ASEAN's influence over the operational realities of maritime security remains limited, reinforcing asymmetry in the cooperation relationship.

Meanwhile, ASEAN has generally argued for a binding CoC as a method of promoting predictability, defending sovereignty, and enhancing rules-based conduct. A binding paradigm is considered important in order to translate cooperation into a credible set of meaningful limits on destabilizing behavior. China, however, has consistently favored flexible, non-binding arrangements focusing on confidence-building measures and voluntary adherence rather than enforceable rules. This divergence reflects differing strategic priorities regarding institutional authority of action (Dang, 2023; Naval, 2024).

Both internal institutional constraints within ASEAN shape its capability to affect CoC negotiations. Consensus-based decision-making and divergent national interests among member states limit ASEAN's ability to adopt unified and forceful positions. Economic ties with China make collective action even more difficult, as some member states are more reluctant to push for stringent commitments. These dynamics weaken ASEAN's negotiating leverage and reinforce asymmetrical outcomes (Wilson Center; Chinvanno & Anantasirikiat, 2024).

China's growing maritime footprint, including its infrastructure development and patrolling endeavors, also tilts the strategic balance. While cooperation mechanisms reduce the risk of accidental escalation, they also provide China with the opportunity to grow influence in the guise of engagement. This asymmetry shapes the distribution of benefits derived from cooperation.

In short, the analysis draws on ASEAN's and China's stated positions in the Code of Conduct negotiations to assess whether their interactions can be systematically interpreted and explained by the Chicken game. To do so, this study applies a chicken game framework to ASEAN–China maritime security cooperation, conceptualizing the strategic choices of each actor as a trade-off between active engagement and strategic reservation with indicators of each possible action. While no consolidated negotiating draft of the CoC has been made public, triangulation of ASEAN draft proposals, Indonesia's zero draft, and official statements provides a reliable basis for assessing strategic preferences and bargaining behavior (Thayer, 2013; ASEAN, 2002; Ministry of Foreign Affairs of the People's Republic of China, 2013) and can be translated as indicators per below:

	China: Active Engagement (Accepts Binding CoC)	China: Strategic Reservation (Rejects Binding CoC)
ASEAN: Active Engagement (Pushes Binding CoC)	(3,1) ASEAN gains stability and authority; China sacrifices flexibility Indicators: • ASEAN proposals calling for a legally binding CoC with clear scope, dispute-settlement mechanisms, and reference to UNCLOS. • China hypothetically accepts language on restraint, incident prevention, and monitoring mechanisms.	(1,3) ASEAN frustrated; China retains control and flexibility Indicators: • ASEAN repeatedly reaffirms calls for a binding CoC also as shown in the current situation. • China insists on "consultations" rather than negotiations, emphasizes step-by-step. • Continued Chinese patrols, island-building, and military infrastructure expansion in the Spratly Islands during negotiations etc.

ASEAN: Strategic Reservation (Compromises / Avoids Push)	(2,2) Moderate stability through non-binding cooperation Indicators: • ASEAN softens demands, accepts vague language on "self-restraint" and "confidence-building." • China agrees to limited cooperative measures (hotlines, search and rescue, maritime scientific research).	(0,0) Minimal cooperation; heightened instability Indicators: • ASEAN unable to reach consensus due to internal divisions and economic dependencies on China. • China rejects multilateral constraints entirely, accelerates unilateral actions.

Table 1. ASEAN–China Maritime Security as a Chicken Game. *Source: Author's formulation based on public goods theory and empirical developments in the South China Sea.*

According to the payoff table, the most plausible situation for the future, at this moment in time, is to achieve the payoff (1, 3) where ASEAN proactively pursues the concept of a binding Code of Conduct (CoC) to ensure stability and sovereignty in the region. (Global Times, 2023). In spite of ASEAN making amends for this, China seems to embrace a soft law approach that embraces flexibility, usually rejecting any kind of legal binding clauses, to keep itself independent, and as Dr. Prashan points out, despite the fact that establishing rules of the road for countries handling competing claims has a large appeal for Southeast Asian countries, China has expressed reservations toward these terms. Rather than, however, it continues to exercise its burgeoning capacities to maintain its claims associated with the nine-dash line and to contribute to power asymmetries affecting Southeast Asian countries by intercepting their exploration activities and undertaking activities that increase operational risks. (Parameswaran P., 2023)

This results in ongoing regional tensions and uncertainty, with China retaining significant presence over the South China Sea, strategically benefiting at ASEAN's expense due to the lack of binding constraints. (Lowy Institute, 2023).

Another but less probable scenario may be (3, 1) in which both ASEAN and China pursue active engagement. If China signed a binding COC with ASEAN, this would improve regional stability. At the same time, however, this would require China to give up some autonomy, in particular on the nine-dash line problem, a concession that, at the present time, seems unlikely. Although this outcome would be ideal for ASEAN as it ensures security and stability, it would require China to align its actions with ASEAN's goals and, by so doing, restrict its strategic flexibility.

The least likely outcome is characterized by both sides choosing strategic autonomy (0,0), leading to minimal cooperation. This scenario would exacerbate regional tensions and instability, increasing the risk of conflicts. Such an outcome represents a worst-case scenario for regional peace, with both parties facing significant security disadvantages.

The present Nash Equilibrium occurs at (1, 3) when ASEAN's desire for a binding COC is in sync with China's wish for strategic reservation. China wants to keep a degree of leeway and act in its own interest and does not want to be constrained by enforceable regulations, whereas ASEAN continues to look for stability by binding forces. This results in two dimensions of China-ASEAN asymmetry: on the one hand, China benefits from maintaining the status quo, and ASEAN bears the cost of unmet security objectives. This Nash equilibrium will aid us in grasping why China would not wish to make the Code of Conduct binding. Thus, it is not hard to see why ASEAN might not want to give up pushing too much, it is also difficult to get China to agree, see the recent development of the CoC.

ASEAN's advocacy for a binding COC aligns with its strategic objective of regional stability but is consistently met with resistance from China, whose strategic autonomy underscores its interest in maintaining control over actions in the South China Sea. However, it is debatable still whether the conclusion is to turn out in the way that both parties compromise in the CoC which will make (2,2) likely. Optimistically analysis this, the (2,2) scenario will happen only if ASEAN and China can conclude the COC soon by having ASEAN compromises to certain objectives of China yet China to make it biding and bilateral talk also need to happen between the states with this problem as mentioned by Sam Seun (2024), a policy analyst at the Royal Academy of Cambodia in Global Times (Global Times, 2024). Yet, the current situation which is (1,3) is a good enabling situation to start with for ASEAN to try for at least (2,2).

In summary, the evidence points to the most direct outcome converging with the payoff (1,3), i.e., ASEAN actively promotes a binding CoC, with China keeping its strategic reservation. Such a configuration allows China to maintain strategic autonomy, while ASEAN is made to pay the price for unfulfilled security goals. Alternative outcomes, such as (3,1), would require China to accept binding constraints, a scenario that remains unlikely in reality. (Lee, 2023; Wilson Center, 2024).

Discussion

1.ASEAN as a Security Community under Conditions of Asymmetry

A great deal of literature describes ASEAN as an emergent security community based on shared norms, consensus-based decision-making, and the rejection of force as an approach to dispute resolution (Acharya, 2014). From that point of view, ASEAN's efforts towards China via dialogue channels and confidence-building measures are seen through the lens of an attempt to socialise major powers to a rules-based regional order. That the ASEAN–China cooperation in the South China Sea has continued despite unresolved problems seems at first glance evidence for that interpretation. However, the findings of this study imply that ASEAN's security-community practices are based on significant structural constraints. While the regional community has done well at keeping the peace and avoiding open conflict through dialogue, in practice its normative tools and institutions have not created binding rules of behavior on China. This chicken-game analysis shows that ASEAN's dedication to active engagement is driven less by normative

convergence and more by strategic risk aversion: cooperation remains preferable to escalation, even when outcomes are asymmetric. This refines Acharya's security-community framework by showing that, instead of resolving them, norm-based cooperation can flourish when embedded in persistent power asymmetries and unequal strategic payoffs.

2.China's Strategic Use of ASEAN-led Institutions

Koga (2023) argues that China's participation in ASEAN-led forums reflects a strategy of selective engagement, in which institutional involvement stabilizes the regional environment but preserves strategic autonomy. The CoC negotiations provide strong empirical evidence for such an interpretation. China's preference for non-binding language, a gradualist style, and the insistence on prior DOC implementation reflects something other than true institutional commitment as Chinese goading. However, the chicken-game framework provides deeper insight into the working of this strategy. By continuing to be involved without binding constraints, China is structurally placed in a favourable position in which it enjoys both lower risk of escalation and more diplomatic legitimacy without forfeiting its freedom to act. ASEAN-led mechanisms hence transform into arenas for managing risk, rather than enforcing restraint. In this regard, the study does not just support Koga's argument, but it sharpens it by showing in detail how strategic reservation yields a stable equilibrium that favors the stronger actor.

3.Contribution to the Literature: Strategic Interaction beyond Norms

This paper proposes to model ASEAN–China maritime cooperation in the role of a chicken game that bridges norm-based institutional analysis and strategic-interaction theory in contributing to the literature. The existing explanations tend to approach cooperation as evidence of normative influence or institutional effectiveness. Instead, according to the chicken-game analysis, cooperation can survive because actors fear the costs of non-cooperation more than the costs of asymmetric outcomes. This argument challenges the belief that stronger institutionalization should result in more balanced outcomes. Instead it implies that under conditions of power asymmetry, cooperation could stabilize the present status quo but also reinforce the unequal distribution of influence. ASEAN's engagement with China should accordingly not be viewed as a case of institutional failure, but rather as a rational calculation that maintains regional stability as a public good, even where full reciprocity is not possible.

Conclusion

This paper has shown that ASEAN–China maritime security cooperation in the South China Sea can be viewed as a strategically formulated public good driven by asymmetrical incentives rather than mere normative convergence on its own. Through a chicken-game perspective on the Code of Conduct negotiations, the paper demonstrates that such durable cooperation can simultaneously produce uneven strategic results not due to failure of cooperation but as a medium for managing risk under conditions of power imbalance.

According to the analysis, instead of conceptualising asymmetry as characteristic of failure, ASEAN's ongoing engagement is a deliberate approach to prevent escalation and preserve institutions with its long-term relevance. Cooperation can still matter when it steadies the regional environment, even while it does not result in binding commitments or equal influence. From this perspective, the ASEAN approach should be viewed as practical risk management, rather than an institutional frailty or strategic compliance.

Lastly, it presents a conceptual platform for analysing strategic interaction within asymmetric political-security cooperation. And although the model is used here in relation to ASEAN–China relations, its major contribution is that it can have a comparative extension. By using the same approach in relation to the cooperation between ASEAN and other external partners – as with the United States, Australia and Japan – this would help us to systematically compare the payoff structures and to see that ASEAN compensates asymmetry in one relationship with its partner when diversified in others. ASEAN's strength, after all, lies not in eliminating asymmetry, but rather in managing asymmetry through strategic flexibility, institutional pluralism and diversified partnerships. This helps ASEAN maintain its relevance and autonomy within an increasingly contested regional order, given the underlying power disparities, while maintaining engagement across multiple security relationships.

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Legal Measures on Controlling of Riding Electric Scooter in Songkhla Old Town

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Abstract

This paper aims to examine appropriate regulatory measures for controlling the use of electronic scooters (e-scooters) in Songkhla Old Town, Thailand. In recent years, many visitors have rented e-scooters to explore the surrounding area due to their convenience and their ability to alleviate the shortage of parking spaces. However, there are currently no specific legal measures or responsible authorities to establish or announce clear rules and guidelines for e-scooter use in this area, which has contributed to safety concerns and traffic accidents. According to the Motor Vehicle Act B.E. 2522 of Thailand, e-scooters are classified as motor vehicles in the same category as motorcycles. Consequently, the existing regulations governing motorcycles are applied to e-scooters. Nevertheless, the design, operational characteristics, and physical appearance of e-scooters differ significantly from those of motorcycles, making the enforcement of such regulations potentially inappropriate and ineffective. Therefore, this study examines the regulatory frameworks of the United States and Germany, where e-scooters are legally recognized and governed by specific legislation. Both countries have established clear legal measures for the use of e-scooters in public spaces. The findings from these regulatory approaches are analyzed and compared to propose suitable policy recommendations for the management of e-scooter use in Songkhla Old Town.

Keywords: electric scooter, Songkhla old town, legal measure

Introduction

Electric scooters (e-scooters) have become increasingly popular in Thailand due to their lightweight design, compact size, and convenience. In addition, e-scooters are considered environmentally friendly because they are powered by electricity, which helps reduce carbon dioxide (CO_2) emissions. In Songkhla Old Town, a historical tourist destination, e-scooter rental services have been introduced to facilitate sightseeing. However, the streets in this area are relatively narrow and often crowded.

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The e-scooter rental service operates in the central area of Songkhla Old Town and offers affordable prices, making it an attractive transportation option for tourists. As a result, many visitors prefer to rent e-scooters to travel around the area and conveniently access various sightseeing and check-in locations. Nevertheless, due to the absence of specific legal measures and responsible regulatory authorities, several problems have emerged from the use of e-scooters in this area, including traffic accidents, riding in the wrong direction, and improper parking.
Although a time schedule has been introduced for the e-scooter rental service to reduce these problems, it has not proven to be sufficiently effective. Accidents continue to occur, traffic congestion remains problematic, and issues such as wrong-way riding and improper parking by tourists still persist. While the local government regulates the operating hours of the service and supervises the rental agency, it is unable to effectively control the behavior of riders due to the lack of specific regulations governing e-scooter use.

Currently, the Songkhla Municipality has permitted a private agency to lease public parking spaces to provide more than 100 e-scooters within the Songkhla Old Town area, which has contributed to increased traffic congestion. Although some users are capable of operating e-scooters responsibly and the private agency manages the rental service, there are still no clear preventive measures or operational guidelines to ensure effective management of the service and to minimize its impact on local residents.

Therefore, it is necessary for relevant government authorities to establish appropriate regulatory measures for e-scooter use in order to address traffic problems and enhance the safety of users and the public. This study examines the legal frameworks of Germany and the United States, where clear and effective regulations have been established to control the use of e-scooters in public spaces. The findings are used to propose policy recommendations for Thai authorities in regulating e-scooter use in Songkhla Old Town.

Research Objectives

1. To study the relevant principles and legal measures on controlling of riding electric scooter.
2. To survey the problems from electric scooter using in Songkhla old town area.
3. To recommend the appropriated measures on electric scooter using in Songkhla old town area from studying foreign laws.

Literature Review

Currently, Thai regulations do not provide a clear definition of electric scooters (e-scooters), and there are no specific laws or regulatory measures that explicitly govern their use. Based on field observations, Songkhla Old Town has become an area where e-scooter rental services are widely provided by the private sector. In practice, e-scooters are often treated similarly to recreational riding devices, which are subject to minimal regulatory control. As a result, there are no age restrictions for users, no mandatory helmet requirements, and no clearly designated areas for riding. Consequently, several issues have arisen from the use of e-scooters, including traffic accidents and congestion.

Although the e-scooter service in Songkhla Old Town has become a notable attraction for tourists, the service should be managed more appropriately to ensure safety and efficiency. Effective management requires cooperation between government authorities and the private sector to establish suitable regulatory measures and guidelines. Such measures would help reduce existing problems and support the sustainable use of e-scooters in the future.

Several major problems have been identified in relation to e-scooter use. First, e-scooters cannot be legally registered as vehicles under current Thai regulations. As a result, their use in public spaces may be considered legally ambiguous. This is because vehicles eligible for registration are required to meet certain safety and structural standards, which e-scooters generally do not satisfy. Furthermore, the absence of a clear legal definition of e-scooters in existing legislation makes it difficult for relevant authorities to assume regulatory responsibility.

Second, the e-scooter rental service in Songkhla Old Town is operated by a private company that determines the operating hours for the service. However, riders may continue using e-scooters in the area even after the service hours have ended. This situation occurs due to the absence of effective legislative measures to regulate riders' behavior. Consequently, various problems arise, such as accidents caused by the lack of clear guidelines or public information regarding the proper use of e-scooters in public areas.

Finally, the legal framework governing e-scooter use remains unclear. Certain rules may be informally applied at times, but these measures are not consistently enforced and often depend on administrative discretion. Riders frequently lack adequate information, have limited access to public guidance, and face no clear penalties for violating rules. These conditions may contribute to an increased risk of accidents in the future.

As demonstrated by the current legal uncertainty, the governance of e-scooter use does not yet align with appropriate regulatory standards. Therefore, establishing a clear legal definition and applicable regulations for e-scooters has become an essential requirement in the present context.

Research Methodology

This is Documentary Research which collect the relevant information from primary sources, these are regulations, relevant official documents and judgements. Also, the secondary sources, these are legal textbooks, research reports, academic journals and internet sources in Thai and foreign document.

Results

Based on field surveys, more than 100 e-scooters are currently parked and operated within the Songkhla Old Town area. This situation has led to several problems, particularly concerning safety and the use of e-scooters in public spaces without clear regulations. Many riders do not wear helmets while riding and often continue using e-scooters beyond the permitted service hours established for the Songkhla Old Town area.

According to the Motor Vehicle Act B.E. 2522 of Thailand, vehicles used in public spaces must be registered. However, e-scooters cannot currently be registered under the existing regulatory framework. As a result, their use in public areas remains legally problematic. Consequently, e-scooter operation should be limited to specific designated areas and should remain under the supervision of the service provider.

Nevertheless, the survey found that riders continue to use e-scooters in public spaces even after the operating hours of the service provider have ended. In such cases, e-scooters are used on public roads alongside other vehicles due to the absence of clear legal regulations. The existing rules applied by service providers are based primarily on internal operational guidelines rather than legally enforceable standards.

To address these problems, it is necessary to introduce regulatory and promotional measures, such as providing user education, establishing a licensing or certification system for

riders, and enforcing mandatory helmet use. These measures would contribute to more effective control and safer use of e-scooters. In addition, relevant authorities in Songkhla should designate specific areas for e-scooter services to ensure appropriate management.

Another important regulatory approach is to amend existing laws or introduce specific regulations governing e-scooters to ensure clarity and comprehensive legal coverage. In this regard, it is beneficial to examine regulatory frameworks from other countries, such as Germany and the United States, where specific legal provisions for e-scooters have already been established. The study also found that the relatively small size of e-scooters may reduce their visibility to other road users. Furthermore, riders often do not wear helmets and frequently lack sufficient information regarding the proper use of e-scooters. These factors may pose safety risks to both riders and pedestrians in the Songkhla Old Town area.

Overall, the impact of e-scooter use is likely to increase due to the absence of clear regulatory measures. Therefore, the researchers recommend establishing enforceable legal regulations for e-scooter use in order to ensure safety and improve traffic management in Songkhla Old Town.

Discussion and Conclusion

Discussion

If Thailand intends to establish appropriate regulatory measures for e-scooters, it is necessary to provide a clear definition and classification of this type of vehicle within the Motor Vehicle Act B.E. 2522. In comparison, both German law and the law of the United States provide explicit definitions of e-scooters as well as specific legal measures governing their use.

Currently, Thailand lacks legislation specifically regulating e-scooters. This legal gap has led researchers to examine foreign legal frameworks, particularly those of Germany and the United States, which provide effective and relevant regulatory measures for controlling the use of e-scooters in public spaces.

Under the legal framework of the United States, both regulations and operational rules are established to control the use of e-scooters. In many jurisdictions, only privately owned e-scooters may be used in public spaces, and riders are generally required to operate them within designated areas. In practice, this approach restricts or limits the operation of e-scooter rental businesses in certain jurisdictions. Furthermore, U.S. regulations commonly establish a minimum rider age of 16 years and impose a maximum speed limit of approximately 25 kilometers per hour. In addition, riders are often required to hold a valid license and wear protective helmets.

German traffic law adopts a somewhat different approach. In Germany, riders are not required to wear helmets or hold a driving license; however, the law establishes a minimum rider age of 14 years. E-scooters are permitted to operate primarily in designated areas such as bicycle lanes and certain urban pathways. They are generally prohibited from operating on main roadways. German regulations also impose speed limits and provide clear traffic signage indicating areas where e-scooter use is permitted.

When considering the Motor Vehicle Act B.E. 2522 of Thailand, e-scooters are currently categorized in the same class as motorcycles. However, the physical characteristics and usage patterns of e-scooters differ significantly from those of motorcycles. Consequently, it is necessary

to develop regulatory measures specifically tailored to e-scooters. Such regulations should clearly define penalties for violations in order to prevent accidents and ensure effective enforcement.
In addition, strict safety measures should be implemented, including the designation of specific areas for e-scooter use. Relevant government authorities should consider establishing dedicated lanes for e-scooters or integrating them with bicycle lanes that are separated from pedestrian pathways in order to reduce the risk of collisions. Speed limitations are also particularly important in areas such as Songkhla Old Town, where roads are frequently used by both local residents and tourists.

As demonstrated by the regulatory frameworks of Germany and the United States, several measures—such as minimum rider age requirements, licensing conditions, and helmet regulations—may serve as useful references for Thailand in developing appropriate legal recognition and governance of e-scooters.

Furthermore, one practical measure to address traffic problems and improve order in Songkhla Old Town is the implementation of clear parking policies. Relevant authorities should establish designated parking areas for e-scooters in order to prevent obstruction of public pathways. The Songkhla Municipality could introduce regulations prohibiting e-scooter parking in congested areas, such as narrow sidewalks and small alleys.

Finally, effective communication between government authorities and the public is essential. Clear information should be provided regarding authorized riding zones, designated parking areas, and emergency contact channels. Establishing a public complaint mechanism would also allow residents and visitors to report issues related to e-scooter services, enabling the municipality to monitor and improve the management of e-scooter operations.

