

Proceedings  
Book



The 1<sup>st</sup>  
**MuSE**  
**International Conference 2025**  
“Multidisciplinary Sciences  
for Sustainability”

Friday 2<sup>nd</sup> May, 2025

Faculty of Multidisciplinary Sciences  
and Entrepreneurship

**Thaksin University**



# Proceedings



## MuSE International Conference 2025 “Multidisciplinary Sciences for Sustainability”

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ISBN 978-974-474-105-9





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## Introduction

In the face of rapid global changes encompassing environmental, social, and economic dimensions, the need for comprehensive understanding and problem-solving approaches has become increasingly urgent. These complex and interrelated challenges, from local communities to global systems, demand a multidisciplinary perspective that integrates knowledge across fields to drive meaningful and sustainable change.

One of the key responses to these emerging issues is the emphasis on sustainable development. As the world experiences accelerated economic growth alongside ongoing natural resource depletion, social disparities, and climate change, traditional business models and societal structures are being reshaped. There is a growing call for approaches that balance profitability with environmental stewardship and social responsibility, aligning closely with the United Nations Sustainable Development Goals (SDGs).

Academic research plays a critical role in addressing these global concerns by contributing new insights and innovations across environmental, cultural, social, and economic sectors. Multidisciplinary research, in particular, stands at the forefront of efforts to understand and solve real-world problems, linking academia with industry and society.

Thaksin University recognises this imperative through its strategic plan (2023–2027), particularly under Strategy No. 2, which aims to foster research that drives innovation and technology to promote spatial development and national competitiveness. Furthermore, Strategy No. 5 positions the university as a hub for “glocalization”—leveraging local wisdom to meet global standards. Through the advancement of glocal research initiatives, Thaksin University strives to support sustainable solutions and elevate its academic presence on the international stage.

This conference serves as a platform for the dissemination and exchange of multidisciplinary research findings. By bringing together scholars, researchers, and practitioners, we aim to foster collaboration, inspire innovation, and strengthen the university’s role in shaping a sustainable and inclusive future for all.

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Glocalisation is the University’s initiative, compounding globalisation with localisation. This initiative reflects our University’s vision to become a world leading social innovation university.

# **WELCOME MESSAGE FROM THE CHAIRPERSON OF THE 1<sup>st</sup> MuSE**

International Conference 2025 on Multidisciplinary Sciences for Sustainability

**Associate Professor Dr. Rungrawee Jitpakdee**

Acting Dean, Faculty of Multidisciplinary Sciences & Entrepreneurship  
Thaksin University

It is my great pleasure to welcome you to the 1st MuSE International Conference 2025 on Multidisciplinary Sciences for Sustainability. As the chair of this esteemed gathering, I am delighted to witness scholars, researchers, and professionals from diverse fields coming together to explore and contribute to this crucial theme

In an era where sustainability is more critical than ever, this conference serves as a vital platform to foster innovative ideas, insightful discussions, and collaborative initiatives that will pave the way for a more sustainable and resilient future. Our theme this year encapsulates the urgency and commitment required to address global challenges through interdisciplinary collaboration.

Throughout the conference, you will have the opportunity to engage with leading experts, academics, and practitioners dedicated to advancing sustainable solutions across multiple domains. This event is designed to inspire thought-provoking discussions, the exchange of groundbreaking research, and the exploration of practical strategies that can drive meaningful change on a global scale.

Your participation, insights, and commitment are essential in shaping a future that balances progress with sustainability. Together, we can catalyze transformation that benefits both our planet and its people. I would also like to extend my heartfelt gratitude to our academic partners for their valuable contributions and their collaboration with the Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University. These partnerships include 7 distinguished educational institutions:

1. Faculty of Economics and Business (FEB), UPN Veteran Jakarta, Indonesia
2. Department of Southeast Asian Languages and Cultures, National Chengchi University Taiwan
3. Faculty of Hotel and Tourism Management, UiTM Selangor, Malaysia
4. College of Interdisciplinary Studies, Thammasat University
5. College of Integrated Science and Technology, Rajamangala University of Technology Lanna
6. Multidisciplinary and Interdisciplinary School, Chiangmai University
7. Faculty of Interdisciplinary Management and Technology, Kasetsart University

Their support has played a pivotal role in drawing attention to this event and ensuring its success. I genuinely believe that this collaboration will not only strengthen our academic networks but also elevate the standards of education and research in the multidisciplinary sciences, ultimately supporting the nation's sustainable development over the long term.