Conclusion

Electric scooters (e-scooters) are a suitable mode of transportation in Songkhla Old Town due to their compact size, ease of parking, and convenience for traveling along the narrow roads and alleys in the historic area. However, in the absence of clear regulations, several problems have emerged, including traffic accidents, congestion, and the use of e-scooters beyond authorized areas.

Under the Motor Vehicle Act B.E. 2522 of Thailand, e-scooters are currently classified as motorcycles. According to this legal framework, vehicles must be registered with the Department of Land Transport in order to operate on public roads. However, the physical characteristics and operational functions of e-scooters differ significantly from those of motorcycles, which creates practical difficulties for registration and regulatory enforcement.

Therefore, the use of e-scooters should be governed by specific legal measures and strict regulatory controls. In particular, designated areas for e-scooter use should be established. Such measures should take into consideration social context, environmental factors, appropriateness, and public safety in order to ensure effective implementation within Thailand. Because each locality has its own social and urban characteristics, regulatory frameworks for e-scooter use should be developed based on continuous study of local conditions and challenges.

Comparative legal analysis also provides useful insights. In the United States, legislation clearly defines e-scooters and establishes regulatory requirements such as a minimum rider age of 16 years, the possession of a valid license, and the mandatory use of protective helmets. Similarly,

German law provides comparable regulatory frameworks governing the safe use of e-scooters in public areas.

Recommendations

Thailand should consider amending the Motor Vehicle Act B.E. 2522 in order to distinguish e-scooters from motorcycles. The revised legislation should provide a clear legal definition of e-scooters and require owners to register their vehicles and obtain appropriate licenses in order to prevent potential regulatory and safety problems.

In addition, amendments to the Land Traffic Act B.E. 2522 should be considered in order to formally recognize the use of registered e-scooters in public areas under specified conditions. Alternatively, Thailand may consider enacting a separate law governing small personal mobility vehicles. Such legislation could apply specifically to vehicles that do not fall within the traditional definition of "motor vehicles" under the Motor Vehicle Act B.E. 2522 and could establish regulatory principles more suitable for emerging forms of personal transportation.

At the local level, the use of e-scooters in Songkhla Old Town should be supported by policy measures in addition to legal regulations in order to ensure safe and efficient operation on public roads. For example, public awareness campaigns could be introduced to promote responsible e-scooter use while emphasizing their environmental benefits, including the reduction of greenhouse gas emissions.

Furthermore, local authorities should establish clear operational guidelines, including speed limits, minimum rider age requirements, and basic riding rules. These measures would help reduce traffic congestion and accidents while promoting the safe and sustainable use of e-scooters in Songkhla Old Town.

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Criminal Punishment and the Principle of Offender Rehabilitation: A Comparative Study of Thai and Laos Laws

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Abstract

This academic article aims to study the principles of criminal punishment, focusing on the concept of offender rehabilitation, and to compare the enactment and enforcement of criminal law in Thailand and the Lao People's Democratic Republic. Using documentary and comparative research methods, the study analyzes the evolution of punishment from retaliatory to rehabilitative, as well as legal measures aimed at correcting offender behavior, such as suspended sentences, probation, alternatives to imprisonment, and prisoner rehabilitation. The findings indicate that the criminal laws of both countries primarily adhere to deterrent and reactive punishment, but differ in the level of recognition of offender rehabilitation principles and their practical application. The article suggests guidelines for developing criminal punishment measures that align with offender rehabilitation principles and international standards to enhance justice and reduce recidivism in society.

Keywords: Criminal Punishment, Rehabilitation, Comparative Law, Thailand, Lao PDR

Introduction

Criminal punishment is a crucial mechanism of the state to control the behavior of members of society, with the objective of maintaining peace, justice, and social stability. However, the concept of criminal punishment is not limited to revenge or retaliation for wrongdoing. It has evolved to consider the human dignity of offenders and their opportunity to reintegrate into society as individuals capable of reform. The principle of offender rehabilitation has therefore become a widely discussed concept in modern criminal law. In contrast, traditional criminal law systems often base punishment on reactive and deterrent considerations, viewing offenders as deserving punishment for their violations. However, the effectiveness of this approach in addressing crime in the long term, particularly recidivism and the negative impacts of imprisonment on social structures, families, and the future prospects of ex-convicts, has been questioned.

In the international criminal justice system, the concept of punishment has evolved from "retaliation," which emphasizes the victim's satisfaction and inflicting suffering on the offender

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equal to the crime committed, to the concept of "rehabilitation," which views crime as stemming from social, economic, and psychological factors. Therefore, the state has a duty to "preserve" rather than "destroy." However, both Thailand and the Lao People's Democratic Republic face prison overcrowding crises and high recidivism rates, reflecting shortcomings in current legal provisions that hinder genuine rehabilitation. Consequently, the principle of offender rehabilitation has been developed as an objective of criminal punishment, focusing on behavioral modification, psychological rehabilitation, and social skills enhancement to enable offenders to reintegrate into society effectively. This concept is reflected in various legal measures such as suspended sentences, probation, alternatives to imprisonment, and prison rehabilitation programs.

This article aims to study criminal punishment from the perspective of offender rehabilitation principles, using documentary and comparative research methods to analyze the legal provisions and fundamental concepts in the criminal laws of Thailand and the Lao People's Democratic Republic. The selection of these two countries is significant due to their similar written legal systems, but differing social, political, and law enforcement contexts, which affect the recognition and practical application of offender rehabilitation principles. Furthermore, this comparative study will highlight the level of importance placed on offender rehabilitation principles in the criminal laws of both countries, as well as the problems and limitations in their enforcement. This will lead to recommendations for developing criminal punishment that aligns with modern justice concepts and international standards.

Objectives

1. To study the principles of criminal punishment, focusing on the concept of offender rehabilitation.
2. To compare the enactment and enforcement of the criminal law in Thailand and the Lao People's Democratic Republic.

Topic1

In the case of Thailand (Criminal Code)

Limitations of the penalty structure, Section 18, and issues of discretion and penalty criteria, Section 56.

The first issue concerns the structural limitations of punishments. Section 18 of the Thai Penal Code lists five types of punishments (death penalty, imprisonment, detention, fines, confiscation of property). The key point is that "imprisonment" is positioned as the primary punishment after the death penalty, leading the Thai justice system to be fixated on it. The law fails to prioritize "community service" or "rehabilitation" as primary punishments in their own right, instead placing them alongside suspended sentences. This limits the effectiveness of rehabilitation. Furthermore,

while Section 18 specifies five primary punishments, the absence of "community service" or "rehabilitation" as primary punishment forces courts to choose between imprisonment and suspended sentences. In some cases, imprisonment is considered too severe, while suspended sentences are perceived as too lenient by society.

The second issue concerns discretion and sentencing criteria. Section 56 is central to rehabilitation in Thailand (suspension of sentence). The point of consideration is that the law stipulates that the sentence must be a maximum of five years imprisonment. If the court sentences someone even one day longer than that, the court cannot implement rehabilitation measures under this section. The emphasis on "quantitative" criteria (number of years) rather than "qualitative" criteria (character traits) deprives offenders who have the potential to reform but have received high sentences of opportunities for rehabilitation. Furthermore, while Section 56 allows the court to set various probation conditions, in practice they tend to be repetitive, such as reporting requirements, rather than focusing on individualized rehabilitation.

Statistical data and situation in Thailand: Statistics from the Department of Corrections (2025) show over 280,000 inmates, one of the highest in ASEAN. 80% of these offenses are drug-related, and the re-offending rate within three years is as high as 33%. In the Lao People's Democratic Republic, drug trafficking and theft are the main crimes. UNODC report indicates that the correctional system lacks transparency in statistics and insufficient psychological rehabilitation.

Topic2

Case of the Lao People's Democratic Republic (Criminal Code, Revised 2017)

Firstly, the purpose of punishment in Article 47, when considered in its text, states that punishment is primarily "punishment" and "degradation." Although education and training are mentioned, the sentence structure places more emphasis on repression than on remedy.

The second point is that remedial punishment without depriving freedom, as stipulated in Article 51, while seemingly aimed at rehabilitation, is often used in practice as "forced labor" or to control political and social behavior, lacking psychological dimensions and alternative therapies.

The third point, regarding suspended sentences under Article 56, is complex and depends more on state discretion than on individual rehabilitation needs. This results in the low application of this measure in the Lao People's Democratic Republic compared to the actual number of offenses committed.

Considering the philosophy of control-based punishment, Article 47 of the Penal Code of the Lao People's Democratic Republic (2017) stipulates that punishment aims to discipline offenders,

prevent new offenses, and "educate" them. The issue is that the term "education" in the Lao context often emphasizes ideological indoctrination and state discipline rather than psychological or voluntary vocational rehabilitation. This article reflects the state's absolute power to "re-educate" behavior, which may contradict the principle of self-rehabilitation. In the Penal Code of the Lao People's Democratic Republic (2017), "re-education" is a criminal punishment aimed at improving attitudes without depriving offenders of their freedom. The practice involves sending offenders to "re-education centers" for disciplinary training and agricultural or light industrial work, with the goal of realizing their wrongdoing through "labor-based rehabilitation."

However, the rehabilitative measures without depriving individuals of liberty, as outlined in Article 51 of the Penal Code of the Lao People's Democratic Republic (2017), are interesting but have practical problems. The issue is that rehabilitative punishments are often tied to "labor" in state-designated areas. While this may help them find employment, without psychological rehabilitation and social acceptance, the measure may become merely another form of "physical punishment" other than imprisonment. Furthermore, rehabilitation is often used more for "labor recruitment" than for psychological treatment, and there is a lack of standardized follow-up after release. This emphasis on labor over treatment means that certain offenders, such as those with mental illness or severe drug addiction, do not receive the necessary rehabilitation and healing.

Considering the concepts and theories of criminal punishment and the principles of offender rehabilitation, the concept of criminal punishment has roots in various philosophical and jurisprudence schools of thought. It can be broadly categorized into three main approaches: reactive punishment, deterrent punishment, and rehabilitative punishment. Each approach influences criminal policy and the form of punishment in different legal systems. Reactive punishment is based on the idea that criminal acts violate moral and legal norms, and therefore offenders deserve punishment to atone for their actions. This approach emphasizes the appropriateness of the punishment to the severity of the offense, without giving much importance to the future consequences for the offender. In contrast, deterrent punishment views punishment as a tool to prevent offenders or others in society from committing further offenses by instilling fear of punishment. However, this approach has been criticized for potentially failing to effectively modify offender behavior and potentially leading to the use of excessively harsh penalties.

Conversely, the concept of rehabilitative punishment emphasizes the offender as a human being capable of change and development. Punishment should therefore focus on correcting behavior and the causes of the offense, rather than solely as a form of retaliation. The principle of offender rehabilitation believes that providing opportunities for self-improvement reduces recidivism and promotes long-term societal safety. This concept is reflected in modern criminal measures such as

using imprisonment as a last resort, implementing alternatives to imprisonment, and developing rehabilitation programs within prisons. However, the principle of offender rehabilitation does not completely reject punishment; rather, it seeks to strike a balance between protecting society, respecting the rights of offenders, and creating opportunities for sustainable reintegration into society.

Therefore, considering the criminal law of Thailand and the Lao People's Democratic Republic, it is evident that both countries still prioritize deterrent and retaliatory punishment. However, they are beginning to incorporate the principle of offender rehabilitation into the determination of penalties and criminal measures to some extent. This difference is a crucial issue that warrants systematic comparative analysis.

Conclusion

Considering that both Thailand and Laos are experiencing a "legal identity crisis," provisions on rehabilitation sound good in theory but face practical obstacles. Thailand is constrained by a strict "penalty cap," while Laos is limited by a framework of "state control" that lacks a human-centered dimension.

In Thailand, although the Penal Code does not explicitly define rehabilitation as an abstract principle, it reflects the concept through suspended sentences and probation. However, the reliance on imprisonment remains the standard, and the system faces limitations in resources, personnel, and a societal attitude that still favors retribution. In Lao PDR, influenced by socialist legal systems, punishment emphasizes social order and state control. Rehabilitation there is characterized by "supervised reform" focusing on discipline and state policy rather than individual rights and participation.

Ultimately, both countries acknowledge rehabilitation but differ in structure: Thailand allows for more judicial discretion, whereas Lao PDR emphasizes state-supervised reform. Both face prison overcrowding due to the heavy use of incarceration. Legal principles should act as "therapeutic agents" (Therapeutic Jurisprudence), focusing on mental well-being rather than just literal judgment.

Thailand's criminal law aims for diverse forms of punishment, encompassing reactive, deterrent, and rehabilitative measures. Considering the structure of its provisions and judicial practices, imprisonment remains the primary punishment, considered the standard for most offenses. However, while the Thai Penal Code doesn't explicitly state the principle of offender rehabilitation, it reflects this concept through various legal measures such as suspended sentences, probation, and alternatives to imprisonment. These allow courts discretion based on the offender's circumstances

and individual case. Furthermore, within the judicial process, these measures aim to avoid the negative impacts of imprisonment, particularly for first-time offenders or those with less serious offenses. Probation and conditions, such as training or rehabilitation, reflect efforts to rehabilitate offenders and reintegrate them into society without severing ties with their families and communities. However, a significant problem with the Thai criminal justice system is the limitations in practically applying the principle of offender rehabilitation. These limitations stem from scarcity of resources, personnel, and a societal attitude that still views punishment primarily as reactive, resulting in imprisonment remaining the main tool in the criminal justice process.

The criminal legal system of the Lao People's Democratic Republic is influenced by the socialist legal system, which emphasizes maintaining social order and the role of the state in controlling citizens' behavior. Criminal punishment is therefore primarily focused on deterrence and control. However, the Lao Criminal Law has begun to recognize the concept of offender rehabilitation to some extent, particularly through alternatives to imprisonment and rehabilitative training. This reflects the state's attempt to use punishment as a tool to modify behavior and reintegrate offenders into society. Furthermore, in terms of the justice process, offender rehabilitation in Laos remains under strict state supervision, prioritizing discipline and adherence to state policies. As a result, rehabilitation is structured more as a controlled process than as one emphasizing the rights and participation of offenders.

Therefore, comparing criminal punishment and offender rehabilitation principles in Thailand and Laos reveals that both countries acknowledge the concept of offender rehabilitation to some extent. However, there are differences in structure and enforcement. Thailand has a legal framework that allows courts more discretion in determining rehabilitation measures, while the Lao People's Democratic Republic emphasizes rehabilitation under state control and maintaining social order. From a justice system perspective, a common problem in both countries is the primary use of imprisonment, leading to prison overcrowding and reduced effectiveness of offender rehabilitation. Developing alternative punishments and strengthening post-release support systems are therefore crucial issues that should be prioritized.

Considering the concept of legal therapy, law should function as a "therapeutic agent." The justice system must consider mental well-being and behavioral modification, rather than merely judging right and wrong according to the letter of the law. Furthermore, in utilitarian theory and labeling theory, utilitarianism views punishment as valuable only if it prevents future crime, while labeling theory warns that punitive incarceration creates stigma, hindering genuine rehabilitation of offenders.

This academic paper proposes reforms to criminal punishment, focusing on strengthening the principle of offender rehabilitation as a genuine part of the justice process. This should include considering imprisonment for less serious offenses, expanding the role of probation and community rehabilitation measures, and promoting a societal acceptance of the concept of reintegration into society. Ultimately, this will lead to a reduction in recidivism and the creation of lasting justice.

Recommendations

1. Article 56 of Thailand's Criminal Code should abolish the five-year prison sentence cap, allowing courts to prioritize "criminal history and potential for rehabilitation."

2. Articles 47 and 51 of the Lao People's Democratic Republic's Criminal Code should include provisions emphasizing therapeutic jurisprudence and civil society participation in rehabilitation, rather than a unilateral control by the state. Furthermore, they should incorporate psychological therapy and vocational skills relevant to the modern job market, rather than solely relying on manual labor.

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Sentinel-2 and Random Forest-Based Assessment of Pluchea indica Habitat Distribution and Suitability in Coastal Wetlands of Songkhla Lake, Thailand

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Abstract

This study integrates Sentinel-2 multispectral satellite imagery, vegetation indices, and soil data to analyze the spatial distribution and habitat suitability of Pluchea indica in the coastal wetlands surrounding Songkhla Lake, southern Thailand. Sentinel-2 imagery acquired during the dry season (January–April 2024) was processed using a Random Forest (RF) algorithm within Google Earth Engine (GEE). A total of 265 field reference points were collected, with 212 points (80%) used for model training and 53 points (20%) reserved for independent validation. Land use and land cover classification achieved an overall accuracy of 0.82 and a Kappa coefficient of 0.79, indicating reliable classification performance. P. indica vegetation covered 24.18 km² (6.22%) of the total study area (388.55 km²) and was predominantly concentrated in coastal wetland zones. Buffer analysis (50–2,000 m from the shoreline) revealed a strong spatial relationship between P. indica density and proximity to brackish water. The highest concentration occurred within 50–200 m of the shoreline (maximum 1.22 km² at 50 m), followed by a gradual decline beyond 1,000 m, confirming distance from shoreline as a significant spatial determinant. Soil suitability analysis indicated that P. indica predominantly occurs on strongly acidic soils (14.54 km²), with silty clay loam texture accounting for 75.23% of associated soils. The dominant soil series included Ra Ngae (29.15%), Chian Yai (19.67%), and Munoh (13.51%), characterized by low elevation and poor drainage. Environmental variable analysis indicated that P. indica habitats are typically located in low-lying terrain (mean elevation 5.51 m) with moderate-to-high vegetation density (mean NDVI 0.35). These findings demonstrate that P. indica distribution is strongly influenced by shoreline proximity, elevation, vegetation vigor, and soil properties, highlighting the effectiveness of integrated geospatial approaches for wetland vegetation assessment.

Keywords: Sentinel-2, Klue (*Pluchea indica*), Random Forest, Vegetation Index, Songkhla Lake

Introduction

Pluchea indica (L.) Less., commonly known as Indian marsh fleabane, is a robust and resilient shrub within the Asteraceae family. The species is native to a vast geographical range that spans from South Asia and Southern China to Northern Australia (Plants of the World Online, 2024). In Thailand, where the plant is locally known as “Klue,” it is ubiquitously distributed across coastal provinces along both the Andaman Sea and the Gulf of Thailand. Ecologically adapted to saline

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environments, the species thrives in littoral zones, brackish marshes, and tidal flats (Stone, 1970; King-Jones, 2001; Smitinand, 2014).

It is a characteristic associate species in the landward fringes of mangrove forests and salt marshes, frequently colonizing disturbed saline soils in provinces such as Samut Songkhram and Samut Prakan (Bunyapraphatsara & Chokechaijaroenporn, 1998). Ideally, P. indica demonstrates optimal growth in soils characterized by abundant organic matter, high moisture content, and pH levels ranging from neutral to slightly alkaline (pH 6.0–8.0). In terms of soil texture, silty clay loam and clay loam soils with good water retention and moderate salinity (electrical conductivity of approximately 2–10 dS/m) are particularly conducive to its growth. Within its native range, the plant performs essential ecological functions and possesses significant ethnobotanical value.

Morphologically, it is a small shrub reaching heights of 1–2 meters, distinguished by aromatic leaves. These leaves are utilized in traditional Thai herbal medicine for various therapeutic applications, including blood sugar regulation, blood pressure reduction, and diuretic purposes. However, the ecological profile of P. indica is complex due to its dual status as a valued native species and a destructive invader. While it is a naturalized component of Asian wetland ecosystems, the species has proven to be highly invasive when introduced to non-native regions, specifically Pacific Islands such as the Mariana Islands and Hawaii. In these non-native contexts, P. indica forms dense monocultures that actively displace native vegetation and destroy critical habitats for waterbirds. Conversely, in its native wetland areas, P. indica occurrences are ecologically significant for biodiversity conservation. Despite its importance, threats from climate change and contemporary land use changes necessitate the continuous assessment of vegetation condition and distribution in these areas.

Recent advancements in machine learning (ML) and remote sensing (RS) have significantly enhanced the capabilities for wetland vegetation classification. Contemporary research demonstrates the potential of utilizing continuous satellite data for accurate and effective wetland monitoring. Yang and Bohre (2022) focused on the challenges of wetland plant classification caused by the inherent heterogeneity and complexity of natural wetlands, particularly when using inconsistent temporal coverage or low-resolution imagery. Their study utilized time-series Normalized Difference Vegetation Index (NDVI) data derived from NASA's Harmonized Landsat Sentinel-2 (HLS) dataset to develop a methodology for classifying plants in ecologically complex areas. This methodology achieved classification accuracy exceeding 73% for most vegetation types.

In a comprehensive review, Zaka and Samat (2024) evaluated the combination of remote sensing technology and machine learning techniques for detecting and managing invasive plant species (IPS). The analysis revealed that the Random Forest (RF) technique demonstrated high efficiency in identifying invasive species from RS data, enabling accurate distribution mapping to support ecosystem management. Similarly, Thanh et al. (2023) demonstrated that RF combined with Sentinel-2 time-series data achieved overall accuracy exceeding 91% for wetland vegetation classification in Southeast Asian coastal environments, underscoring the robustness of ML-based approaches across diverse ecological contexts.

Sentinel-2A satellite imagery represents a cost-free data source with primary functions for agricultural and forestry operations and food security assessment, enabling determination of various vegetation indices such as chlorophyll area index and water content index. The Normalized Difference Vegetation Index (NDVI) measures vegetation greenness and vitality from satellite or drone imagery by utilizing reflectance values in the red and near-infrared wavelengths. NDVI

values range from -1 to 1, calculated from vegetation-related bands (near-infrared and visible red wavelengths) as a normalized ratio following standard distribution (Panchangsai, 2020).
P. indica represents a native plant species of significant ecological importance in wetland and coastal areas, particularly around Songkhla Lake. The species plays crucial roles in controlling soil salinity, preventing coastal erosion, and provides diverse ethnobotanical applications. Soil properties constitute important factors affecting P. indica growth, including salinity, soil texture, drainage capacity, and pH levels. Multiple research studies, including work by Alongi (2009) and Fatoyinbo et al. (2018), indicate that soil factors, particularly salinity and texture (clay, silt, and sand), significantly affect plant distribution in wetland areas. Due to limitations of direct field surveys in wetland areas with difficult terrain access, GIS and RS technologies serve as important tools for analyzing and monitoring vegetation changes, particularly when integrated with Google Earth Engine (GEE).

This study aims to: (1) apply remote sensing technology and vegetation indices to classify P. indica distribution around Songkhla Lake; (2) analyze spatial distribution patterns and density of P. indica in relation to distance from shoreline; and (3) evaluate soil suitability for P. indica cultivation using soil series data integrated with satellite imagery analysis.

Research Objectives

1. To apply remote sensing technology and vegetation indices to classify *P. indica* in the area surrounding Songkhla Lake.
2. To analyze the spatial distribution of *P. indica* in the area surrounding Songkhla Lake.
3. To assess the suitability of land for cultivating *P. indica* in the area surrounding Songkhla Lake.

Literature Review

Soil Properties and Habitat Suitability in Coastal Wetlands

Soil properties are a fundamental factor determining vegetation distribution in wetlands and coastal environments. Factors such as salinity, soil texture, drainage, and acidity significantly influence vegetation composition and productivity, particularly for salt tolerant plants (Flowers & Colmer, 2015; Chapman, 2016). Halophytic plants such as P. indica typically thrive in soils with electrical conductivity (EC) ranging from 2 to 15 dS/m (decisiemens per meter) and soil pH between 5.5 and 7.5, depending on local hydrological conditions. Silty clay loam and clay loam textures, which retain moisture while maintaining some drainage, are generally associated with the highest biomass of coastal halophytes (Sahu et al., 2015).

Studies integrating soil data with spatial analysis have shown that soil texture and salinity are important predictors of wetland vegetation distribution. Alongi (2009) highlighted the role of soil conditions in regulating productivity and energy flow within mangrove and coastal wetland ecosystems. Similarly, Fatoyinbo et al. (2018) demonstrated how soil and hydrological conditions influence vegetation structure and biomass distribution in coastal floodplain environments.

Remote Sensing Approaches for Wetland Vegetation Mapping

Remote sensing has become a fundamental tool for monitoring wetland vegetation due to its ability to provide continuous spatial and temporally repeatable observational information. Traditional field surveys in wetlands are often limited by accessibility, seasonal flooding, and high spatial unevenness, making satellite-based approaches extremely valuable (Congalton and Green, 2009). Multispectral satellite imagery enables the calculation of vegetation indices that represent vegetation vigor, biomass, and moisture conditions. Among these indices, NDVI

remains one of the most widely used indicators, measuring vegetation greenness based on red and near-infrared reflectance (Panchangsai, 2020).
In wetland environments, NDVI is often supplemented with water-related indices to address spectral mixing issues between vegetation and surface water. Recent studies have shown that integrating vegetation and water indices improves the differentiation between wetland vegetation types and surrounding area cover (Wang et al., 2023; Zhang et al., 2024). Increased access to cloud-based platforms such as Google Earth Engine facilitates broad and time-span analysis of wetland vegetation, providing efficient access to data from Sentinel-2 satellites. International research has demonstrated that Random Forest techniques on GEE achieve mean accuracy as high as 90.76% for wetland plant classification (Zhang et al., 2023; Li et al., 2024), further supporting the methodological approach employed in this study.

Research Methodolog

Study Area

The study area encompasses the vicinity of Songkhla Lake, the largest brackish water lake in Thailand and an important wetland ecosystem. Songkhla Lake is located in Songkhla Province with portions extending into Phatthalung Province in southern Thailand. The terrain consists of low lying plains. Songkhla Lake is a closed lake with a single outlet to the sea at Pak Ro–Laem Son-on, connecting to the Gulf of Thailand, creating brackish water conditions resulting from mixing of inland freshwater with seawater. This produces a distinctive environment suitable for diverse wetland plants and aquatic fauna, particularly *P. indica*, a native species well adapted to areas with high moisture and brackish conditions (Figure 1).

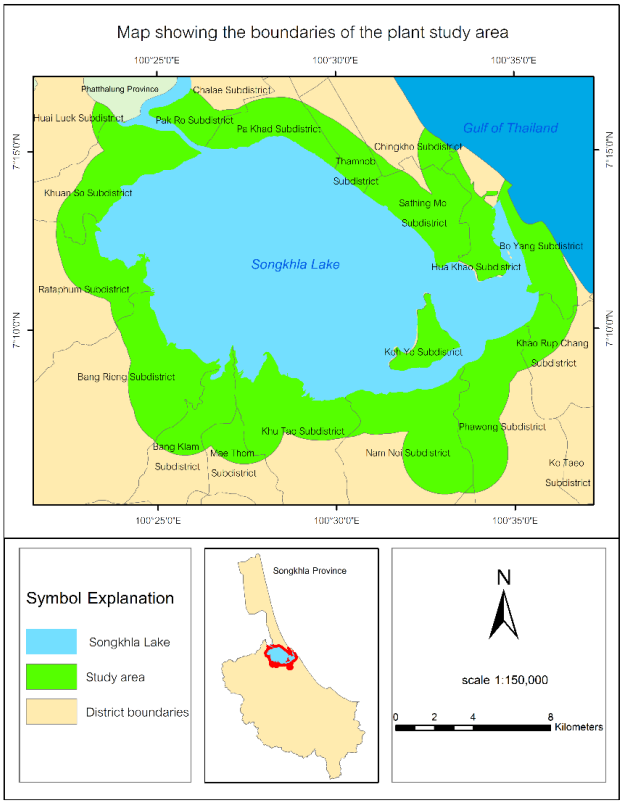


Figure 1 Study area

Methodology

To accurately assess the distribution and habitat suitability of P. indica (Klue) around Songkhla Lake, this study employed a cloud-based remote sensing approach integrated with soil and spatial analysis. The workflow was executed primarily using the Google Earth Engine (GEE) platform to manage large-scale satellite data processing efficiently.

1. Sentinel-2 Imagery Acquisition and Preprocessing

This study utilized a total of 12 Sentinel-2 Level-2A multispectral images acquired during the dry season from January to April 2024, covering the Songkhla Lake study area. Images were selected based on two primary criteria: (1) seasonality, with the dry season selected because reduced cloud cover and lower water levels during this period facilitate clearer detection and spectral differentiation of P. indica from surrounding wetland vegetation; and (2) cloud cover threshold, with only images with less than 10% cloud coverage accepted. Images were composited using a median mosaic approach within GEE to minimize residual cloud and shadow effects. Bands used included B2, B3, B4, B5, B6, B7, B8, B8A, B11, and B12, enabling computation of NDVI, EVI, NDWI, and MNDWI vegetation and water indices.

2. Machine Learning Classification (Random Forest)

The classification of P. indica distribution was executed within the Google Earth Engine (GEE) environment using the Random Forest (RF) algorithm. This machine learning classifier was selected for its non-parametric nature and proven robustness in handling high-dimensional spectral data, allowing for the effective distinction of specific vegetation signatures amidst complex wetland backgrounds.

2.1 Field Data and Model Training:

A total of 265 field reference points were collected during ground truth surveys conducted along the coastal margins of Songkhla Lake. These points were systematically stratified across all 10 land cover classes to ensure representative spatial coverage. The dataset was randomly partitioned into two independent subsets: 80% (212 points) were used to train the RF model, enabling the algorithm to learn the unique spectral characteristics and phenological patterns of *P. indica*. The remaining 20% (53 points) were reserved exclusively for validation purposes to prevent data leakage and ensure an unbiased assessment of model performance.

2.2Accuracy Assessment:

The reliability of the generated distribution map was quantitatively evaluated using a Confusion Matrix derived from the independent validation subset of 53 verification points. Key performance metrics, specifically Overall Accuracy and the Kappa Coefficient, were calculated to measure the model's precision and to account for chance agreement.

3. Spatial Distance Analysis

To examine the spatial dependence of P. indica on coastal proximity, a distance-based analysis was conducted. Multiple buffer zones were generated at 50-meter intervals, extending from the shoreline up to 2,000 meters inland. This spatial framework allowed for the quantitative assessment of vegetation density relative to the water's edge, reflecting the species' potential reliance on coastal area.

4. Soil Suitability Integration

Habitat suitability was further evaluated by overlaying the Random Forest classification results with detailed soil series data for Songkhla Province from the Land Development Department. This integration aimed to identify specific soil textures and series that statistically correlate with the densest occurrences of *P. indica*.

Result

1. Classification of P. indica Distribution Using Remote Sensing and Vegetation Indices

Land use and land cover (LULC) classification for 2024 was derived from Sentinel-2 imagery using a Random Forest algorithm. The overall classification accuracy was 0.82, with a Kappa coefficient of 0.79, indicating substantial agreement and reliable thematic discrimination. The combined accuracy assessment and land cover area statistics are presented in Table 1.

Table 1 Combined Classification Accuracy and Land Use/Land Cover Distribution in Study Area (2024)

Land Use Type	Area (km²)	Percentage (%)	Producer's Accuracy	User's Accuracy
Urban area	65.22	16.79	0.75	0.53
Water bodies	194.21	49.98	0.93	1.00
Forest	21.38	5.50	0.64	0.90
Grassland	15.97	4.11	1.00	0.70
Wetland	19.90	5.12	0.67	1.00
Mangrove	7.19	1.85	0.80	0.40
Palm plantation	10.71	2.76	0.83	0.50
Cropland	27.09	6.97	0.91	1.00
Bare land	2.70	0.70	0.62	0.80
P. indica vegetation	24.18	6.22	0.90	0.90
Total	**388.55**	**100.00**	**OA = 0.82**	**Kappa = 0.79**

P. indica vegetation occupied 24.18 km² (6.22%), representing a significant halophytic plant community within the coastal wetland ecosystem. The dominant land cover was water bodies (194.21 km²; 49.98%), followed by urban areas (65.22 km²; 16.79%) in Figure 2.

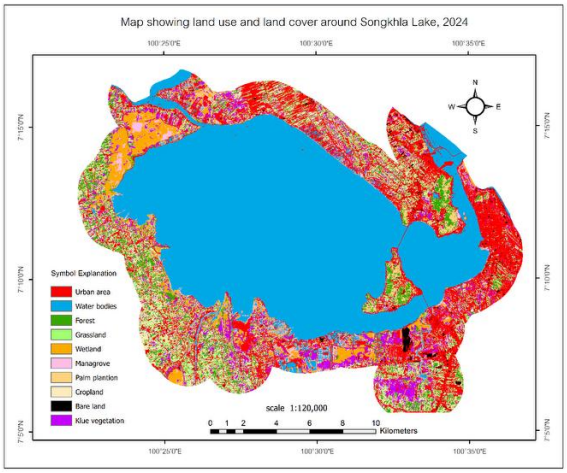


Figure 2 Land use and land cover map of Songkhla Lake area (2024) with enlarged inset showing locations of P. indica occurrences and characteristics of satellite imagery in that area. Note: Redundant standalone figure of the map legend to be removed per reviewer recommendation.

Field verification included 53 sampling points. Overlay analysis indicated that 42 points coincided with classified P. indica areas, yielding 79.25% spatial agreement, confirming the robustness of the remote sensing classification (Figure 3).

Pluchea indica, ground truth field surveys

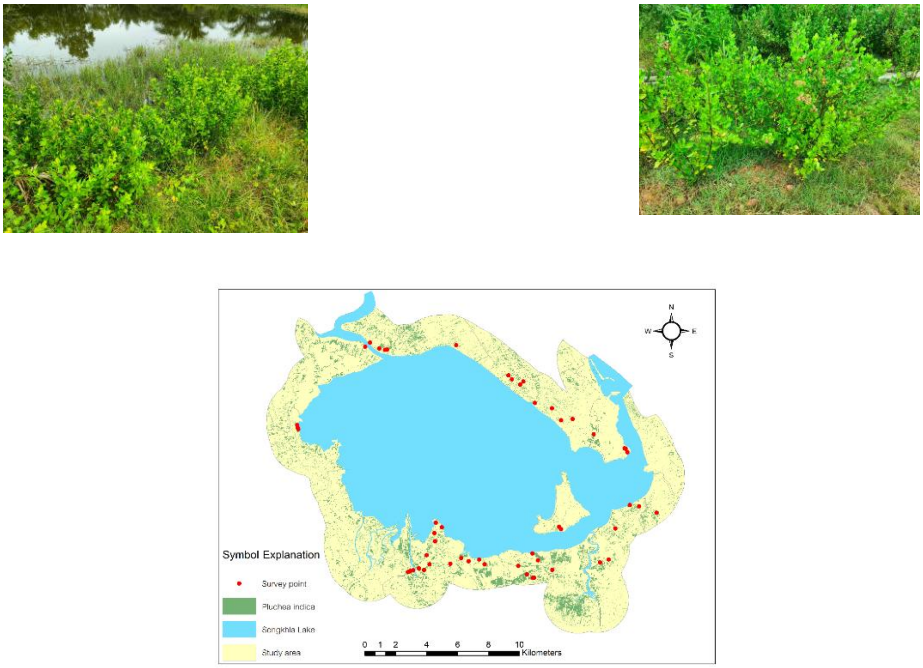


Figure 3 Spatial distribution of *P. indica* vegetation around Songkhla Lake, with spatial explanation of distribution concentration in southern and eastern shoreline zones, attributable to

brackish water influence, low-lying topography, and reduced human land-use pressure in these areas.

2.Spatial Distribution and Density in Relation to Shoreline Distance

A buffer analysis was conducted from the shoreline at 50 m intervals up to 2,000 m to assess spatial density patterns. P. indica vegetation showed the highest concentration within 50–200 m from the shoreline (Table 2). The maximum area (1.22 km²) occurred within the 50 m buffer, corresponding to the most saline and moisture-rich zone where brackish water influence is strongest. Beyond 200 m, distribution gradually declined, with areas ranging between 0.5–0.9 km² up to 1,000 m. A marked reduction was observed beyond 1,000 m, decreasing to approximately 0.38–0.5 km² at 2,000 m, likely reflecting the diminishing salinity gradient, reduced soil moisture availability, and increased anthropogenic land use pressure further inland(Figure 4 and Figure 5).

Table 2 *P. indica* Area by Buffer Distance from Shoreline

Distance from Shore (m)	P. indica Area (km²)
50	1.22
100	0.95
200	0.84
500	0.72
1,000	0.54
1,500	0.44
2,000	0.38
Total (0–2,000 m)	**5.09**

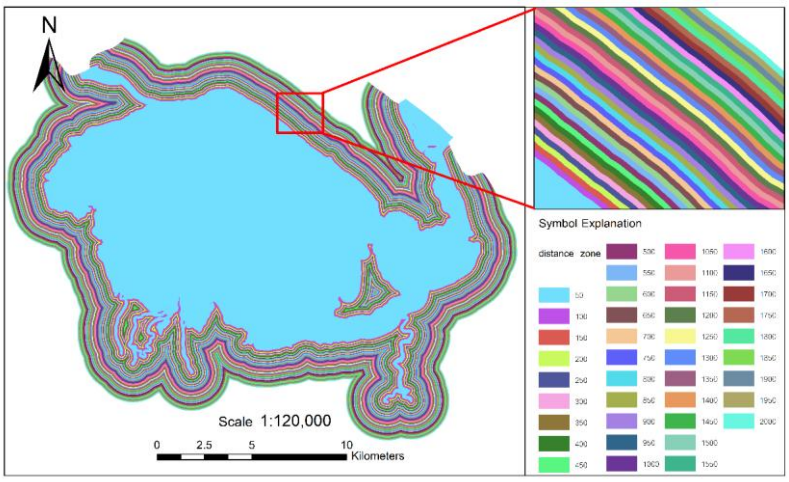


Figure 4 Buffer zones (50–2,000 m) from shoreline used for spatial analysis.

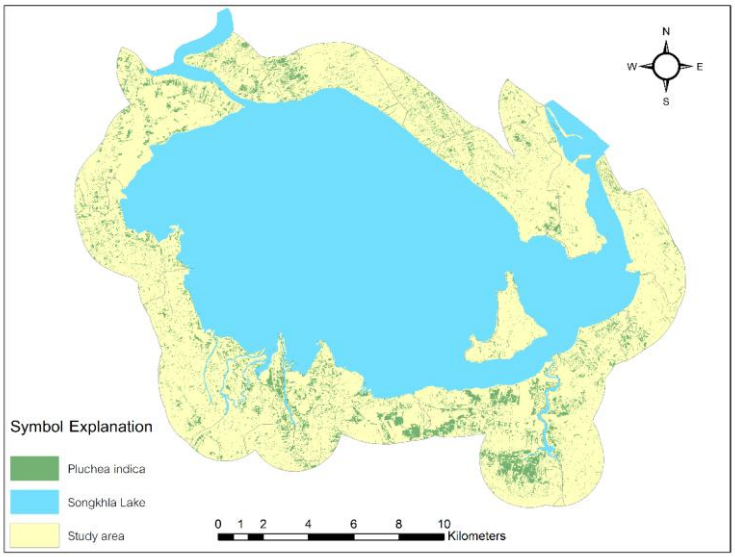


Figure 5 *P. indica.* density trend relative to shoreline distance.

3.Soil Suitability Evaluation for P. indica Cultivation

Soil suitability analysis was conducted by overlaying classified *P. indica* areas with provincial soil series data. A total of 23.31 km² of *P. indica* associated soils were identified.

3.1 Soil Acidity

Most *P. indica* areas occurred on strongly acidic soils (Table 3). Strongly acidic soils (14.54 km²) accounted for the majority of *P. indica* habitat, indicating tolerance to acidic conditions. These soils typically correspond to coastal wetland areas with accumulated organic matter and reduced drainage, conditions that reinforce the halophytic niche of this species.

Table 3 Soil Acidity Distribution in *P. indica* Areas.

Soil Acidity Class	Area (km²)
Strongly acidic	14.54
Very strongly acidic to moderate	3.69
Slightly acidic	3.65
Others	1.43
Total	**23.31**

3.2 Soil Texture and Soil Series

The dominant soil texture was silty clay loam (75.23%), followed by sandy loam (7.89%) and silty clay (6.01%). The Ra Ngae soil series (29.15%) was the most dominant. These soils are typically low-lying, poorly drained, and moisture-retentive, conditions conducive to halophytic vegetation growth (Table 4).

Table 4 Major Soil Series Associated with *P. indica*

Soil Series	Percentage (%)
Ra Ngae series	29.15
Chian Yai series	19.67
Munoh series	13.51
Ranot series	6.01
Others	31.66
Total	**100.00**

3.3 Relationship Between Wetland Variables and *P. indica* Distribution

Four primary variables were integrated: Digital Elevation Model (DEM), NDVI, Sentinel-2 spectral values, and soil data. The mean elevation (5.51 m) confirms that *P. indica* predominantly occurs in low-lying floodplain environments. NDVI values (mean = 0.35) indicate moderate-to-high vegetation density, supporting the classification results (Table 5).

Table 5 Statistical Summary of Environmental Variables in P. indica Habitats

Variable	Min	Max	Mean	Std. Dev.
DEM (m)	1	130	5.51	5.10
NDVI	-0.14	0.62	0.35	0.08
Sentinel-2 reflectance	169	3,108	489.14	79.58
Soil index	1	132	78.59	38.99

Discussion and Conclusion

Spatial Distribution Patterns

The results of this study indicate that *P. indica* (Klue) exhibits a pronounced concentration near the shoreline of Songkhla Lake, with a gradual decline in distribution as distance from the brackish water source increases. The species showed maximum density within 50–200 m of the shoreline, where salinity gradients and soil moisture are highest, and a significant decline beyond 1,000 m, where these conditions weaken and inland land uses increasingly dominate the landscape. These findings align with the ecological characteristics of *P. indica*, which is classified as a halophyte capable of survival in high soil and water salinity conditions (Flowers & Colmer, 2015). *P. indica* typically thrives in coastal wetlands or river estuaries with seasonal water level fluctuations, corresponding to the study area's wetland conditions with seasonal salinity variation.

The gradual decline in *P. indica* distribution area beyond 200 meters from shoreline may reflect environmental limitations such as reduced salinity, unsuitable soil moisture for this species' survival, and impacts from human land use in inland areas including agricultural zones or urban communities. These results align with reports by Chapman (2016) and Wang et al. (2019), who found that many coastal plant species exhibit declining distribution patterns with distance from sea and are typically confined to areas with moderate to high salinity.

Performance of the Machine Learning Approach

The Random Forest classifier achieved an overall accuracy of 0.82 and Kappa coefficient of 0.79, representing a substantial improvement over traditional maximum likelihood methods, which typically yield accuracies of 0.65–0.75 for complex wetland environments (Congalton and Green, 2009). The high producer's and user's accuracy for *P. indica* vegetation (both 0.90) demonstrates that the spectral signature of this species, particularly in the near-infrared and short-wave infrared bands, is sufficiently distinct to support reliable classification. This performance is consistent with comparable studies: Zhang et al. (2023) and Li et al. (2024) reported RF-based wetland classification accuracies exceeding 90% in China's Zhalong Reserve and Gansu City respectively, while Yang and Bohre (2022) achieved 73% accuracy using time-series NDVI classification for wetland plants in North America. The slightly lower accuracy obtained in this study may be attributed to the high spectral heterogeneity of tropical coastal wetlands, mixed pixel effects at vegetation boundaries, and the relatively smaller training dataset. Potential limitations of the approach include sensitivity to class imbalance in training data and the challenge of distinguishing *P. indica* from spectrally similar shrub species in areas of mixed vegetation cover.