**Associate Professor Dr. Rungrawee Jitpakdee**  
**Chairperson, 1<sup>st</sup> MuSE International Conference 2025**

# Scientific Program





**The 1<sup>st</sup> MuSE International Conference Program Schedule**  
**2<sup>nd</sup> May 2025, 8.45 – 16.00 hrs. (GMT +7)**

Zoom Meeting ID: 212 724 7092 | Password: music\_A

<https://zoom.us/my/musetsu?pwd=NaHe57dgaCt31bSu1oWdCH2bt19VaY.1&omn=93829894013>

Time (GMT+7)	Activity			
9.00 – 9.30	Opening Ceremony by Assoc.Prof. Rungrawee Jitpakdee, PhD, FHEA <i>Acting Dean of the Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University</i>			
9.30 – 10.00	Keynote Speaker #1: <b>Professor Therdchai Choibamroong, PhD</b> <i>Director of Doctor of Philosophy Program, Graduate School of Tourism Management (GSTM), National Institute of Development Administration (NIDA) Thailand</i> Topic: “ <b>Multidisciplinary Sciences for Regenerative Tourism</b> ”			
10.00 – 10.10	Token of Appreciation for Professor Therdchai Choibamroong, PhD			
10.10 – 10.40	Keynote Speaker #2: <b>Asst.Prof. Chawarote Valyamedhi, PhD</b> <i>Department of Southeast Asian Languages and Cultures, National Chengchi University, Taiwan</i> Topic: “ <b>Multi Cultures and Sustainability: From Taiwan to ASEAN</b> ”			
10.40 – 10.50	Token of Appreciation for Asst.Prof. Chawarote Valyamedhi, PhD Group Photo			
10.50 – 12.00	<b>4 Parallel Zoom Sessions (Morning)</b>			
	<i>Sustainable Society</i> <u>Zoom A</u> Meeting ID: 212 724 7092 Password: music_A	<i>Sustainable Business Practice</i> <u>Zoom B</u> Meeting ID: 307 759 6898 Password: 74EbeS	<i>Sustainable Humanity</i> <u>Zoom C</u> Meeting ID: 315 497 4010 Password: 484176	<i>Sustainable Multidisciplinary World</i> <u>Zoom D</u> Meeting ID: 357 223 2327 Password: music_D

Time (GMT+7)	Activity
12.00 – 13.00	Lunch Break
13.10 – 14.30	<b>4 Parallel Zoom Sessions (Afternoon)</b> with the same meeting ID and password
14.45 – 16.00	(Return to Zoom A) Zoom Meeting ID: 212 724 7092   Password: museic_A Awards and Closing Ceremony by Dr. Wasin Praditsilp, FHEA <i>Acting Deputy Dean for Academic and Innovative Education, Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University</i>

## Zoom A: Sustainable Society

### Presentation Schedule

Zoom Meeting ID: 212 724 7092 | Password: museic\_A

<https://zoom.us/my/musetsu?pwd=NaHe57dgaCt31bSul0WdCH2bt19VaY.1&omn=93829894013>



Zoom A QR Code

- Committee: Asst.Prof. Chawarote Valyamedhi, PhD  
*Department of Southeast Asian Languages and Cultures, National Chengchi University, Taiwan*
- Luqman Hakim, S.S., M. Hum.  
*Faculty of Social and Political Science, UPN Veteran Jakarta, Indonesia*
- Moderator: Lect. Suwimon Tawisuwan  
Lect. Vanpra Seubsakulajinda  
*Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University, Thailand*

Time	Zoom A
10.50	Presenters join their designated Zoom session with given username and password. Moderator explained the presentation rules.
11.00 – 11.20	<b>Presenter 1</b> Title: The Potential of Creative Media to Promote Gender Equality in the Family Name: Kosum Omphornuwat & Nirawuth Sakulkaew
11.20 – 11.40	<b>Presenter 2</b> Title: The Ethos of Non-Killing Samurai in The Last Samurai Film Name: Tana Maneepruk
11.40 – 12.00	<b>Presenter 3</b> Title: Creative Media as a Catalyst for Cultural Reproduction: Revitalizing the Nora Tradition in Southern Thailand Name: Koson Chauyupakarn & Parinya Sriharat
12.00 – 13.00	<b>Lunch Break</b>