Importance of Field Validation

The accuracy of 79.25% obtained from field validation, while slightly lower than the overall classification accuracy of 82%, remains within acceptable ranges for wetland vegetation studies. This discrepancy may be attributed to the dynamic nature of coastal wetland environments, temporal variation between satellite image acquisition and field surveys, and the inherent challenges of precisely geolocating field samples in heterogeneous wetland landscapes. Integration of spatial data from satellites with field data enhances spatial analysis accuracy and can serve as important baseline data for monitoring coastal ecosystem changes sustainably.

Conclusion

This study successfully applied Sentinel-2 satellite imagery and a Random Forest classification algorithm to map and assess *Pluchea indica* (Klue) distribution around Songkhla Lake, southern Thailand. Using imagery acquired during January–April 2024 and 265 field reference points (212 training, 53 validation), land use was classified into 10 categories with overall accuracy of 82% and Kappa coefficient of 0.79, demonstrating high classification reliability. *P. indica* vegetation was successfully distinguished from other land use categories with high efficiency (producer's accuracy = 0.90).

Habitat suitability analysis revealed that the species predominantly occurs on silty clay loam soils, particularly Ra Ngae and Chian Yai soil series, which possess good water retention capacity. Areas with strongly acidic to moderately acidic soil pH values were most associated with *P. indica* occurrence, consistent with its adaptability to acidic wetland conditions.

Spatial distribution analysis demonstrated that *P. indica* exhibits significant spatial relationship with distance from shoreline, with dense concentration within the 50–200 m range. Total *P. indica*

area within the 2-kilometer buffer zone was 23.83 km², representing approximately 98.5% of total classified *P. indica* area (24.18 km²), confirming that distribution is predominantly concentrated in coastal zones. The methodology developed in this study can serve as a model for *P. indica* distribution studies in other regions and supports sustainable resource management, native species conservation, and coastal wetland area management. Furthermore, this methodology can be directly applied to other ecologically and economically important plant species in similar coastal wetland contexts.

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SESSION 5:

Cooperative and Work Integrated Education

Design and Development of an Eco-Label Prototype (Eco Stamp) to Promote Sustainable Ecotourism

Kanyarut Leknapaya[1], Preeyarat Chaowalitprapan[2]

Abstract

This research, titled "Design and Development of an 'Eco Stamp' Certification Prototype to Promote Sustainable Ecotourism," aimed to design and develop criteria, indicators, and a structural framework for an environmental certification prototype aligned with local contexts, while proposing policy and practical guidelines for its implementation among relevant organizations. The findings reveal that the developed prototype features a systematic evaluation framework encompassing natural resource management, environmental impact reduction, community participation, and social responsibility. This certification serves as both a policy instrument and a symbolic tool for communicating sustainability values and standards to tourists and stakeholders. Furthermore, the study offers practical recommendations for the Designated Areas for Sustainable Tourism Administration (DASTA) in the Songkhla Lake Basin to scale the initiative. These include refining evaluation criteria for specific spatial contexts, designing certification and monitoring processes, and integrating the stamp into communication strategies. Evaluated at an "Excellent" level by DASTA officials, the project demonstrates high potential for real-world application, with further suggestions to enhance completeness by detailing activities, refining the presentation, and updating destination data.

Keywords: Ecotourism, Tourism, Songkhla Lake Basin

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Introduction

The Songkhla Lake Basin represents a regionally significant wetland in Southern Thailand, characterized by high biodiversity and a longstanding interconnectedness with the livelihoods, economies, and cultures of local communities. The Designated Areas for Sustainable Tourism Administration (DASTA) serves as a vital mechanism in integrating tourism development with the conservation of natural resources and cultural heritage within the region. However, the basin is currently facing mounting pressure from inappropriate development processes and land-use practices. These factors have led to ecological degradation, driven by urban expansion, commercial agricultural and fishing activities, and tourism that lacks systematic management.

Ecotourism serves as a sustainable tourism paradigm that emphasizes responsibility toward natural resources and cultural heritage, integrated with experiential learning and community engagement. This approach aligns with the mandates of government agencies in promoting community-based tourism and enhancing the capacity of local entrepreneurs to effectively manage resources and tourism activities. Central to this concept is a focus on the quality of activity models and the mitigation of environmental impacts, prioritizing these standards over a primary emphasis on increasing tourist volume.

This article proposes the application of ecotourism concepts in conjunction with an "Eco Stamp" (Eco-label) certification system to elevate responsible tourism standards across multiple dimensions. These include energy and water management, waste management, carbon footprint reduction, resource and cultural conservation, and community engagement. The study suggests that the public sector should serve as the primary mechanism in developing certification criteria through collaboration with local partners, academia, and civil society. This collaborative approach ensures that the framework remains context-specific to the Songkhla Lake Basin, is practically implementable, and can be scaled as a policy prototype for other ecotourism destinations nationwide. Ultimately, this initiative aims to enhance tourism quality, strengthen community capacity, and ensure the sustainable conservation of natural resources.

Research Objectives

1. To design and develop criteria, indicators, and the structural framework for an "Eco Stamp" (Environmental Certification Prototype) that aligns with specific spatial contexts.
2. To propose policy and practical guidelines for the implementation of the environmental certification prototype to promote sustainable ecotourism for relevant organizations.

Literature Review

Tourism Concepts and Theories: Regarding tourism concepts and theories, the World Tourism Organization (UNWTO, 2002) defines tourism based on three universal conditions: travel must be temporary and away from one's usual environment without permanent relocation; the journey must be voluntary rather than coerced or for military purposes; and the travel must not be motivated by the pursuit of income or professional employment. This encompasses diverse objectives such as recreation, visiting relatives, entertainment, sports, attending seminars, seeking knowledge, and business activities. This definition aligns with the perspective of Seri Wangpaichitr (2006), who views tourism as the aggregate of phenomena and relationships arising from the interactions between tourists, business operators, the public sector, and host communities during the process of attracting and welcoming visitors. Similarly, Wanna Wongwanich (2006) elaborates that tourism is not limited to leisure but includes domestic and international population movements

that foster positive relations and provide travelers with knowledge and enriching experiences. Ultimately, tourism is characterized as voluntary travel for recreational purposes to a temporary residence without the intent of seeking income, generating positive interactions across economic, social, and cultural dimensions.

Ecotourism Concepts and Theories: The concepts and definitions of ecotourism began to take clear shape through the work of Hector Ceballos-Lascurain (1988) of the International Union for Conservation of Nature (IUCN), who defined ecotourism as travel to natural areas to appreciate, study, and learn about the landscape, flora, fauna, and cultural features associated with those natural environments. Subsequently, Elizabeth Boo (1990), an ecotourism researcher in the Latin American and Caribbean regions and author of Ecotourism: The Potentials and Pitfalls, further elaborated that ecotourism is nature-based travel that contributes to conservation by generating revenue for natural area management, creating local employment, and fostering environmental awareness among visitors. Simultaneously, The Ecotourism Society (1991) provided an early definition describing ecotourism as responsible travel to natural areas that emphasizes learning about both culture and natural history while avoiding disturbance or destruction of ecosystems; such travel must also support economic benefits for local communities and facilitate the sustainable conservation of natural resources.

Research Methodology

The research project, "Design and Development of an ‘Eco Stamp’ Certification Prototype to Promote Sustainable Ecotourism," was conducted through a four-phase operational framework as follows:

Phase 1: Baseline Study and Tourism Route Mapping

1. Site Identification and Data Collection: Exploring and documenting the distinctive features of ecotourism destinations across three provinces (Songkhla, Phatthalung, and Nakhon Si Thammarat).
2. Tourism Route Design: Developing integrated tourism routes specifically within the Songkhla Lake Basin area.

Phase 2: Criteria Definition and Design Element Analysis This phase involved synthesizing data from the initial stage to establish a design framework, specifically focusing on:

1. Identity Synthesis: Selecting geographical symbols and cultural identities suitable for the development of ecotourism routes.

Phase 3: Design Process and Prototype Development

1. Creative Sketching: Developing at least three design directions for the logo that reflect sustainability and the unique identity of the Songkhla Lake Basin.
2. Stamp Book Design: Creating sketches for an "Eco Stamp" collection book that resonates with the ecotourism experience.
3. Prototype Finalization: Digitizing the selected designs and developing a comprehensive usage manual for the certification system.

Phase 4: Evaluation

1. Staff Assessment: Testing the prototype with officials from the Designated Areas for Sustainable Tourism Administration (DASTA) in the Songkhla Lake Basin. A structured questionnaire was employed as the research instrument to measure satisfaction levels and brand recognition.

Results

1. Ecotourism Route Design

The design of ecotourism routes transcends mere navigation; it is a strategic foundation established to harmonize immersive natural experiences with sustainable resource conservation. Selecting routes that strictly adhere to the ecosystem's carrying capacity and prioritize community engagement is essential in mitigating environmental degradation.

Ecotourism Route Design Route 1: "The Way of Songkhla Lake" (Mueang Songkhla District)

Location	Stamp Station / QR Code Point	Required Activity to Earn Stamp
Hub Ho Hin (The Red Rice Mill)	Front Information Desk	Primary distribution point for the Eco Stamp collection books.
Baan Bon Mosque (Yum-ee-yah)	Public relations board or Waste Management Learning Center (near the entrance)	Learn about community waste management systems or tour the architectural heritage of the mosque.
Nang Ngam Road (Dining Zone)	Partner outlets with the "Eco-Partner" sign (e.g., Ong Ice Cream, Baan Nakorn Nai)	"Eco-Conscious Action": Present personal reusable cups/containers or refuse single-use plastic bags.
Baan Nakorn Nai Museum	Front Reception Counter	Explore the historical bond and cultural connection between the people of Songkhla and their natural environment.
TK Park Songkhla	Reward Redemption Point (Front Reception Counter)	Present the completed Eco Stamp book to verify activities and redeem rewards.

Ecotourism Route Design Route 2: "Green Lungs and Canal Rhythms" (Hat Yai District)

Location	Stamp Station / QR Code Point	Required Activity to Earn Stamp
Khao Kho Hong Summit (Phra Buddha Mongkol Maharaj)	Telecommunication Station / Viewpoint (Welfare Shop area)	"Low-Carbon Ascent": Utilize the municipal tram service to reach the summit to reduce pollution from private vehicles.
Hat Yai Municipal Park	Park Administration Center (Office Building)	Engage in nature-based recreation, such as birdwatching or cycling around the park perimeter.
Khlong Hae Floating Market (Foam-Free Zone)	Market Administration Office (Main Entrance)	"Eco-Friendly Dining": Purchase food or beverages served in natural, biodegradable containers (e.g., bamboo or coconut shells).

Hat Yai Wildlife and Nature Education Center	Visitor Registration Point (Smart Farmer Station)	Tour the educational facilities to learn about local wildlife conservation and natural ecosystems.

Ecotourism Route Design Route 3: "Global Wetlands and Palmyra Craft Heritage" (Khuan Khanun District)

Location	Stamp Station / QR Code Point	Required Activity to Earn Stamp
Thale Noi Nature and Wildlife Education Center	Information Counter (at the boardwalk entrance)	"Nature Trekking": Complete the designated distance of the nature study trail along the elevated boardwalk.
Talaat Tai Nod (Green Market)	Information Pavilion (Central Market Area)	"Eco-Conscious Consumption": Present personal reusable containers (tiffin carriers/tumblers) or purchase products using natural packaging.
Sampaothai (Rice Field Landmark)	Ticket Counter (at the paddy field walkway)	"Sustainable Promotion": Photograph the "Giant Straw Buffalo" and share on social media to promote local eco-tourism.
Pa Phai Sang Suk Market (Bamboo Garden Market)	Coordination Booth (at the bamboo grove entrance)	"Waste Reduction Action": Present personal reusable containers (tiffin carriers/tumblers) or purchase products using natural packaging.
Napokea (Rice Living Learning Center)	Ancient Rice Mill or Napokea Coffee Shop	"Agricultural Heritage": Participate in traditional manual rice milling or traditional rice pounding activities.

Ecotourism Route Design Route 4: "Nature's Healing Touch" (Mueang – Khao Chaison Districts)

Location	Stamp Station / QR Code Point	Required Activity to Earn Stamp
Khao Ok Thalu	Rest Pavilion at the "Summit" of the staircase	"Mountain Conquest": Successfully climb the 1,066-step staircase (present a photograph from the summit as evidence).
Phatthalung Ancient Palace (Wang Kao)	Ticket Counter (beneath the traditional Thai house)	"Historical Exploration": Tour the palace grounds and attend a lecture on the city's historical background.
Hat Saen Suk Lampam	Municipal Tourist Information Center	"Trash-for-Stamp Initiative": Participate in a beach clean-up activity to promote coastal environmental preservation.
Tham Nam Yen (Cooling Spring), Khao Chaison	Kayak Rental Point in front of the cave	"Subterranean Discovery": Paddle a kayak to observe the stalactites and stalagmites within the cool water cave.
Khao Chaison Hot Springs	Payment Counter at the mineral foot bath area	"Thermal Wellness": Utilize the natural mineral foot bath services for therapeutic and wellness benefits.

2.Ecotourism Certification Symbol

The following certification symbols were designed to serve as official marks of endorsement for ecotourism destinations and activities within the Songkhla Lake Basin. This initiative is carried out under the promotion of the Designated Areas for Sustainable Tourism Administration (Public Organization), or DASTA, with the strategic objective of creating a cohesive tourism network that links the diverse areas within the Songkhla Lake Basin. The certification aims to standardize sustainable practices while highlighting the unique ecological and cultural identities of the region.

2.1 ECO TOURISM OLD SONGKLA



The logo incorporates symbolic elements that reflect the identity of Songkhla within the context of the Songkhla Lake Basin. The City Gate symbol represents Songkhla's role as a historical city and a central hub connecting people with various tourist destinations. The Wave and Waterline patterns signify the basin's ecosystem, which holds profound ecological, economic, and social value. The Mermaid Tail reflects the cultural legends and imagery intrinsically linked to the sea and coastal livelihoods. The Artistic Wave Patterns convey the power and dynamics of nature, while the Circular Shape of the seal symbolizes balance, continuity, and the sustainability of development. Overall, the design encapsulates the concept of a symbiotic relationship between "City – Community – Water Resources – Culture – Nature."

At the policy level, the Songkhla Lake Basin Ecotourism Certification has been established as a standardized mark of endorsement for ecotourism sites and activities in the Songkhla urban area. It operates within the context of a freshwater and brackish water ecosystem that is vital to biodiversity, community livelihoods, and local economic development. The certification integrates the historical and cultural identity of the Songkhla Old Town with the abundance of natural resources and traditional artisanal fishing ways of life. This framework aims to promote a balanced approach to tourism that harmonizes ecological conservation, local culture, and long-term sustainable development.

2.2 ECO TOURISM HAT YAI



The certification logo incorporates symbolic elements reflecting the identity of Hat Yai within the broader context of the Songkhla Lake Basin. The central element features the Standing Buddha image, representing the prominent landmark, Phra Buddha Mongkol Maharaj atop Khao Kho Hong. This symbolizes the religious and cultural identity of the area and Hat Yai's role as the gateway to ecotourism in the basin. The mountains and topography in the background reflect the interconnected ecological diversity, ranging from forests and highlands to wetlands. Symbols of trees, birds, and butterflies denote the area's rich biodiversity. Furthermore, the waterside houses and communities illustrate the concept of harmonious coexistence with nature and community-based tourism (CBT), while the waterline and stream patternsat the base signify the central role of the aquatic network in local livelihoods, the economy, and culture.

Regarding the design concept, the certification employs a circular shape with a black-and-white color scheme to convey simplicity, modesty, and formality. This design communicates the systemic integrity and connectivity of natural resources, society, and culture within the Songkhla Lake Basin. By integrating religious symbols, biodiversity, and community ways of life, the logo effectively communicates a vision of ecotourism that balances ecological conservation with long-term social and economic development.

2.3 ECO TOURISM PATTHALUNG



The certification logo incorporates symbolic elements that reflect the spatial identity of the Songkhla Lake Basin and Phatthalung Province. The Sunrise over the mountains and water signifies the abundance of natural resources and a sense of hope for sustainable development. The Boat and Traditional Fisherman imagery reflects the relationship between humans and resources guided by local wisdom. The "Yo Yak" (Giant Lift Net), a quintessential symbol of Phatthalung, demonstrates the value-based and balanced utilization of the freshwater and brackish water ecosystems. Furthermore, the Bridge structures and Waterfront houses represent human settlement and coexistence with the environment. The Wave patterns denote the dynamics of the ecosystem and the vital importance of water resources, while the Southern Thai artistic motifs on the frame link the dimension of nature with the community's cultural heritage.

At the policy level, this certification is designed as a standardized mark for ecotourism within the Songkhla Lake Basin. It integrates Phatthalung's identity through the "Yo Yak" symbol to emphasize the role of local communities as both users and guardians of natural resources. This seal serves as a policy communication tool to promote tourism that harmonizes resource and

ecological conservation, the preservation of local culture, and long-term sustainable community economic development.

2.4 ECO TOURISM THALE NOI



The certification seal incorporates symbolic elements that reflect the spatial identity of the Songkhla Lake Basin. The central motif features the Thale Noi Water Buffalo, symbolizing the community's way of life and its profound relationship with the wetland ecosystem. Khao Ok Thalu is depicted as a significant geographical landmark of Phatthalung Province, while the Thale Noi Red Lotus represents the area's ecological abundance and rich biodiversity. Furthermore, imagery of the Water surface, Waterbirds, and Wave patterns reflects the value of the wetland ecosystem as a vital habitat for diverse species. These elements are enclosed within Geometric motifs, representing the local artistic and cultural heritage of Southern Thailand. Collectively, these components integrate the dimensions of nature and culture into a unified spatial identity.

At the policy level, this certification serves as a quality assurance mark for ecotourism within the Songkhla Lake Basin. Its primary objectives are to promote natural resource conservation alongside sustainable tourism development and to support the active participation of local communities in managing resources and tourism activities. By strengthening the awareness of the region’s unique natural and cultural identities, the certification aims to foster community-level economic and social development without compromising the long-term ecological balance.

3."Eco Journey Stamp Book" Collection Manual

The “Eco Journey Stamp Book” was developed as a strategic policy and communication tool to promote ecotourism within the Songkhla Lake Basin. Its primary objective is to enhance experiential learning through field-based exploration, community engagement, and place-based education. By utilizing a "stamp collection" mechanism, the book serves as a psychological incentive to foster responsible tourism behavior that respects the environment, society, and the local economy. Furthermore, the stamp book functions as an activity-based map that interconnects the ecotourism network, helping to redistribute visitor density away from primary attractions to lesser-known community sites. It also serves as symbolic evidence of a traveler’s participation in conservation efforts. This tool is designed for versatile application, supporting ecotourism activities, outdoor education, and the overall promotion of a sustainable tourism image for the Songkhla Lake Basin.



The "Eco Journey Stamp Book" serves as an operational medium designed to support ecotourism initiatives. The content comprises detailed travel routes, designated learning points, recommended activities, and responsible tourism guidelines, all structured to facilitate comprehensive trip planning and a holistic understanding of the local context. Furthermore, the book establishes clear stamp collection criteria and a reward system to provide incentives for continuous learning. This mechanism is strategically designed to encourage active participation and reinforce the principles of sustainable tourism throughout the Songkhla Lake Basin.

4.Assessment Results by DASTA Officials

The evaluation of this project was conducted by four officials from the Designated Areas for Sustainable Tourism Administration (DASTA), specifically those overseeing the Songkhla Lake Basin. The performance was measured based on the following quality criteria:

- 35–45 Points: Excellent (Ready for actual product development)
- 25–34 Points: Good (Requires partial improvement based on feedback)
- Below 25 Points: Needs Improvement (Requires conceptual or artistic redesign)

Individual Assessment Scores:

1. Evaluator 1: 52 Points
2. Evaluator 2: 52 Points
3. Evaluator 3: 51 Points
4. Evaluator 4: 38 Points

Executive Summary of the Evaluation:

The assessment was carried out by a panel of four experts from DASTA, an organization central to sustainable tourism development. The individual scores awarded were 52, 52, 51, and 38, respectively.

Based on these results, the project achieved an "Excellent" rating. This indicates that the work possesses high potential for further development and implementation into tangible products or

initiatives. It is deemed highly effective for both tourism promotion and the advancement of sustainable tourism frameworks.
Overall, the evaluators reached a consensus that the project exhibits high creativity, with tourism route concepts that are well-suited to the local context. The project effectively balances environmental considerations with tourism activities. Nevertheless, constructive feedback was provided to further refine the project, including enhancing the details of specific activities, making the content presentation more engaging, and ensuring that all tourism site information is up-to-date to maximize its readiness for practical field application.

Discussion and Conclusion

This article elucidates the conceptual framework and developmental process of the "Eco Stamp" environmental certification prototype, which was established with two primary objectives: to design systematic criteria and indicators tailored to the specific spatial context of the Songkhla Lake Basin, and to propose policy and practical guidelines for integrating this certification into sustainable ecotourism promotion. The study successfully yielded a prototype with a comprehensive evaluation framework covering natural resource management, environmental impact mitigation, community engagement, and social responsibility. This Eco Stamp serves as both a strategic policy instrument and a symbolic communication tool, effectively conveying sustainability values and quality standards to tourists and relevant stakeholders.
Furthermore, the study offers actionable recommendations for the Designated Areas for Sustainable Tourism Administration (DASTA) to scale this prototype into regional and national policy levels. This includes adapting evaluation metrics to local contexts, formalizing the certification process, and integrating the stamp into broader communication strategies and ecotourism public relations. The efficacy of the project was validated by an assessment from four DASTA experts, who awarded the work an "Excellent" rating. This high score underscores the project's robust potential for practical implementation in the field of sustainable tourism. Nevertheless, to ensure long-term viability and readiness, the evaluators suggested further refinement of activity details, the adoption of more visually compelling presentation formats, and the continuous updating of site-specific data to reflect the most current tourism landscape.

Acknowledgements

The project titled "Design and Development of the Environmental Certification (Eco Stamp) Prototype for Sustainable Ecotourism Promotion" has been successfully completed thanks to the invaluable guidance and support of several individuals. I would like to express my deepest gratitude to my Project Advisor for providing insightful consultations, expert recommendations, and dedicated assistance in addressing challenges and refining the content to ensure its completeness and accuracy.
This project was developed during my Cooperative Education (Co-op) placement at the Designated Areas for Sustainable Tourism Administration (DASTA), from November 3, 2025, to February 20, 2026. This milestone would not have been possible without the support of the staff at the Songkhla Lake Basin Office. I am profoundly grateful to all the personnel who mentored me throughout the internship, offering guidance on technical knowledge, professional collaboration, situational problem-solving, and valuable life experiences for my future career. Furthermore, I would like to thank the team for their constructive feedback on this project from its inception to its final stage.
I also wish to extend my thanks to my project teammates and colleagues for their assistance, intellectual exchange, and constant encouragement. Finally, I would like to express my heartfelt

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A Psychological Quiz for Tourism Promotion in Songkhla Old Town “zoo-cation : Which fluffy friend are you this trip?"

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Abstract

The development of the psychological test titled "zoo-cation: Which fluffy friend are you this trip?" aims to create engaging media for organizational websites and social media platforms. The project focuses on designing promotional materials to stimulate tourism within the Songkhla Old Town community. By utilizing the ooopenlab platform, the researcher developed a storytelling-based assessment to analyze tourist behavior.

Participants are categorized into six animal-themed personas: Cat, Raccoon, Deer, Bird, Fox, and Mermaid, each paired with tailored recommendations for suitable attractions within Songkhla Old Town. The results indicate that this psychological test effectively serves as a promotional tool, particularly in revitalizing tourism following the late 2025 floods in Southern Thailand. Feedback revealed high levels of user satisfaction, with participants expressing a strong interest in visiting the locations suggested by their results. Ultimately, this tool successfully fulfills the research objective of providing a sustainable framework for publicizing and promoting tourism in Songkhla Old Town.

Keywords: Psychological Quiz, Tourism, Songkhla Old Town

Introduction

Songkhla Province stands as a premier tourist destination in Southern Thailand. Historically serving as the region’s urban center, the Songkhla Old Town community boasts a heritage spanning over 200 years. The area is renowned for its unique architectural fusion of Chinese, Thai, and Western styles, reflecting a multicultural evolution that has become a defining characteristic of the district. This cultural capital serves as a testament to the historical, social, and economic milestones of the past, acting as a primary catalyst for tourism in the area (Somsak Kaewnuch, n.d.).

Despite its significance, Songkhla Old Town is often categorized as a "secondary destination," with tourists typically traveling from the major hub of Hat Yai for short visits. However, the severe Southern Thailand floods in late 2025 significantly impacted several provinces, with Hat Yai suffering extensive damage. This catastrophe caused a stagnation in Songkhla Old Town’s tourism sector as it awaited Hat Yai’s recovery. A prevailing perception among tourists was that the entire Songkhla province remained affected, unaware that specific areas—including the Old

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Town—remained intact or had already recovered. This misunderstanding led to a substantial loss of income for the local community due to the sharp decline in visitor numbers.

In response, the Designated Areas for Sustainable Tourism Administration (DASTA) for the Songkhla Lake Basin—an organization dedicated to supporting sustainable tourism and income distribution—conducted an on-site damage assessment. The survey revealed that while Songkhla Old Town recovered rapidly, it suffered from a "perception gap"; travelers were deterred by the damaged transport links from Hat Yai and a lack of awareness regarding the Old Town's operational status. This highlighted a critical deficiency in public relations, which undermined tourist confidence.

Recognizing the urgent need for effective communication, it became evident that promotional media must not only inform but also captivate the audience's interest. Consequently, the researcher developed a psychological test titled "zoo-cation: Which fluffy friend are you this trip?" This interactive digital tool is designed to showcase attractions within Songkhla Old Town across online platforms, aiming to rebuild public awareness and revitalize tourism interest in the district.

Research Objectives

1. To design promotional media to stimulate and support tourism within the Songkhla Old Town community.

2. To create engaging content for organizational websites and social media platforms to enhance audience interest.

Literature Review

Construction of Psychological Tests

According to Santat Pornprasertmanit (2006), the process of developing
psychological assessment tools aims to ensure that they accurately measure intended constructs, such as intelligence. In psychology, such tools often consist of a series of questions or tasks where individual scores are aggregated to determine a specific trait. Developers must establish clear objectives regarding the constructs they intend to measure, which typically include human attributes like skills, personality, and interests.
Unlike physical attributes (e.g., weight or height), psychological constructs are
latent traits that cannot be observed directly. Therefore, they must be assessed through behavioral indicators. For instance, a "risk-taking" personality may be identified through items such as *"I enjoy gambling," "I seek challenges,"* or *"I love trying new things."* A positive correlation across these responses suggests a high propensity for risk-taking.
The 7 Steps of Psychological Tool Construction (Santat Pornprasertmanit, 2006):

1. Item Writing: Drafting the initial set of questions.
2. Try Out: Conducting a pilot test to gather preliminary data for quality assessment.
3. Item Analysis: Evaluating whether questions effectively differentiate between high and low scorers.

4. Reliability: Testing the internal consistency of the items.
5. Validation: Ensuring the tool truly measures the intended target or goal.
6. Norms: Establishing standardized criteria for comparing individual scores.
7. Standardization: Implementing uniform procedures to eliminate external variables, such as researcher bias.

Designing Psychological Test Results

Test results can be categorized by specific dimensions (e.g., fluid intelligence or survival instincts). However, results can also be adapted creatively to enhance engagement. For example, a personality test might use desserts as metaphors: a gentle person might be represented by a "Vanilla Cake," while a direct and firm individual might be a "Dark Chocolate Cake."
A popular contemporary trend involves using animal themes, as humans often find animal behaviors relatable. Since the late 19th century, scientists like Charles Darwin and Edward Thorndike have explored the evolutionary links between humans and animals. Although animals lack human language, research in Animal Psychology has proven their ability to solve puzzles and exhibit complex personalities (BetterHelp Editorial Team, 2026). For example:

- Cats: Exhibit diverse personalities ranging from aloofness and shyness to trust and aggression (Jennifer Viegas, 2013).
- Raccoons: Known for their high intelligence and curiosity (BrandThink, 2025).

Tourism in Songkhla Old Town

Songkhla Old Town was once a flourishing port city, serving as a melting pot for diverse ethnicities and cultures. Historical records identify it as a strategic maritime hub situated between the East and the West, attracting traders from the Netherlands, England, and France. Key exports included pepper, tin, bird's nests, and local herbs.
Today, the district is celebrated for its Sino-Portuguese architecture, which serves as a preserved symbol of its historical identity. The "classic" atmosphere is further enriched by multi-generational eateries serving unique traditional recipes. In 2025, Songkhla was officially recognized as a UNESCO Creative City of Gastronomy. Its unique geography—characterized by "Two Seas and Three Waters"—provides a rich variety of ingredients that define its culinary appeal.
Despite its potential, the Southern Thailand floods of late 2025 caused a significant halt in tourism. This project, therefore, utilizes a psychological test to revitalize interest and promote the cultural and culinary treasures of Songkhla Old Town to a wider audience.

Research Methodology

“zoo-cation: Which fluffy friend are you this trip?” The development of the psychological test to promote tourism in Songkhla Old Town followed a structured process as detailed below:

1.) Defining Objectives and Test Framework

The researcher developed the test using a storytelling framework with the primary objective of analyzing the personalities and travel behaviors of participants. This analysis serves to provide personalized travel recommendations within the Songkhla Old Town area, acting as a strategic promotional tool to revitalize tourism following the late 2025 floods.

Based on an analysis of tourist behaviors in Songkhla Old Town, the researcher categorized travelers into six distinct animal personas, each representing a specific travel style:

2.1 Cat (The Urban Explorer): Represents travelers who enjoy walking and spontaneous stops. Like cats, these individuals are characterized by their restless, curious, and inquisitive nature. They prefer exploring on foot, taking their time to visit various locations to ensure a comprehensive experience.

2.2 Raccoon (The Culinary Enthusiast): Represents "foodie" tourists. This persona is inspired by the raccoon's natural foraging behavior, often depicted in digital media as being food-motivated. It mirrors travelers whose main priority is discovering and enjoying diverse local cuisines.

2.3 Deer (The Aesthetic Content Creator): Represents travelers focused on photography and content creation. As deer symbolize natural elegance, they embody tourists who prioritize aesthetic presentation—whether it be dressing up for the camera or finding the most picturesque angles to capture the beauty of the scenery.

2.4 Bird (The Cultural & History Scholar): Represents tourists who seek knowledge and local heritage. Birds, particularly owls, are widely recognized as symbols of wisdom in literature, while parrots and mynas are seen as intelligent learners. This persona aligns with travelers who are eager to learn and immerse themselves in the history and cultural fabric of their destination.

2.5 Fox (The Spiritual & Mystical Seeker): Represents travelers with an interest in faith-based tourism (Mutelu). Drawing from East Asian folklore (Chinese, Japanese, and Korean), foxes are often associated with mysticism and the supernatural. This persona represents tourists who believe in destiny and seek out sacred sites and spiritual landmarks.

2.6 Mermaid (The Serene Nature Lover): Represents travelers seeking tranquility and spiritual rejuvenation. As a prominent icon of Songkhla, the Mermaid represents a unique group of tourists who prefer a more solitary and peaceful approach, prioritizing quiet natural spots for mental relaxation.

2.) Item Construction (Question Development)

No.	Question	Choices
1	After you finished showering, you chose to wear...	1. Anything! But I prefer sweatpants. 2. Dress matching with shawl. 3. Of course, a T-shirt with jeans! 4. Depend on the Lucky Color Table. 5. I want a dress that I can post in on my Instagram. 6. Formal and neat.
2	Come on, at this late time, but you forgot…	1. Sunglasses and beach hat 2. Tissue is a must!

		3. Power bank and lipstick 4. Candy…Gummy…Bubblegum… 5. I don't know…but I got up on the wrong side of the bed. 6. Notebook or journal book
3	What you books for depart is…	1. Better to walk this day. 2. Some of the public transportation 3. Anything that I can make video content with 4. Let me check my luck today first. 5. I prefer a boat for a wind today. 6. Public transportation, but I want an ancient one, like a classic.
4	This alley look interesting, so you are…	1. Take a break, admire the view. 2. 3 2 1 POSE! 3. Mark the spot; may this is a new discovery place. 4. Just go inside; Curious kill only the cat. 5. Take a Peek, maybe it is a part of some restaurant. 6. Maybe good spirits lead me here, I guess?
5	Now you are feeling hot and sweaty, so you go in to…	1. A long-standing restaurant, like a classic one. 2. Shop that has a beautiful decoration. 3. A restaurant that has good reviews. 4. Shop that has a positive energy. 5. Stall shop beside the street. 6. Handmade vintage shop.
6	After the sun goes down a little, you start the plan again and go to…	1. Local museum 2. Chilling at the beach or river 3. Next plan, Next food, Next joy 4. Go to the landmark to take a pics 5. Pay respect to a sacred place. 6. Stroll at some of the local markets.
7	Now your plan is ruined, so you decide to…	1. Edit photo at some cafe 2. Whatever will be, will be. Find anything else to do then. 3. Admire the rain at the window in a nearby shop. 4. Use an umbrella; no one can ruin my plan! 5. Hot chocolate time! 6. Check a weather forecast to see if it's normal.
8	The souvenirs you choose is…	1. Lucky items 2. Handmade products 3. Local historical book 4. Premium souvenir set 5. A lot of savory and sweets

		6. Badge pins or keychains
9	You still think about a plan. If it's not raining, you should be at…	1. Look at the sunset at the beach. 2. Doing meditation at some temple 3. Writing in a journal book under the tree or beside the lake 4. A market that has a lot of tasty food 5. Popular spot for photographing the sunset 6. On the road that hasn't reached the end yet

3.) Pilot Testing and Refinement

After the initial development, the test was distributed to internal staff within the organization for quality assurance and feedback. This stage aimed to identify technical errors or content inconsistencies. Based on the feedback received, the researcher refined the tool, focusing on layout composition, imagery, color schemes, storytelling flow, and the selection of multiple-choice questions to ensure the most accurate and engaging user experience.

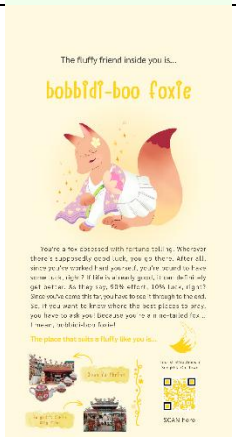
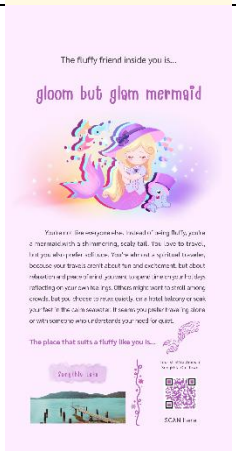
Result

The researcher curated and categorized various attractions within Songkhla Old Town to match the specific travel behaviors of each persona. The classification of locations according to tourist types is presented in the table below:

No.	Tourist Persona	Recommend Attractions
1	The Urban Explorer: Focuses on walking, checking in at landmarks, and snacking.	1.) Ka-Lor-Ji shop 2.) Jong Dee Shop 3.) Grilled egg cakes shop 4.) Khanhom Bok shop 5.) Khanhom Khaang Khaao shop 6.) Ban Lee Heng ice-cream shop
2	The Culinary Enthusiast: Focuses on full meals and prominent dining spots.	1.) The Rally Coffee : 2.) I Tim Ong 3.) The Secret Garden Pasta 4.) Ban Duen Chay
3	The Cultural & History Scholar: Focuses on historical knowledge and local heritage.	1.) Ohm Electronics Shop 2.) Praphai Silk Road 3.) Europe Alley 4.) Songkhla street art
4	The Cultural & History Scholar: Focuses on historical knowledge and local heritage.	1.) Hub Ho Hi 2.) Baan Nakhon Nai Museum 3.) Praphai Silk Road 4.) Ban Duen Chay
5	The Spiritual Seeker: Focuses on sacred sites, faith, and auspicious shrines.	1.) Guan Yu Shrine 2.) Songkhla's Shrine City Pillar
6	The Serene Nature Lover: Focuses on tranquility and spiritual relaxation.	1.) Songkhla Lake
	Focuses on tranquility and spiritual relaxation.	

Following the classification of tourist attractions tailored to each traveler profile, the developers have designed specific result pages and promotional posters for various locations within the Songkhla Old Town district, as detailed below:

No.	Quiz Result Page	Songkhla Old Town Attraction Poster
1		
2		
3		

4			
5			
6			

QR Code of A Psychological Quiz for Tourism Promotion in Songkhla Old Town

“zoo-cation : Which fluffy friend are you this trip?"

Discussion and Conclusion

Development of a Psychological Quiz to Promote Tourism in Songkhla Old Town: "zoo-cation: Which fluffy are you this trip?" The objective of this research is to create engaging promotional media for organizational websites and social media platforms to stimulate tourism within the Songkhla Old Town community. The project features a psychological quiz titled "Zoo-cation: Which Fluffy Companion Matches Your Trip?", designed with a narrative-driven approach where the user acts as the protagonist. The results are generated based on user choices, providing personalized travel recommendations tailored to specific personalities—such as the spiritual seeker (horoscope enthusiast), the content creator, or the cultural explorer.

The researcher chose the psychological quiz format due to its "viral" nature on social media, where users frequently share their results. This makes it a strategic tool for public relations, raising awareness and encouraging tourists to revisit Songkhla Old Town.

In developing this project, linguistic skills from the Thai major were integrated to craft compelling narratives, quiz questions, results, and descriptions. Additionally, media design skills and insights gained from cooperative education (internship) were applied to ensure the content effectively serves public relations goals. Upon completion, the quiz was tested and received positive feedback, proving its practical utility. It is currently hosted on the ooopenlab platform and serves as a foundation for further tourism-related activities.

Acknowledgement

The psychological quiz for tourism promotion in Songkhla Old Town, titled “zoo-cation: Which fluffy friend are you this trip?”, was developed to enhance the appeal of the organization’s website and social media platforms. This project, aimed at promoting community-based tourism within the Songkhla Old Town area, reached its successful completion through the gracious support and invaluable guidance of my project advisors. I am deeply grateful for their mentorship, constructive feedback, and meticulous review of the content to ensure its accuracy and integrity.

My cooperative education placement at the Office of Designated Areas for Sustainable Tourism Administration (DASTA) Songkhla Lake Basin, from November 3, 2025, to February 20, 2026, has been a profoundly rewarding experience. This achievement would not have been possible without the support of the staff at DASTA. I would like to express my sincere gratitude for their guidance since day one, covering professional knowledge, teamwork, workplace adaptation, and effective problem-solving, as well as sharing life experiences and career insights. Their constant suggestions throughout the project development were instrumental to its success.

I would also like to thank my teammates and friends for their continuous support, knowledge sharing, and encouragement. Finally, I wish to express my deepest gratitude to my parents, my sister, and my cats, whose unwavering support in my education and emotional well-being has been the ultimate driving force in bringing this project to fruition.

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Tempeh as an Alternative Plant-Based Protein Source: Production, Nutritional Value, and Culinary Applications in Food Service Operations

Thanyalak Nilnet[1*], Puangpaka Sitthichan [2], and Supanan Prommak[3]

Abstract

Tempeh, a traditional fermented soybean product originating from Indonesia, has gained global attention as a sustainable plant-based protein source. Growing concerns regarding non-communicable diseases and environmental sustainability have increased interest in plant-based dietary alternatives. Tempeh offers high nutritional value, improved protein digestibility through fermentation, and potential applications in modern food service operations. This study employed an applied experimental research design integrating literature review, controlled tempeh production, and culinary application trials. The experimental process included soybean selection, soaking, boiling, dehulling, inoculation with Rhizopus oligosporus, and fermentation under controlled conditions. The produced tempeh was subsequently used to develop health-oriented menu prototypes, including Tempeh Stir-fried basil tempeh, Tempeh Salad, and Tempeh Omelet, followed by sensory evaluation to assess consumer acceptability. The results demonstrated that tempeh could be consistently produced under controlled fermentation conditions, resulting in a firm texture and desirable flavor suitable for culinary use. The developed menu prototypes showed positive sensory acceptance, indicating that tempeh can effectively function as a substitute for animal-based protein in selected dishes. The findings confirm that tempeh is a practical, nutritious, and sustainable ingredient that supports healthy dietary trends and promotes menu innovation within food service operations.

Keywords: Alternative Protein Source; Fermented Soybean; Food Service Innovation; Plant-Based Protein; Tempeh

Introduction

In recent years, growing awareness of health, environmental sustainability, and ethical food consumption has significantly increased the demand for plant-based protein sources worldwide. Consumers are increasingly seeking nutritious alternatives to animal-based protein that can support overall well-being while reducing environmental impacts associated with livestock production. Consequently, plant-based ingredients have become an important focus in modern food systems, particularly within the food service industry where menu innovation and sustainable food practices are increasingly emphasized (Willett et al., 2019).

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Tempeh, a traditional fermented soybean product originating from Indonesia, has gained international recognition as a highly nutritious plant-based protein source. It is well known for its high protein content, dietary fiber, vitamins, and bioactive compounds that contribute to various health benefits (Astuti et al., 2000). The fermentation process, typically involving the fungus Rhizopus oligosporus, improves protein digestibility and increases the bioavailability of nutrients while also producing beneficial bioactive compounds (Nout & Kiers, 2005). Compared with many other plant-based protein sources, tempeh has a firm texture and distinctive flavor that make it suitable for a wide range of culinary applications, including its use as a substitute for animal-based protein in various dishes.

Previous studies have extensively examined the nutritional composition, fermentation process, and functional properties of tempeh (Astuti et al., 2000; Nout & Kiers, 2005). More recent research has also highlighted the potential role of plant-based protein sources in supporting sustainable diets and addressing global food security challenges (Aiking, 2011; Willett et al., 2019). However, most existing studies focus primarily on laboratory-based analysis or industrial-scale production. Limited research has investigated the practical feasibility of producing tempeh in small-scale food service environments, such as restaurants, hotel kitchens, or institutional catering systems. Furthermore, the integration of tempeh into menu development within hospitality settings remains relatively underexplored in academic literature.

Therefore, this study aims to address this gap by examining the production process of tempeh and exploring its culinary applications within food service operations. The research was developed based on practical experience gained during an internship in a hotel food and beverage department. By investigating small-scale tempeh production techniques and developing menu prototypes using tempeh, this study seeks to contribute to menu innovation, promote healthier dietary practices, and support the development of more sustainable food systems within the hospitality industry.

Research Objectives

1. To examine the nutritional value of tempeh as an alternative plant-based protein source.
2. To study the production process of tempeh in order to understand the fermentation stages and factors affecting product quality.
3. To evaluate the potential of tempeh to serve as a safe and appropriate substitute for animal-based protein in food applications.

Literature Review

The increasing global demand for plant-based protein has been driven by growing concerns about human health, environmental sustainability, and global food security. Numerous studies have demonstrated that plant-based diets are associated with reduced risks of chronic diseases, including cardiovascular disease, obesity, and type 2 diabetes (Satija et al., 2017). In addition, replacing animal-based protein with plant-derived alternatives has been shown to significantly reduce greenhouse gas emissions, land use, and water consumption in food production systems (Poore & Nemecek, 2018). As a result, plant-based protein sources have become increasingly important in both nutrition science and the food service industry.

Among various plant-based protein products, fermented foods have attracted significant attention due to their enhanced nutritional and functional properties. Fermentation is a traditional food processing technique that can improve digestibility, increase nutrient bioavailability, and produce beneficial bioactive compounds (Marco et al., 2017). Fermented foods are also associated with potential health benefits, including improved gut health and enhanced immune function.