<b>Time</b>	<b>Zoom A</b>
13.10 – 13.30	<b>Presenter 4</b> Title: Model of Participation Universal Design of Temple Facilities in Sathing Phra Peninsula, Songkhla Province Name: Jamikorn Malison
13.30 – 13.50	<b>Presenter 5</b> Title: Development of App-Based Learning on Android: A Case Study for Health Officials in Phatthalung Province for Dementia Prevention of the Elderly, based on the Spiritual Dimension in a Multicultural Context Name: Anong Phibal, Wasin Praditsilp, Malee Kumkong, & Khant Si Thu Aung
13.50 – 14.10	<b>Presenter 6</b> Title: Why do women participate in ROSCAs more than men? A case study of female farmers and workers in the natural rubber industry in Nakhon Si Thammarat Province, Thailand Name: Pagornsit Thana

## Zoom B: Sustainable Business Practice



### Presentation Schedule

Zoom Meeting ID: 307 759 6898 | Password: 74EbeS

<https://zoom.us/j/3077596898?pwd=S3NnK252UzRoNkxiQkhzaWZkQVhhZz09>

Zoom B QR Code

Committee: Prof. Erna Hernawati, PhD, Ak., CA., CPMA., CGOP., CQRP.

Asst.Prof. Indri Arrafi Julianniasa, SE., ME.

*Faculty of Economics and Business, UPN Veteran Jakarta, Indonesia*

Moderator: Lect. Wanwisa Watcharakorn

Lect. Purimprat Songsri

*Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University, Thailand*

Time	Zoom B
10.50	Presenters join their designated Zoom session with given username and password. Moderator explained the presentation rules.
11.00 – 11.20	<b>Presenter 1</b> Title: Unlocking Prosperity: Strategic Risk Management for Sustainable Business Practices Amid Indonesia's Digital Revolution Name: Arief Prayitno
11.20 – 11.40	<b>Presenter 2</b> Title: Opportunity and Potential of Chiang Khong in Exporting Thai Fruits to China after the Operation of Kunming-Vientiane Railway Name: Sivarin Lertpusit, Therapat Chaipipat, & Pittaya Suvakanta
11.40 – 12.00	<b>Presenter 3</b> Title: Rethinking Gender in Entrepreneurship Research: A Conceptual Paper Name: Morakot Ditta-Apichai
12.00 – 13.00	<b>Lunch Break</b>

<b>Time</b>	<b>Zoom B</b>
13.10 – 13.30	<b>Presenter 4</b> Title: Forecasting Thailand's Financial Business Data Index Using the LSTM Model Name: Pimprae Ruchiramaytha & Supachai Kaewpoung
13.30 – 13.50	<b>Presenter 5</b> Title: Stock Market Revitalization: Exploring the Impact of Macroeconomics and Global Indexes Name: Shelinta Decyantra Putri & Ardhiani Fadila
13.50 – 14.10	<b>Presenter 6</b> Title: Driving Firm Value through Risk Management: The Influence of ESG Disclosure, Profitability, and Leverage in the Energy Sector Name: Razyka Imayda & Dewi Cahyani Pangestuti
14.10 – 14.30	<b>Presenter 7</b> Title: Small and Medium-sized Businesses: Challenges and Prospects Name: Zhamilya Mukumova, Moldir Shaimerden, Zhanargul Sarieva, & Alma Zhakupova

## Zoom C: Sustainable Humanity

### Presentation Schedule

Zoom Meeting ID: 315 497 4010 | Password: 484176

<https://zoom.us/j/3154974010?pwd=fPxulwSf7cviGXrS1DQlaSDw7SWPOZ.1>



Zoom C QR Code

Committee: Dr. Anisara Sungchuai  
*Faculty of Management Technology,  
Rajamangala University of Technology Srivijaya, Thailand*

Moderator: Lect. Patitta Gosalvittra  
Lect. Thianthip Diawkee  
*Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin  
University, Thailand*

Time	Zoom C
10.50	Presenters join their designated Zoom session with given username and password. Moderator explained the presentation rules.
11.00 – 11.20	<b>Presenter 1</b> Title: The Power of Language in Swaying Consumer Behavior Name: Sabrina Badalova & Gilani Mutselkhanov
11.20 – 11.40	<b>Presenter 2</b> Title: Undergraduate Business Presentations: Enhancing Skills Through Case Study Approach Name: Sirikarn Thongmak
11.40 – 12.00	<b>Presenter 3</b> Title: The Challenges of Technology Integration in English Language Education: A Scoping Review of Post-Pandemic Research Name: Supatida Dumchoo
12.00 – 13.00	<b>Lunch Break</b>