Tempeh, a traditional Indonesian fermented soybean product, has gained international recognition as a nutrient-dense plant-based protein source. Tempeh is produced through controlled fermentation using fungi from the genus Rhizopus, typically Rhizopus oligosporus, which bind soybeans into a compact cake-like structure (Nout & Kiers, 2005). During fermentation, complex compounds in soybeans are broken down into simpler forms, which improves protein digestibility and enhances nutrient availability.

Previous studies have reported that tempeh contains high levels of protein, dietary fiber, essential amino acids, and vitamins, particularly B vitamins (Astuti et al., 2000). Furthermore, the fermentation process reduces antinutritional factors such as phytic acid while improving mineral bioavailability (Kiers et al., 2000). These characteristics make tempeh a valuable functional food that supports healthy dietary patterns.

In addition to its nutritional advantages, tempeh has considerable potential for culinary innovation. Its firm texture and savory flavor allow it to be used as a substitute for animal-based protein in a wide range of dishes. Recent studies have highlighted the growing interest in incorporating plant-based ingredients into restaurant and food service menus as part of sustainable food system initiatives (Willett et al., 2019). However, despite its nutritional and environmental benefits, the practical application of tempeh in small-scale food service environments remains relatively underexplored in academic literature.

Therefore, further research is needed to examine the feasibility of tempeh production and its potential integration into menu development within food service operations.

Research Methodology

This study investigates tempeh as an alternative plant-based protein source for health by examining its production process, nutritional characteristics, and potential culinary applications. The research methodology integrates experimental food production, nutritional evaluation, menu development, and feasibility analysis in order to assess the role of tempeh in sustainable and health-oriented food systems.

The global transition toward plant-based diets has accelerated due to increasing concerns about non-communicable diseases (NCDs), including cardiovascular disease and obesity. Epidemiological evidence indicates that plant-based dietary patterns are associated with a reduced risk of coronary heart disease and improved metabolic health (Satija et al., 2016). Furthermore, sustainable food production has become a global priority due to the environmental impacts of animal agriculture, including greenhouse gas emissions, land use, and water consumption (Willett et al., 2019).

Tempeh, a traditional fermented soybean product originating from Indonesia, represents a promising plant-based protein alternative. It is produced through controlled fermentation using fungi of the genus *Rhizopus*, particularly *Rhizopus oligosporus*. During fermentation, biochemical transformations enhance protein digestibility and reduce anti-nutritional

compounds such as phytic acid (Nout & Kiers, 2005; Steinkraus, 1996). Fermentation may also increase the presence of bioactive compounds with antioxidant and cardioprotective properties (Ahnan-Winarno et al., 2021; Messina, 2016).

Research Design

This study employed a **mixed-method applied research design** integrating experimental food production with literature-based nutritional evaluation and applied culinary development. The research framework combines principles from food science, nutrition, microbiology, and sustainable gastronomy to evaluate both the scientific and practical potential of tempeh as a plant-based protein source.

The conceptual framework of the study consists of three interconnected components:

1. **Controlled Production System** – Standardized tempeh fermentation under monitored environmental conditions.
2. **Nutritional and Functional Evaluation** – Analysis of macro- and micronutrient composition and functional bioactive compounds.
3. **Applied Culinary Development** – Application of tempeh in prototype dishes suitable for food service environments.

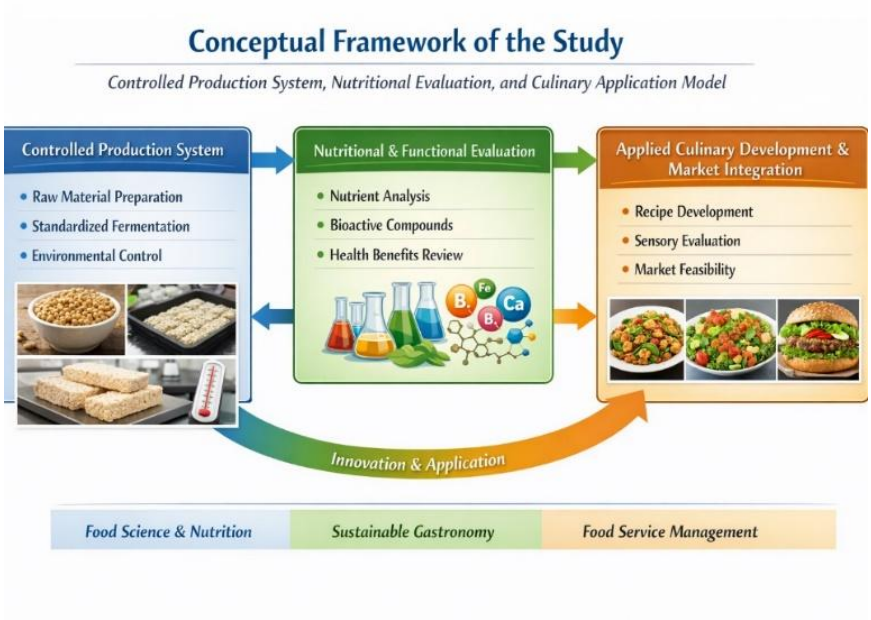


Figure 1: Conceptual Framework of the Study: Tempeh Production, Nutritional Evaluation, and Culinary Application Model

Raw Material Selection and Preparation

High-quality dried soybeans were selected as the primary substrate for tempeh production. Selection criteria included uniform seed size, absence of mold or contamination, and moisture content below 13%. Soybeans were washed thoroughly and soaked in potable water for **8–12 hours at room temperature (25–30°C)** to improve hydration and facilitate heat penetration during cooking.



Figure 2: Selected Soybeans Used for Tempeh Production

Following soaking, the soybeans were boiled until fully cooked while maintaining structural integrity. Proper cooking ensures that the substrate becomes suitable for fungal colonization during fermentation.



Figure 3: Boiling Process of Soybeans Prior to Fermentation

After cooking, the soybean hulls were manually removed to improve fermentation uniformity and oxygen penetration. The beans were then rinsed and drained thoroughly to control surface moisture before inoculation.



Figure 4: Dehulling and Moisture Control of Cooked Soybeans

Inoculation and Fermentation Process

Once the soybeans cooled to approximately **30–35°C**, a commercial tempeh starter containing *Rhizopus oligosporus* spores was added at a ratio of approximately **2–3 g per kilogram of soybeans**. The soybeans were mixed thoroughly to ensure uniform microbial distribution.



Figure 5: Inoculation of Soybeans with *Rhizopus oligosporus* Starter Culture

inoculated soybeans were packed into **perforated polyethylene bags** to allow adequate oxygen circulation during fermentation. The thickness of the soybean layer was maintained at approximately **2–3 cm** to ensure uniform temperature distribution and oxygen diffusion.



Figure 6: Packaging of Inoculated Soybeans in Perforated Fermentation Bags

Fermentation was conducted at **30–32°C for 36–48 hours**. The process was monitored through visual inspection of mycelial growth, aroma development, and structural firmness.
Successful fermentation was indicated by the formation of a dense white mycelial network binding the soybeans into a compact cake.



Figure 7: Fully Fermented Tempeh with White Mycelium Structure

Quality Control and Nutritional Evaluation

Quality control procedures were implemented throughout the production process to maintain hygienic conditions and prevent microbial contamination. These procedures included sanitation of equipment, temperature monitoring, and visual inspection during fermentation.



Figure 8: Hygiene and Quality Control Procedures in Tempeh Production

Nutritional evaluation was conducted using literature-supported data indicating that tempeh contains approximately **18–20 grams of protein per 100 grams**, along with dietary fiber, iron, calcium, and B vitamins (Rizzo & Baroni, 2018). Fermentation also reduces oligosaccharides such as raffinose and stachyose, improving digestibility and reducing gastrointestinal discomfort (Nout & Kiers, 2005).

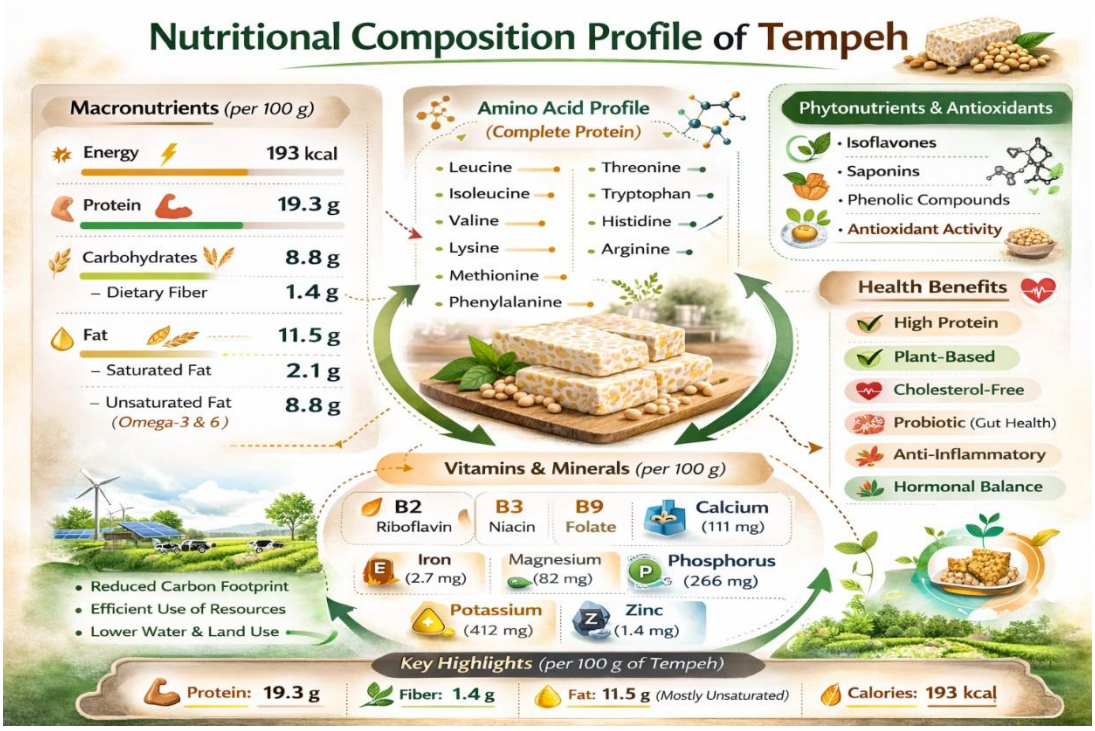


Figure 9: Nutritional **Composition of Tempeh**

Development of Tempeh-Based Menu Applications

To demonstrate practical culinary applications, tempeh was incorporated into three prototype dishes:

- Stir-fried basil tempeh
- Tempeh salad
- Tempeh omelet

These dishes were developed to highlight the versatility of tempeh as a plant-based protein suitable for restaurant and hospitality settings.



Figure 10: Developed Tempeh-Based Menu Prototypes

A **sensory evaluation using a hedonic scale** was conducted to assess taste, texture, aroma, appearance, and overall acceptability of the developed dishes.

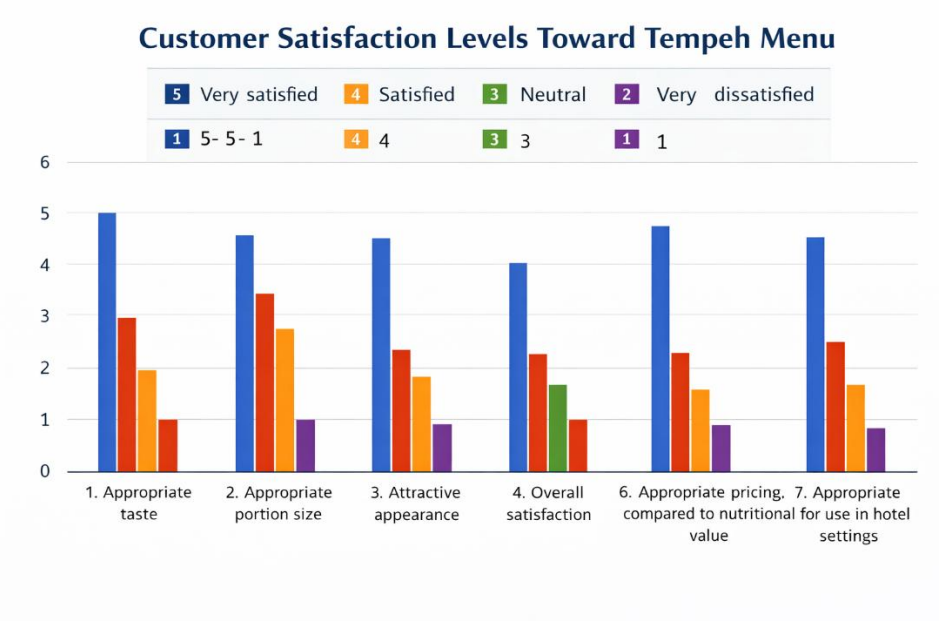


Figure 11: Sensory Evaluation Using Hedonic Scale

Economic and Operational Feasibility

An economic feasibility assessment was conducted to evaluate the practicality of tempeh production in food service operations. The analysis included raw material cost comparison between tempeh and animal protein sources, yield analysis per kilogram of soybeans, and evaluation of labor and equipment requirements.

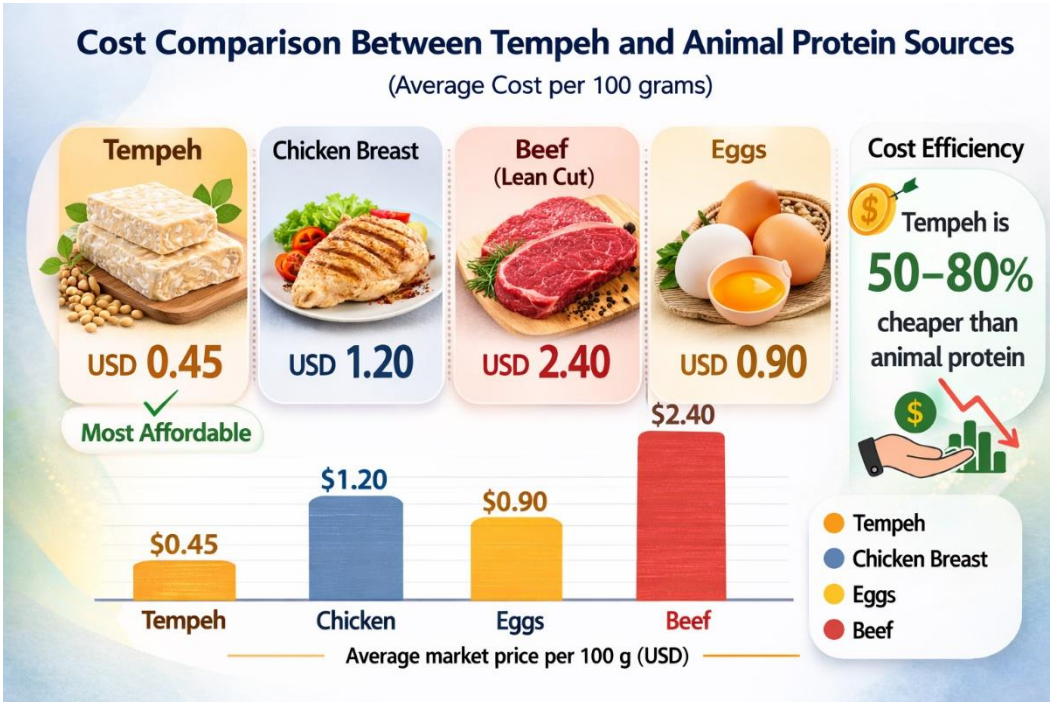


Figure 12: Cost Comparison Between Tempeh and Animal Protein Sources

The findings indicate that tempeh production can be economically feasible and suitable for integration into commercial kitchen environments.

Sustainability Considerations

Tempeh production supports sustainable food systems because plant-based protein sources generally require fewer natural resources and generate lower greenhouse gas emissions compared with animal-based protein production (Willett et al., 2019).

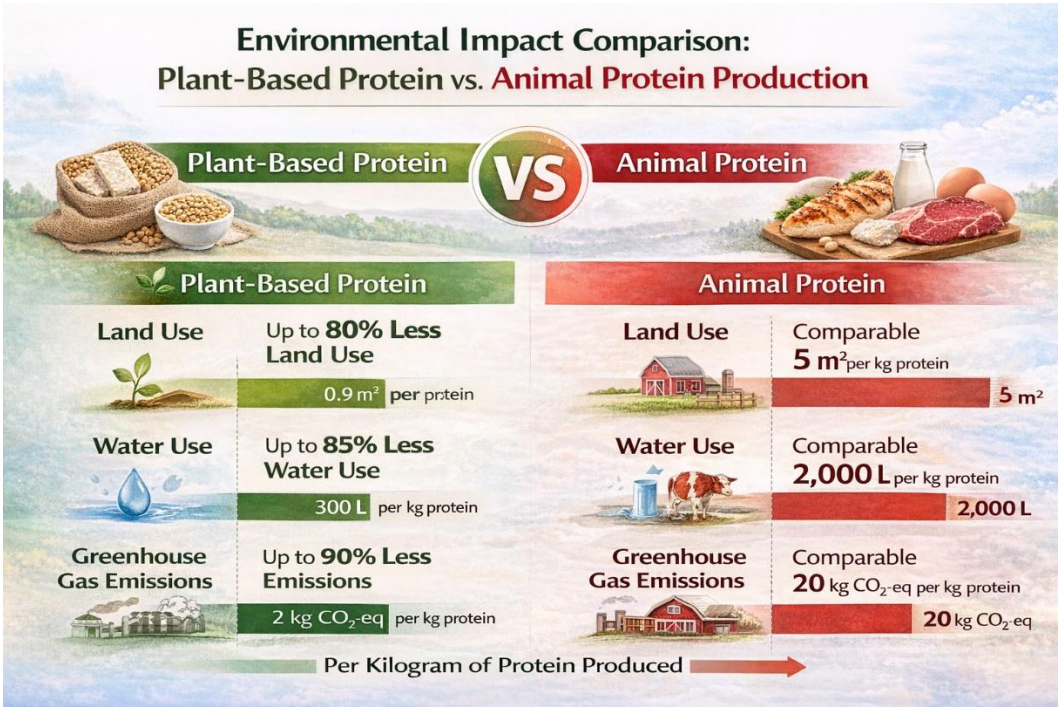


Figure 13: Environmental Impact Comparison: Plant-Based vs Animal Protein

Promoting plant-based menu options using tempeh may contribute to improved public health outcomes and environmental sustainability.

Discussion and Conclusion

The findings of this study demonstrate that tempeh is a viable and practical plant-based protein source that can be successfully produced and utilized in food service operations. The standardized small-scale production process implemented in this study proved to be consistent and manageable when appropriate hygiene practices, temperature control, and fermentation monitoring were maintained. The successful fermentation resulted in tempeh with a compact structure and desirable sensory characteristics, indicating that controlled kitchen environments can support reliable tempeh production.

The study identified that precise moisture control and the even distribution of Rhizopus starter culture are critical factors influencing product quality. Minor deviations in these variables were observed to directly affect texture and structural compactness. These findings highlight the importance of standardized procedures and careful fermentation management in order to maintain consistent product quality and ensure food safety in small-scale production settings.

From a nutritional perspective, the fermentation process contributes significantly to improving the functional value of soybeans. Fermentation enhances protein digestibility and reduces antinutritional compounds such as phytic acid, thereby increasing nutrient bioavailability. These results are consistent with previous studies that identify tempeh as a nutrient-dense fermented food with improved nutritional characteristics compared to non-fermented soybeans (Astuti et al., 2000; Nout & Kiers, 2005). Therefore, tempeh can be considered a functional food that supports healthy dietary patterns.

In culinary applications, tempeh demonstrated a high level of adaptability across various cooking methods and dishes. The tempeh produced in this study was used to develop several menu prototypes, including Tempeh Pad Krapao, Tempeh Salad, and Tempeh Omelet. The results from kitchen trials indicated generally positive acceptance, particularly among health-conscious consumers. The firm texture and ability of tempeh to absorb flavors allowed it to effectively substitute animal-based protein in familiar dishes while maintaining desirable taste and texture.

These findings are consistent with broader research on fermented soybean products, which highlights the critical role of controlled fermentation conditions in determining product quality. Previous studies have emphasized that temperature stability, hygiene control, and proper distribution of Rhizopus culture significantly influence texture formation and structural integrity during tempeh production. However, most existing studies focus primarily on laboratory-scale or industrial production systems. This study contributes additional insight by demonstrating the practical feasibility of implementing a standardized small-scale tempeh production model within a controlled kitchen environment, which has received relatively limited attention in previous literature.

From a sustainability perspective, the findings support existing literature on plant-based protein alternatives, which suggests that plant-derived proteins generally require fewer natural resources and generate lower environmental impacts than animal-based protein sources. As consumer awareness of sustainable diets continues to increase, ingredients such as tempeh provide promising opportunities for developing environmentally responsible menu options in food service operations.

Despite these promising findings, several limitations should be acknowledged. The study was conducted on a relatively small experimental scale and relied primarily on descriptive evaluation methods. Additionally, the sensory evaluation involved a limited number of participants during kitchen trials. Future research should incorporate larger sensory panels, detailed nutritional analysis, and quantitative statistical methods in order to strengthen the reliability and generalizability of the results.

Overall, this study confirms that tempeh is a nutritious, sustainable, and commercially feasible plant-based protein alternative. A standardized small-scale production process can be effectively implemented in controlled kitchen environments while maintaining consistent quality and food safety standards. Furthermore, tempeh demonstrates strong potential for integration into healthy menu development within restaurant and hotel operations. Its nutritional value, culinary versatility, cost-effectiveness, and alignment with global plant-based food trends position tempeh as a practical ingredient for enhancing menu diversity and meeting the growing demand for alternative protein sources in the modern food service industry.

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Restoring Community-Based Tourism after Flooding: A Case Study of Ban Hua Thang Community-Based Tourism Enterprise, La-ngu District, Satun Province, Thailand

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Abstract

This paper aimed to: (1) explore the tourism background and flood impacts on the Ban Hua Thang Community-Based Tourism Enterprise in La-ngu Subdistrict, La-ngu District, Satun Province; and (2) develop participatory approaches for restoring community-based tourism after flooding. This paper is based on a qualitative study. Two major qualitative research techniques are employed: participant observation and in-depth interview. Research duration was 4 months (November 2025 to February 2026). Findings revealed that Ban Hua Thang is a coastal community characterized by rich mangrove ecosystems along La-ngu Canal. Its distinctive attractions include dense mangrove apple forests and large populations of fireflies. Local livelihoods primarily depend on small-scale fisheries and fish cage aquaculture, forming the foundation of the community's economy. The community has collectively managed eco-tourism to generate income while conserving natural resources. Integrating local livelihoods with environmental conservation has supported economic balance and long-term sustainability. However, severe flooding in November 2025 caused extensive damage to mangrove apple forests and firefly habitats—key tourism assets. Tourist arrivals declined almost entirely, affecting the incomes of fisheries networks and women's groups. Although ecological adjustments were observed, such as increased shellfish populations, the community faced major challenges in restoring resources and rebuilding tourist confidence. Participatory recovery initiatives included multimedia promotion on community-based tourism and the restoration of tourism check-in points. Disaster management strategic proposal emphasized a holistic "prepare–respond–recover" framework, including prone area mapping, CCTV warning systems, crisis communication planning, and resilient infrastructure rebuilding to ensure both ecological sustainability and community-based tourism recovery.

Keywords: Community-Based Tourism, Flooding, Restoration, Recovery

Introduction

Satun is a small province in Southern Thailand that is located along the coast of the Andaman Sea. It possesses almost 100 islands; some are considered as the most beautiful islands of the Andaman Sea. Besides its picturesque islands, Satun also features some attractions about culture and local way of lives. As Satun borders Malaysia, a majority of Satun's population is Muslim, many of whom are of Malaysian descent, adding a colourful character to the town, particularly in regard to food and clothing. Fortunately for the people of Satun and visitors to the area, Satun has been largely unaffected by the domestic unrest in the south and is a quiet and safe place to

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visit. Satun town, the province's capital, is a sleepy town that typically only sees travellers who are en route to either the offshore islands or Malaysia. However, mainland Satun does feature the Thale Ban National Park, which contains a number of waterfalls and a large lagoon surrounded by towering mountains (Tourism Authority of Thailand, https://www.tourismthailand.org).



Figure 1 Map of Satun Province
Source: Tourism Authority of Thailand



Figure 2 Tourist Attractions in Satun Province
Source: Tourism Authority of Thailand

Table 1 The Situation of Satun Tourism in the Year 2025

Item	Numbers (Person)	Value (Million Baht)
Thai visitors	1,911,953	10,530.97
Foreign visitors	479,218	2,909.64
Total	2,391,171	13,440.61

Source: Ministry of Tourism and Sports

Unfortunately, Thailand experienced widespread flooding across southern provinces in November 2025. Satun Province was among the most severely affected areas, with significant damage reported in all districts. Satun Floods were worsen as Mountain Runoff Swamps La-ngu District. All 7 districts in Satun Province remained flooded during November 17-28, 2025. Runoff from the Banthat and Sankalakhiri Mountain Ranges, combined with heavy accumulated rainfall, has surged into low-lying La-ngu District—the final drainage point before the sea. Water levels rose rapidly, submerging many villages in Kamphaeng and La-ngu subdistricts under more than 2 meters of water in some areas. Homes and commercial zones have sustained severe damage. Flooding disrupted economic activities and severely affected tourism (Khaosod English, 2025).



Figure 3 Floods Situation in Satun Province
Source: Khaosod, Thai PBS, NBT on 26-28 November 2025

This paper aimed to: (1) explore the tourism background and flood impacts on the Ban Hua Thang Community-Based Tourism Enterprise in La-ngu Subdistrict, La-ngu District, Satun Province; and (2) develop participatory approaches for restoring community-based tourism after flooding. The Ban Hua Thang Community-Based Tourism Enterprise is recognized as one of best practice for community-based eco-tourism. This community suffered substantial damage by flooding. In addition to physical destruction—such as sediment accumulation in waterways, shoreline erosion, and damaged nature trails—the most critical impact was the loss of tourist confidence, resulting in an abrupt decline in tourism income.

Field observations and pilot stakeholder discussions indicated that tourism recovery required a participatory approach involving community members, who acquire deep understanding of local historical and background. Engaging local stakeholders in planning and implementation was essential to strengthening community resilience and enabling sustainable recovery.

Research Objectives

1. To explore the tourism background and flood impacts on the Ban Hua Thang Community-Based Tourism Enterprise.
2. To develop participatory approaches for restoring community-based tourism after flooding.

Literature Review

Kobkarn Prapasavat and Uthai Laohavichien (2023) aims to 1) Study the community-based flood disaster management approach: case studies in Khon Kaen and Songkhla provinces. 2) To study the nature of community participation and level in community-based flood disaster management, a case study in Khon Kaen and Songkhla provinces. 3) To study the problems of community-based flood disaster management, case studies in Khon Kaen and Songkhla provinces. 4) Propose guidelines for community-based disaster management a case study of Khon Kaen and Songkhla provinces. The research methodology used a qualitative case study approach, with in-depth interviews of 30 key informants 15 per province from regional organizations, local government organizations, and communities involved in disaster management based on community involvement. In addition, document analysis and non - participant observation were used, and data were analyzed using inductive analysis and cross-case analysis. The study found that 1) community-based disaster management was the foundation of both case studies, which involved dividing the disaster management process into three stages: before, during, and after the event. This was done in the form of a committee and working group appointed by the provincial governor, in compliance with the Disaster Prevention and Mitigation Act of 2007. 2) The nature of community participation involved community surveillance, participation in meetings, expression of opinions, and the establishment of community volunteers. The level of community participation in both cases was only nominal. 3) Regarding the problem of community-based disaster management in both cases, the study found that there was a problem with insufficient budget allocation for disaster management, even though there had been joint planning among various sectors. 4) Recommendations included the need for government agencies to genuinely involve the community in disaster management, and the need to amend laws to promote participation at all levels, in order to reduce risk for the community. It is also important to enhance the knowledge, capabilities of both government agencies, communities in disaster management, to maximize the benefits and efficiency of community capabilities. From the cross-synthesis of the two community-based flood disaster management case studies, it was found that the disaster

management approaches were similar. Things that are different. Songkhla has a plan at the community level for each community, with all sectors participating in planning and providing disaster knowledge to the community. A flood map is prepared. Create a map of vulnerable groups and the preparation of a nanny house or head of the alleys. In doing this kind of operation, the province of Khon Kaen does not operate. And different contributions by Khon Kaen Province Participation was at level 4, consultation level, and Songkhla was at level 5, which was just a consolation.

Chayathat Niamsawaeng and Chamlong Poboon (2020) study and find out the ways for community-based disaster risk management from flash flood caused by failure of Mae Suai Dam located in Chaingrai Province. This study adopted the qualitative approaches of action research including group interview, in-depth interview, focus group discussion, and workshop with 60 key informants from 6 Mae Suai communities, consisting of local leaders, local wisdoms, community committees, and leaders of community organizations. The data were collected for 2 years (2014-2016) and analyzed by content analysis. The results showed that there were 3 stages of flash flood disaster risk management: 1) preparedness before disaster event, 2) encountering disaster event and 3) revival after disaster event. Preparedness comprised housing management and community organization, water resource management, databased of disaster risk group development and warning system development. Encountering disaster included the determination of migration routes, safety areas and shelter areas. Moreover, crisis communication procedures, coordination of assistance from agencies in the neighborhood for example Chiang Rai Disaster Prevention and Mitigation Office, Mae Suai Hospital, 37th Army District and mass media were determined. Finally, the revival after the disaster focused on rehabilitation of agricultural area and restoration of houses by skilled local people.

Pissamai Srinate and Anchana Na Ranong (2018) study flood disaster management, and to identify community capitals related to community capacities to deal with disasters. The research was focused on 2 communities : 1) the community of BangTa Phaen, Tambon Klongwau, Amphur Mueang Angthong, Angthong Province, and 2) the community of Tha Bong Mung, Mueang Warinchamrap Municipality, Ubonratchathani Province. A qualitative research approach was used and data were collected by documentary research and field work data that included in-depth interviews, focus group interviews, and observations. The study found that the 2 communities had similar disaster management. However, Bang Ta Phaen community is able to manage flood disaster by self-management. After flood, the community evaluated and reviewed to find new solutions to prevent and mitigate future problems. Tha Bong Mung community collaborated with the Mueang Warinchamrap Municipality coping with disasters. Community capitals related to community capacities to cope with disaster, including social capital, human capital, political capital, financial capital, and physical capital are available in the both communities. Villagers use the capitals to deal with and reduce the risk of disasters. In additions, the study showed that Bang Ta Phean community has more community assets than Tha Bong Mung community. Therefore, the first one can better handle flood disaster.

Research Methodology

This paper is based on a qualitative study. The research employed two major qualitative research techniques in the fieldwork: participant observation and in-depth interview. Participant observation involves living among the people under study for a lengthy period and gathering data through continuous involvement in their lives and activities; it is appropriate for collecting data on naturally occurring behaviours in their usual contexts (O'Reilly, 2005). In-

depth interviews are optimal for collecting data on the personal histories, perspectives, and experiences of individuals. Several other informal research methods were utilised, including informal interviewing and general observation. In this research, six key person of the Ban Hua Thang Community-Based Tourism Enterprise generated the core data of the study. Fieldwork duration was 4 months (November 2025 to February 2026). Data analysis was conducted using content analysis, and findings were presented descriptively. It is important to note that this paper is part of Practicum in Community Administration and Development for the 2025 academic year

Results

1. Tourism Background and Flood Impacts

Ban Hua Thang is a coastal community adjacent to the Andaman Sea, surrounded by mountainous terrain and mangrove forests. La-ngu Canal plays a crucial ecological role by supporting biodiversity and providing water resources.

The community's ecological identity is defined by dense mangrove apple forests that serve as habitats for fireflies along more than two kilometers of the canal. These ecosystems also function as natural coastal protection and nursery grounds for aquatic species.

Local livelihoods rely heavily on small-scale fisheries and fish cage aquaculture, which also support tourism through educational and experiential activities.

The November 2025 flood caused severe damage to tourism infrastructure, including erosion of travel routes, destruction of scenic viewpoints, and loss of mangrove apple trees. As a result, firefly tourism—the community's primary attraction—was significantly affected.

Tourist arrivals declined almost entirely within one month, severely impacting the broader tourism supply chain, including fishermen, local producers, boat operators, and guides.



Figure 4 Community-Based Tourism in Ban Hua Thang
Source: The Ban Hua Thang Community-Based Tourism Enterprise

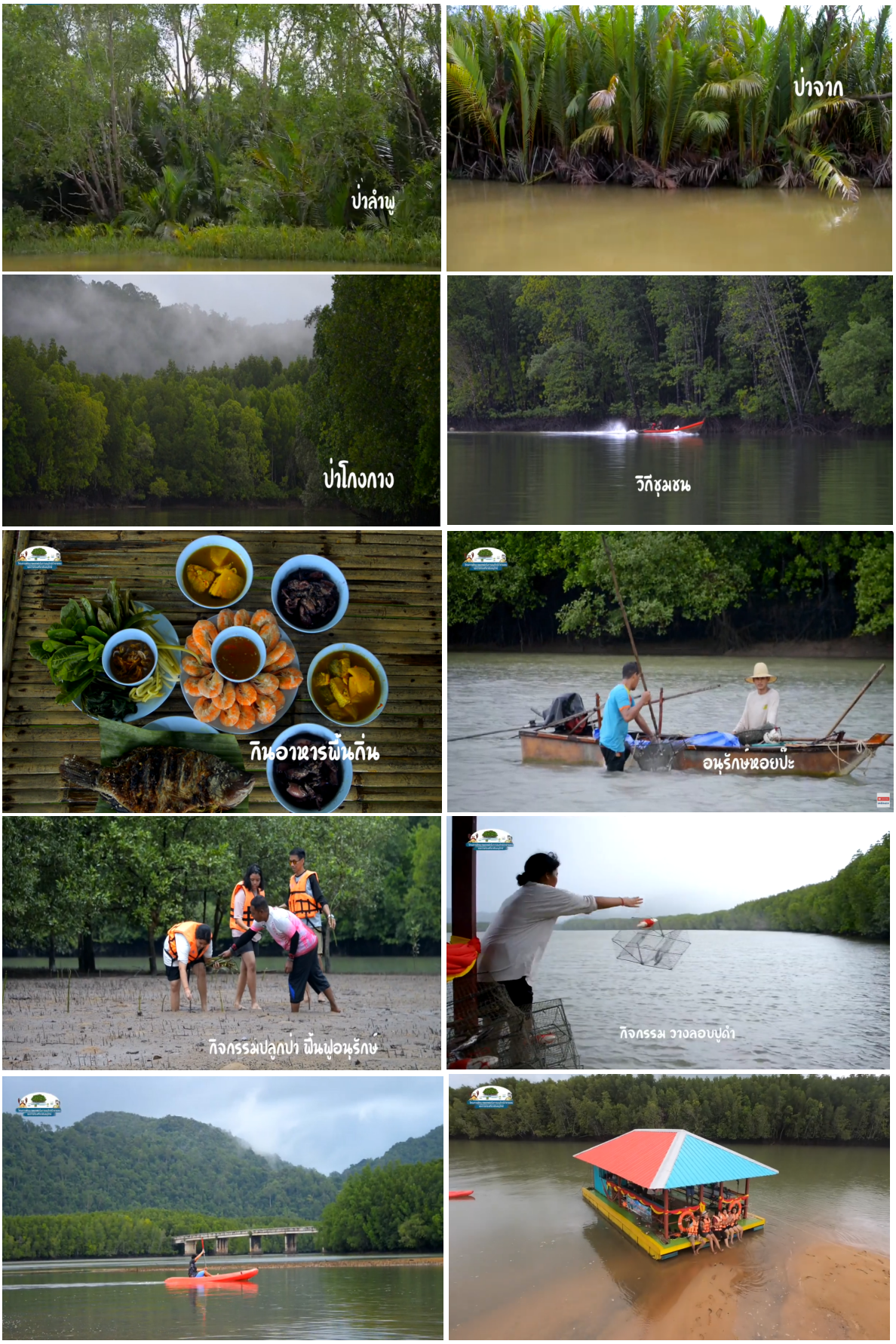


Figure 5 Key Tourism Assets in Ban Hua Thang
Source: The Ban Hua Thang Community-Based Tourism Enterprise



Figure 6 Floods impacts in Ban Hua Thang
Source: Ananya Lawan

2. Restoring Community-Based Tourism after Flooding

Fieldwork observations and stakeholder discussions indicated that tourism recovery required a participatory approach involving community members, who have deep understanding of local context and background. Engaging local stakeholders in planning and implementation was essential to strengthening community resilience and enabling sustainable recovery.

Participatory recovery initiatives included multimedia promotion on community-based tourism and the restoration of tourism check-in points.

Tourism Promotional Multimedia:

A multimedia promotional video clip was developed to enhance public awareness and communicate the community's restored identity. The video clip highlighted rehabilitated natural landscapes, local culture, and tourism programs. Distributed through digital platforms, particularly social media, it served as a cost-effective tool for rebuilding tourist confidence and strengthening community pride.

Restoration of Check-in Points:

Damaged tourism infrastructure and scenic viewpoints were restored through participatory collaboration among community members. New signage and check-in points were designed using durable materials suitable for coastal conditions. This process fostered a strong sense of ownership among residents and symbolized the community's recovery.



Figure 7 Restoration of Check-in Points
Source: Ananya Lawan

Disaster Management Strategic Proposal:

The Ban Hua Thang Community-Based Tourism Enterprise proposed disaster management strategic plan that emphasized a holistic "prepare–respond–recover" framework, including prone area mapping, CCTV warning setting up, crisis communication planning, and resilient infrastructure rebuilding to ensure both ecological sustainability and community-based tourism recovery. In this research, three key phases of disaster management were identified.

(1) Risk Reduction: Development of risk-area databases, mapping of vulnerable zones, and establishment of digital early warning systems linked to water monitoring stations.

(2) Crisis Response: Detecting the crisis, activating the response plan, limiting damage, and maintaining clear communication with stakeholders.

(3) Post-Disaster Recovery: Reconstruction of resilient infrastructure, proactive multimedia communication, and strengthened stakeholder collaboration to support sustainable adaptation.

Discussion and Conclusion

Tourism is vulnerable to a broader range of crises than other sectors and their occurrence tends to be more frequent in the sector. Disasters may result in disruption of transport services and travel such as cancellation of flights, and damage of transportation infrastructure and some physical tourist attractions. In turn, the economy also suffers, especially in countries that are heavily dependent on the sector when hazards/risks impact on the transportation services; accommodation and hospitality services; travel distribution systems; and providers of other tourist amenities, the tourism sector is affected negatively. Tourism sector contributes differently across the phases of disaster risk management (DRM) but is mainly significant in terms of information sharing and communication. More fundamental changes can be observed in the long-term recovery and resolution phases, whereby tourism is mostly important in information collection, experience learning in DRM, institutional reform and strategic development of sustainable tourism frameworks and post-disaster tourist destination marketing. Accordingly, the premise on which this approach is grounded is that of tourism as a victim of disasters. It aims to guide disaster risk mitigation, preparedness, response, and recovery. Thus, the role of the tourism sector in managing disasters risks will be enunciated in each of the four cyclical stages of DRM, in line with the United Nations Office for Disaster Risk Reduction (UNDRR) framework. Further, crisis communication, being an integral part of the envisioned approach, will be woven throughout the cycle (Faulkner, B., 2001).

The United Nations Office for Disaster Risk Reduction (UNDRR) identifies a cycle of four phases: 1) Mitigation - Minimizing the effects of disaster. Examples include building early warning, development of codes and zoning; vulnerability analyses; and public education. 2) Preparedness - Planning how to respond. Examples are preparedness plans; emergency exercises/training; and warning systems. 3) Response - Efforts to minimize the hazards created by a disaster. Examples include search and rescue; emergency relief; and 4) Recovery - Returning the community to normalcy. Examples are temporary housing; grants; and medical care. Disaster risk management strategies are needed to help retain the confidence of travellers and the tourism sector, and to minimize the impact of a disaster on the tourist destination. Managing the risk of disasters is aimed at protecting persons and their property, health, livelihoods and productive assets, as well as cultural and environmental assets, while promoting and protecting all human rights, including the right to development (De Silva, Amaratunga, & Haigh, 2022).

Crisis communications is a critical component of disaster risk management. Good communications based on the principles of honesty and transparency are the key to successful disaster risk management, from the mitigation to recovery stages. Thus, communications should not take place only when a disaster hits a destination, rather, from the Mitigation phase (i.e., identification and managing disaster risks). The goal of this approach is to improve and defend the tourism reputation, image and competitiveness of the region.

This paper argues that effective disaster risk management in the tourism sector requires robust collaboration among diverse stakeholders. This strategy emphasizes the critical need to strengthen and formalize partnerships between tourism stakeholders, government agencies, and local communities to build comprehensive resilience. Key aspects of this enhanced collaboration include: 1. Inter-agency Cooperation: Fostering stronger links between national tourism organizations, disaster management agencies, meteorological departments, and other relevant government bodies to ensure coordinated planning and response. 2. Public-Private Partnerships: Encouraging active engagement between government entities and private sector tourism businesses in the development and implementation of disaster risk management strategies. 3. Community Involvement: Integrating local communities into the disaster risk management process, recognizing their unique knowledge of local conditions and their role as first responders in many crisis situations. 4. Regional Coordination: Facilitating collaboration among local members to address transboundary risks and share best practices in tourism-related disaster management. 5. Information Sharing: Establishing effective mechanisms for the timely exchange of critical information among all stakeholders before, during, and after disasters. 6. Joint Training and Exercises: Conducting regular multi-stakeholder disaster simulation exercises to test and improve collaborative response capabilities. 7. Inclusive Planning: Ensuring that all relevant stakeholders, including representatives from vulnerable groups within the tourism sector, are involved in the disaster risk management planning process.

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APPENDICES


TSU
HUSOICON
2026

Conference Schedule

The 6th International Conference on Humanities and Social Sciences (TSU-HUSOiCON 2026)

On "Strengthening Academic Networks to Enhance Community Management and Development"

On March 20, 2026 (Conference Day)
At National University of Laos, Lao PDR

Date/Time	Program
March 19, 2026	
09.00 – 13.00	Flying from Bangkok, Thailand to Vientiane, Lao PDR
17.00 onwards	Welcome Dinner
March 20, 2026 (TSU-HUSOiCON 2026 DAY)	
08.30 – 09.00	Registration
09.00 – 09.45	Opening Ceremony - Welcome Address - Opening Speech - Co-host Introduction - Cultural Performance - Presentation Awards Ceremony
09.45 – 10.00	Light Refreshment Break
10.00 – 12.00	Keynote Speaker on **"Strengthening Academic Networks to Enhance Community Management and Development"**
12.00 – 13.00	Lunch
13.00 – 14.30	**Panel Presentation (Part 1)**
14.30 – 14.45	Light Refreshment Break
14.45 – 17.00	**Panel Presentation (Part 2)**
March 21, 2026	Expedition in Vang Vieng, Lao PDR for 2 Days 1 Night
March 22, 2026	Departure from Vang Vieng to Vientiane followed by a return Flight to Thailand

***The program may be subject to change.**

ORAL PRESENTATION GUIDELINES

1. The presentation need to be in Canva Presentation, MS Power Point 2013/2016 and share screen the file to the panel room by adhere to the presentation order of the academic conference.