Time	Zoom C
13.10 – 13.30	<b>Presenter 4</b> Title: Fostering Thaksin Identity through Active Learning in General Education: Pedagogical Strategies for First-Year Student Development Name: Chakrit Yippikun
13.30 – 13.50	<b>Presenter 5</b> Title: Understanding Digital Loyalty: How Satisfaction Transforms Experience into Retention in E-Commerce Name: Azrina Zahra Fabianti, Miguna Astuti, & Agni Rizkita Amanda
13.50 – 14.10	<b>Presenter 6</b> Title: Electronic Word of Mouth and Endorsement Effects on Consumer Behavior: Evidence from <i>Wardah</i> Users in Jakarta Name: Amirohda Badiah Prima & Miguna Astuti
14.10 – 14.30	<b>Presenter 7</b> Title: From Hidden Tongues to Cultural Influence: The Rise of <i>Kathoey</i> Linguistics and Queer Representation in Thai Media Name: Krittiya Sittichane



## Zoom D: Sustainable Multidisciplinary World

### Presentation Schedule

Zoom Meeting ID: 357 223 2327 | Password: museic\_D

<https://zoom.us/j/3572232327?pwd=QZbM9DBqxucyh7un3N508rGap23l3o.1&omn=95014246771>



Zoom D QR Code

- Committee: Dr. Miguna Astuti, S.Si., MM., MOS., CPM., CIRR.  
*Faculty of Economics and Business, UPN Veteran Jakarta, Indonesia*
- Dr. Wasin Praditsilp, FHEA  
*Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University, Thailand*
- Moderator: Lect. Supatida Dumchoo  
Ms. Pimchanok Kaewudom  
*Faculty of Multidisciplinary Sciences and Entrepreneurship, Thaksin University, Thailand*

Time	Zoom D
10.50	Presenters join their designated Zoom session with given username and password. Moderator explained the presentation rules.
11.00 – 11.20	<b>Presenter 1</b> Title: Guidelines in Monitoring and Evaluating by Community on Impact Assessment: A Case Study of the Trans Thailand Malaysia Name: Syuwari Morsu
11.20 – 11.40	<b>Presenter 2</b> Title: Designing Impactful Biology Exhibitions: A Synthesis of Best Practices, Narrative Strategies, and Evaluation Frameworks Name: Saifon Jitnuphong & Jitiwat Kaeokueab
11.40 – 12.00	<b>Presenter 3</b> Title: The Influence of Total Quality Management and Just in Time on the Operational Performance of the Restaurant "Kedai Kita" Name: Leonardo Zefanya Prima Firdaus & Rosali Sembiring

<b>Time</b>	<b>Zoom D</b>
12.00 – 13.00	<b>Lunch Break</b>
13.10 – 13.30	<b>Presenter 4</b> Title: The Influence of Internal and External Factors on Green Infrastructure Stock Returns in Indonesia Name: Restina Apriliani & Dewi Cahyani Pangestuti
13.30 – 13.50	<b>Presenter 5</b> Title: Development of App-Based Learning Android: A Case Study for Village Health Volunteers in the Southern Border Provinces for Dementia Prevention of the Elderly—Spiritual Dimension of the Muslim Way Name: Anong Phibal, Katekeaw Pradit, Wasin Praditsilp, Malee Kumkong, Wichan Phiban, & Su May Aung
13.50 – 14.10	<b>Presenter 6</b> Title: The Motivation and Behavior Intention of Chinese Female Tourists to Thailand (Take Bangkok as an Example) Name: Yaqian Yang
14.10 – 14.30	<b>Presenter 7</b> Title: The Assessment of Beach Safety Standards from the Perspectives of International Tourists: A Case Study of Cherngtalay Sub-District, Phuket Name: Jaran Nantabooth & Tatiyaporn Jarumaneerat



## Session 1

# Sustainable Society

### Committee:

- 1) Asst.Prof. Chawarote Valyamedhi, PhD
- 2) Luqman Hakim, S.S., M. Hum.