2. The total time allowed to each presenter is 15 minutes. The presenting time is 10 minutes and leave 5 minutes for Q&A from the participants.
   - A moderator will give you a signal when your reach 7 minutes of your presentation
   - A moderator will give you a signal to end your presentation when your reach 10 minutes of your presentation. You should prepare for questions from the participants.

3. The presenter need to prepare the presentation in the panel room from 11.30 to 12.00.

MANAGEMENT PANEL

At L2 Room (Second Floor)

M01

Time 13.00 - 13.15
Presenter Muhammad Salaebing
Article Tourism Behavior and Management Framework of Malaysian Big Bike Tourists in Songkhla Province: A literature review

M02

Time 13.15 - 13.30
Presenter Kongkidakorn Boonchuay
Article The Synthesis of Research on Travel Behavior of Generation Z among Malaysian Tourists

M03

Time 13.30 - 13.45
Presenter Pratchayaporn Phokaew
Article Border Economic Development and the Negotiating Power of Lao Women Entrepreneurs: Evidence from Houayxay City, Lao PDR

M04

Time 13.45 - 14.00
Presenter Cheewanan Kunpitak
Article Developing a Conceptual Framework of Agri-tourism under a Cross-Border Tourism Context

MANAGEMENT PANEL

At L2 Room (Second Floor)

M05

Time 14.00 - 14.15
Presenter Tanapat Temrattanakul
Article Health Communication for Media Literacy regarding Dietary Supplement Advertising among the Elderly in Songkhla Province



Associate Professor Dr.Bounmy Inthakesone
National University of Laos, Lao PDR
Moderator

SOCIAL SCIENCES PANEL

At L1.1 Room (Second Floor)

S01

Time 13.00 - 13.15
Presenter Apiradee Jiropas
Article Synthesis of Approaches to the Study of Local Politics in Songkhla Province in the Contemporary Context

S02

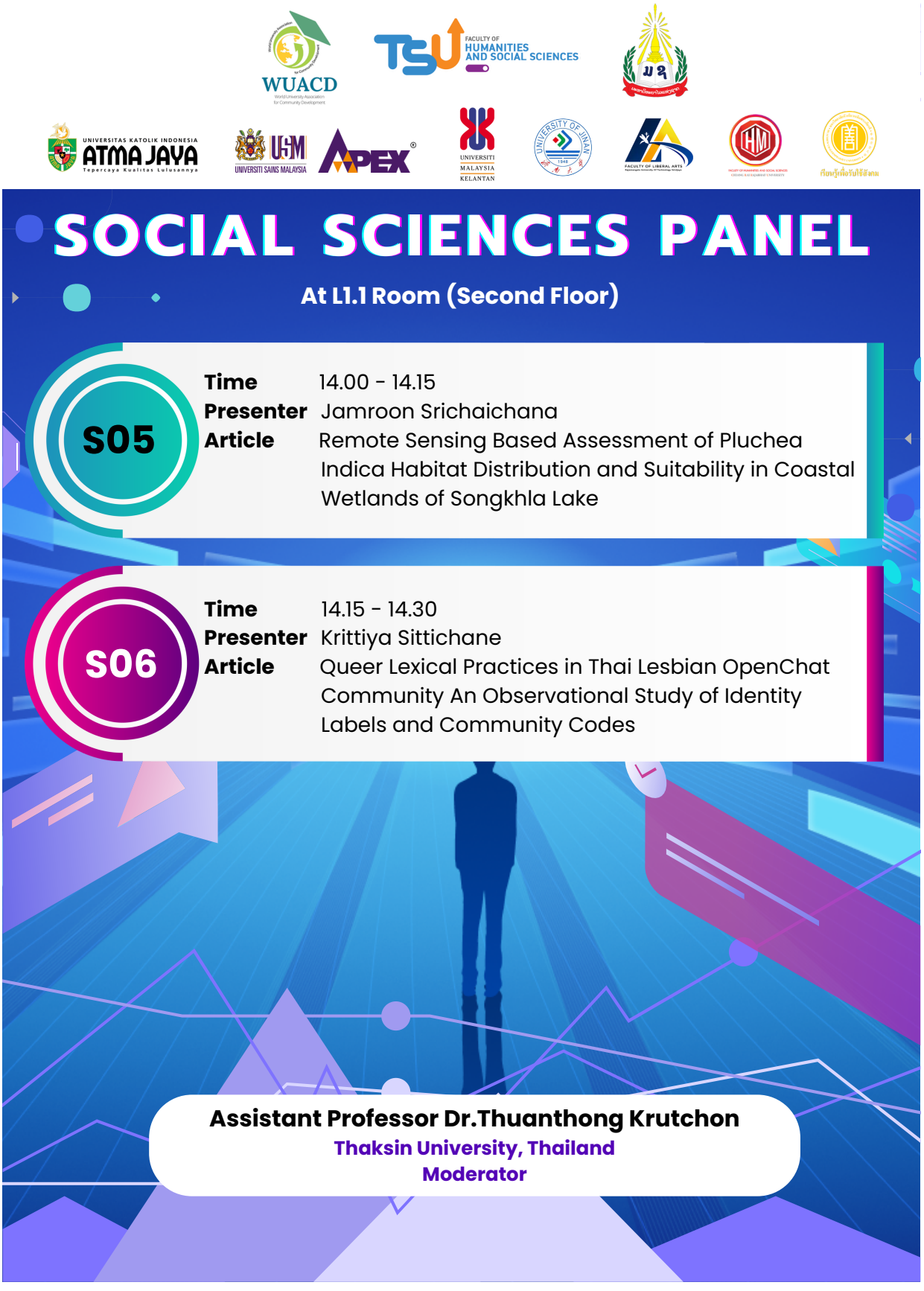
Time 13.15 - 13.30
Presenter Narumol Tanisro
Article Legal Measures on Controlling of Riding Electric Scooter in Songkhla Old Town

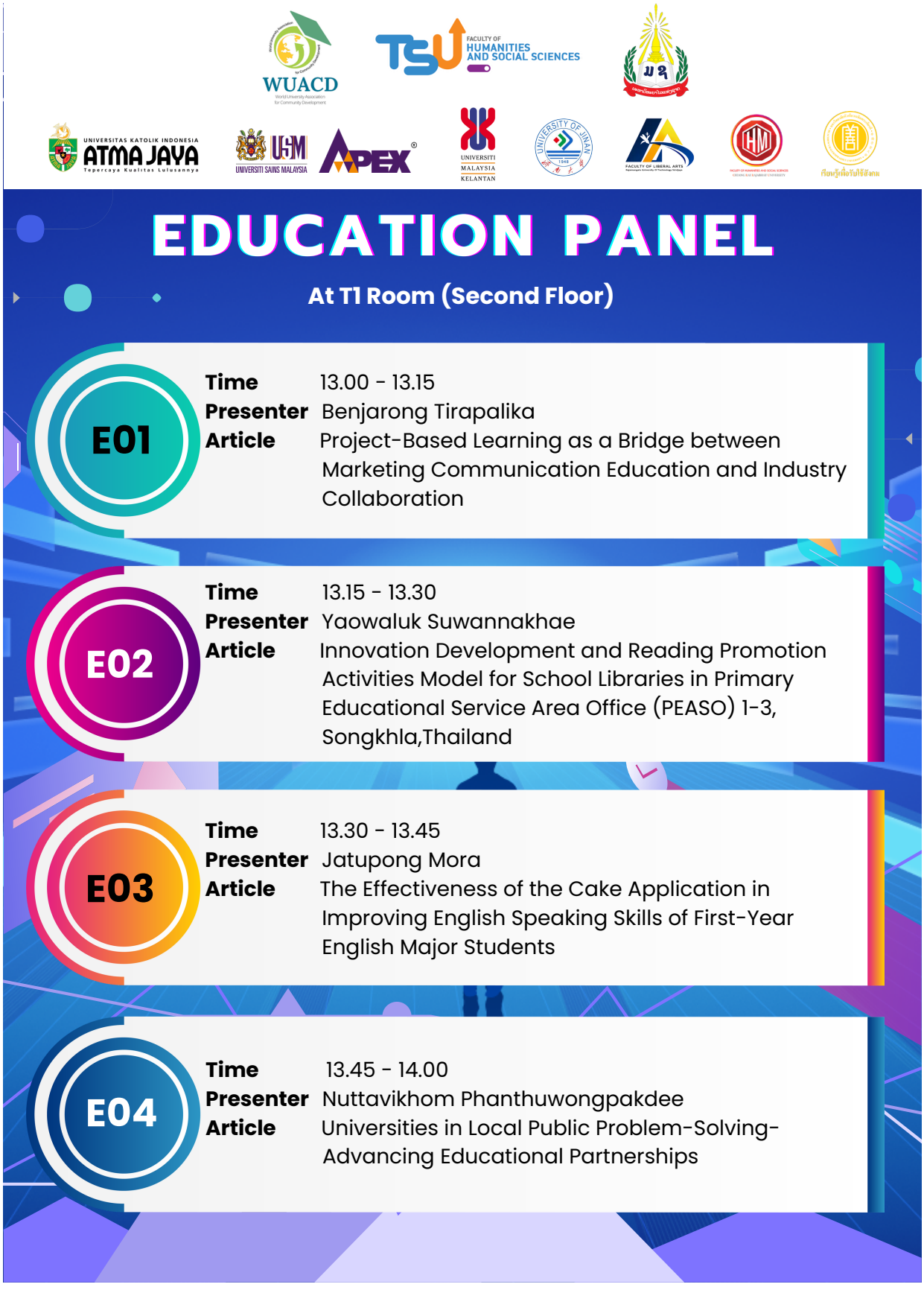
S03

Time 13.30 - 13.45
Presenter Wena Suwanno
Article Criminal Punishment and the Principle of Offender Rehabilitation A Comparative Study of Thai and Lao PDR Laws

S04

Time 13.45 - 14.00
Presenter Sittitat Rujichok
Article Strategic Asymmetry in ASEAN–China Maritime Cooperation: A Chicken Game Analysis of the South China Sea Code of Conduct


SOCIAL SCIENCES PANEL
At L1.1 Room (Second Floor)
S05
Time 14.00 - 14.15
Presenter Jamroon Srichaichana
Article Remote Sensing Based Assessment of Pluchea Indica Habitat Distribution and Suitability in Coastal Wetlands of Songkhla Lake
S06
Time 14.15 - 14.30
Presenter Krittiya Sittichane
Article Queer Lexical Practices in Thai Lesbian OpenChat Community An Observational Study of Identity Labels and Community Codes
Assistant Professor Dr.Thuanthong Krutchon
Thaksin University, Thailand
Moderator


EDUCATION PANEL
At T1 Room (Second Floor)
E01
Time 13.00 - 13.15
Presenter Benjarong Tirapalika
Article Project-Based Learning as a Bridge between Marketing Communication Education and Industry Collaboration
E02
Time 13.15 - 13.30
Presenter Yaowaluk Suwannakhae
Article Innovation Development and Reading Promotion Activities Model for School Libraries in Primary Educational Service Area Office (PEASO) 1-3, Songkhla,Thailand
E03
Time 13.30 - 13.45
Presenter Jatupong Mora
Article The Effectiveness of the Cake Application in Improving English Speaking Skills of First-Year English Major Students
E04
Time 13.45 - 14.00
Presenter Nuttavikhom Phanthuwongpakdee
Article Universities in Local Public Problem-Solving-Advancing Educational Partnerships

EDUCATION PANEL

At T1 Room (Second Floor)

E05

Time 14.00 - 14.15
Presenter Rueyruen Pahujinda
Article Utilizing K-W-L Plus Strategy to Boost the Undergraduate Students' Higher-Order Thinking Skills in Analytical and CriticalReading and Children's Literature Courses

E06

Time 14.15 - 14.30
Presenter Pittayatorn Kaewkong
Article From Classroom to the Real World: The Role of Experiential Learning in Developing 21st-Century Competencies



Dr.Irish Chan Sioson
Thaksin University, Thailand
Moderator

CWIE PANEL

At E2 Room (First Floor)

C01

Time 13.00 - 13.15
Presenter Ananya Lawan
Article Restoring Community-Based Tourism after Flooding: A Case Study of Ban Hua Thang Community-Based Tourism Enterprise La-ngu District, Satun Province, Thailand

C02

Time 13.15 - 13.30
Presenter Kanyarut Leknapaya
Article Design and Development of an Eco-Label Prototype Eco Stamp to Promote Sustainable Ecotourism

C03

Time 13.30 - 13.45
Presenter Wichayaporn Sangsawang
Article A Psychological Quiz for Tourism Promotion in Songkhla Old Town "Zoo-Cation : Which Fluffy Friend are You this Trip?"

C04

Time 13.45 - 14.00
Presenter Thanyalak Nilnet
Article Tempeh: An Alternative Plant-Based Protein Source for Health

Miss Diyaporn Wisamitanan
Thaksin University, Thailand
Moderator

DISTINGUISHED HONORARY PRESENTERS PANEL

At Seminar Room (First Floor)

H01

Time 13.00 - 13.15 (On-site)
Presenter Toulany Thavisay
Article Enterprise Size and Business Function Gaps in Lao PDR

H02

Time 13.15 - 13.30 (On-site)
Presenter Moses Pandin
Article From Local Wisdom to Global Network: The Role of Digital Humanities for Fostering Youth Leadership through Indigenous Knowledge-Based Education and Humor-Leadership for Community Development in the Era of Society 5.0: A Systematic Literature Review

H03

Time 13.30 - 13.45 (Online)
Presenter Weijing He
Article Bridging the Gap: Translating Academic Networks into Community Resilience and Development

H04

Time 13.45 - 14.00 (Online)
Presenter Nurdayana Mohamad Noor
Article From Pity to Respect: A Case Study of Digital Advocacy and Social Perceptions of Cerebral Palsy in Penang

DISTINGUISHED HONORARY PRESENTERS PANEL

At Seminar Room (First Floor)

H05

Time 14.00 - 14.15 (Online)
Presenter Zsarin Astria Puji Insani
Article Conceptual Model of Tolerance Tourism Case Study Glodok Chinatown

H06

Time 14.15 - 14.30 (Online)
Presenter Miharaini Md Ghani
Article Analyzing Deceptive Communication in Artificial Intelligence Based Crime - A Bibliometrics Research

Professor Dr.Visansack Khamphengvong
National University of Laos, Lao PDR
Moderator

Order of the Faculty of Humanities and Social Sciences
No. 003/2569

Subject: Appointment of the Organizing Committee for the 6th International Conference on Humanities and Social Sciences (TSU-HUSOiCON 2026)

The Faculty of Humanities and Social Sciences, Thaksin University has scheduled **the 6th International Conference on Humanities and Social Sciences (TSU-HUSOiCON 2026)** under the theme "**Strengthening Academic Networks to Enhance Community Management and Development**" to be held from **March 19 to March 22, 2026**, at National University of Laos, Lao PDR. To ensure the smooth and efficient implementation of the project, by virtue of Section 31 of the Thaksin University Act B.E. 2551 (2008), in conjunction with the University's Order No. 0538/2567 dated February 13, 2024, on delegating authority and duties to Deans to act on behalf of the President, the following individuals are hereby appointed as the Organizing Committee for the 6th International Conference on Humanities and Social Sciences (TSU-HUSOiCON 2026) as follows:

1. Executive Committee

1.1 Dean of Faculty of Humanities and Social Sciences
(Asst. Prof. Dr. Parichat Thudam)
1.2 Deputy Dean of Administration and Personnel Development
(Dr.Preeyarat Chaowalitprapan)
1.3 Deputy Dean for Academic Affairs, Research, and Innovation
(Asst. Prof. Dr. Sansanee Chananupap)
1.4 Assistant Dean for Student Development and Alumni Relations
(Asst. Prof. Dr. Kongkidakorn Boonchuay)
1.5 Assistant Dean for Academic Services and Corporate Communication
(Asst. Prof. Dr. Sermsak Khunpol)
1.6 Assistant Dean for Quality Assurance and International Affairs
(Asst. Prof. Dr. Tanapat Temrattanakul)
1.7 Assistant Dean for Corporate Strategy and Organizational Development
(Asst. Prof. Dr.Kunaj Somchanakit)
1.8 Head of the Faculty Office
(Mr. Phooriphat Phrueksaphithak)

Responsibilities Provide consultation and facilitate the organization of the international conference.

2. Secretariat Committee

2.1 Asst. Prof. Dr. Tanapat Temrattanakul	Chairperson
2.2 Dr. Nawit Amage	Member
2.3 Ms. Papassara Butburee	Member and Secretary
2.4 Ms. Onuma Chuaysatit	Member and Assistant Secretary
2.5 Ms. Rattanawalee Chumchuai	Member and Assistant Secretary

Responsibilities

1. Liaise with Co-Hosts and Keynote Speakers.
2. Coordinate and welcome Co-Hosts, Keynote Speakers, and VIP guests.
3. Manage logistics for venues, transportation, catering, and refreshments.
4. Coordinate with various internal and external departments.
5. Prepare meeting invitations and minutes for all preparatory meetings.
6. Draft and issue formal invitation letters to participating organizations.
7. Prepare formal invitation and appreciation letters for Co-Hosts and Speakers.
8. Prepare participant lists and coordinate with the Ceremony Committee.
9. Manage on-site registration for participants on the event day.
10. Perform other duties as assigned.

3. Certificate Committee

3.1 Mr. Chalong Kaewprasirt	Chairperson
3.2 Mrs. Amporn Tekachat	Member
3.3 Ms. Warinporn Kambutr	Member and Secretary

Responsibilities

1. Design and prepare certificates for participants.
2. Design and prepare ID badges for presenters and participants.
3. Perform other assigned duties.

4. System Development and Website Maintenance Committee

4.1 Mr. Phooriphat Phrueksaphithak	Chairperson
4.2 Mr. Chalong Kaewprasirt	Member
4.3 Mr. Praphatson Nunkaeo	Member and Secretary

Responsibilities

1. Coordinate with the contractor for developing the conference website.
2. Manage and maintain the conference website system
3. Collaborate with other committees to update website content.
4. Perform other assigned duties.

5. Souvenir Committee

5.1 Dr. Preeyarat Chaowalitprapan	Chairperson
5.2 Ms. Monruedee Namthip	Member
5.3 Ms. Chitchanok Phuttikorndurong	Member
5.4 Ms. Jirawan Suksak	Member
5.5 Ms. Sumalee Thongdee	Member and Secretary

Responsibilities

1. Procure souvenirs for project participants, Co-hosts, and Keynote Speakers
2. Prepare souvenirs for participants, co-hosts, and keynote speakers.
3. Perform other assigned duties.

6. Ceremony Committee

6.1 Asst. Prof. Dr. Tanapat Temrattanakul	Chairperson
6.2 Asst. Prof. Dr. Kunaj Somchanakit	Member
6.3 Dr. Krittiya Sittichane	Member
6.4 Asst. Prof. Dr. Kongkidakorn Boonchuay	Member
6.5 Ms. Onuma Chuaysatit	Member and Secretary

Responsibilities

1. Conduct ceremonies and be the master of ceremonies
2. Prepare opening reports and opening remarks.
3. Coordinate, supervise, and manage the opening ceremony and other activities on the event day.
4. Perform other assigned duties.

7. Public Relations Committee

7.1 Asst. Prof. Dr. Sermsak Khunpol	Chairperson
7.2 Mr. Panuwat Manop	Member and Secretary

Responsibilities

1. Produce PR documents and promotional materials related to the project.
2. Design and create PR content for all media channels.
3. Coordinate project publicity and communications with various departments.
4. Document the project through photography and video production throughout the timeline.
5. Perform other assigned duties.

8. Finance and Procurement Committee

8.1 Ms. Pawinee Tanrangsan	Chairperson
8.2 Mr. Chaiyakrit Nguarungsee	Member and Secretary

Responsibilities

1. Carry out the disbursement of materials, procurement of supplies, and contracting for the project.
2. Process loan requests for project implementation.
3. Organize, collect, and issue receipts for registration fees, and address related inquiries.
4. Prepare project expenditure reports and coordinate with other committees
5. Process the disbursement of all types of compensation.
6. Report and provide financial updates for the project.
7. Perform other assigned duties.

9. Publication Committee

9.1 Asst. Prof. Dr. Sansanee Chananupap	Chairperson
9.2 Dr. Paweena Jaruteerapan	Member
9.3 Ms. Watcharee Kulprasit	Member
9.4 Dr. Bair Pittpunt	Member
9.5 Dr. Orisa Chumphong	Member
9.6 Asst. Prof. Dr. Supanan Prommak	Member and Secretary
9.7 Ms. Sumalee Thongdee	Member and Assistant Secretary

Responsibilities

1. Coordinate with the publisher to publish conference publications.
2. Define formats, verify the accuracy, and publish conference publications.
3. Distribute conference publications to libraries and relevant organizations.
4. Prepare documents or other information for conference publications.
5. Perform other assigned duties.

10. Project Evaluation Committee

10.1 Mr. Phooriphat Phrueksaphithak	Chairperson
10.2 Ms. Saowalak Janjaem	Member and Secretary
10.3 Ms. Wimonrat Poolsil	Member and Assistant Secretary

Responsibilities

1. Prepare a questionnaire to evaluate the project.
2. Conduct project evaluations.
3. Summarize and prepare the project evaluation report.

4. Perform other assigned duties.

Effective from now onwards

Issued on January 7, 2026

(Signed)

(Asst. Prof. Dr. Parichat Thudam)

Dean of the Faculty of Humanities and Social Sciences,
Acting on behalf of The President of Thaksin University

The 6 th

International Conference on Humanities and Social Sciences

on "Strengthening Academic Networks to Enhance Community Management and Development"