### Moderator:

- 1) Lect. Suwimon Tawisuwan
- 2) Lect. Vanpra Seubsakulajinda



# **The Ethos of Non-Killing Samurai in The Last Samurai Film**

Tana Maneepruk

Faculty of Multidisciplinary Sciences & Entrepreneurship, Thaksin University, Thailand

## **ABSTRACT**

This article explores the representation of non-violence within *The Last Samurai* (2003) and examines how the film's ethical framework aligns with both traditional samurai values and broader philosophical theories of non-killing. Through content analysis of key narrative scenes, this study reveals three central expressions of non-violence: (1) the cultivation of deep interpersonal respect, as shown through acts such as bowing to enemies and treating prisoners with humanity; (2) the pursuit of cross-cultural empathy through mutual language learning and understanding; and (3) the demonstration of forgiveness through actions that restore dignity and rehumanize former enemies. These expressions are interpreted through the lenses of Gandhi's ahimsa, Johan Galtung's theory of peace, the Bushido code, and Professor Dr. Chaiwat Satha-Anand's framework of active nonviolence. Ultimately, the film is read not just as a historical epic, but as a cinematic embodiment of the power of restraint, dialogue, and moral transformation.

**Keywords:** Non-killing, Ahimsa, Bushido, Peace studies, The Last Samurai, Ethics of war

## **INTRODUCTION**

*The Last Samurai* (Zwick, 2003), directed by Edward Zwick, is set during Japan's Meiji Restoration a turbulent era marked by political upheaval, rapid modernization, and cultural confrontation (Ravina, 2004). While the historical context is rooted in real transformations, the film unfolds as a fictionalized narrative centered around the personal redemption of Nathan Algren, a disillusioned American soldier hired to train Japan's modern army.

At its surface, *The Last Samurai* appears to be a film about East-West conflict, military modernization, and the fall of the samurai class. However, the film's deeper narrative trajectory is shaped not by external warfare, but by inner moral struggle. It is the story of how two warriors-

Algren and Katsumoto, the last of the samurai transcend the logic of violence and come to embody an alternative ethos: one of restraint, empathy, and principled non-killing.

Algren begins his journey as a traumatized veteran of colonial violence, numbed by guilt and alcohol (Zwick, 2003). His exposure to the samurai way of life—especially its discipline, reverence, and spiritual order—becomes a catalyst for moral reawakening. Katsumoto, on the other hand, is portrayed not as a militant traditionalist, but as a deeply reflective leader who values poetry, nature, and cultural continuity. His decision to engage in battle is not driven by hatred, but by duty and the desire to preserve meaning in a rapidly changing world (Nitobe, 2002).

What distinguishes this film philosophically is its portrayal of warriors who consciously choose not to kill when it is no longer necessary. The film elevates peace as a moral discipline rather than a passive absence of violence. These ideas echo the voices of thinkers such as Gandhi (2001), Galtung (1996), and Satha-Anand (1994), and challenge the archetype of the violent hero pervasive in both Western and Eastern cinematic traditions.

Therefore, this article argues that *The Last Samurai* can be read as a cinematic inquiry into how violence can be unlearned, and how the ethics of restraint can emerge from within the very heart of the battlefield. It explores the narrative's non-killing ethos by analyzing the transformation of its characters, the symbolism in key scenes, and the underlying moral philosophies that inform its message.

## **LITERATURE REVIEW**

The exploration of non-killing samurai values in *The Last Samurai* draws upon four intersecting philosophical and ethical frameworks: Bushido, Gandhi's ahimsa, Johan Galtung's peace theory, and Professor Dr. Chaiwat Satha-Anand's nonviolent paradigm. These frameworks, though developed across different cultural and historical contexts, converge in their affirmation of restraint, moral courage, and the transformative power of peace.

### **Bushido: The Way of the Warrior**

Bushido, the traditional moral code of the samurai, is often misunderstood as purely centered on death, loyalty, and battle. However, its deeper essence lies in honor, discipline, compassion, and self-restraint. A true samurai must not only be willing to die but also to live with dignity, respecting others, including enemies. Bushido emphasizes *Meiyo* (Honor), *Gi*

(Righteousness), and Jin (Benevolence), aligning closely with ethical forms of warriorhood that reject unnecessary violence (Nitobe, 2002).

### **Ahimsa and the Philosophy of Gandhi**

Mohandas K. Gandhi's principle of ahimsa (non-violence) transcends mere abstention from physical violence. It represents an active commitment to truth, compassion, and the refusal to dehumanize others even in conflict. Gandhi taught that true strength lies in the courage to forgive, the discipline to resist retaliation, and the capacity to turn enemies into collaborators (Gandhi, 1929/2001). These ideas find surprising resonance in the film's portrayal of both Algren and Katsumoto, who undergo moral shifts grounded in empathy.

### **Johan Galtung and Positive Peace**

Norwegian peace theorist Johan Galtung distinguishes between negative peace (the absence of war) and positive peace (the presence of justice, dignity, and equity). His concept of structural violence systems that inhibit people from reaching their full potential, helps analyze how modernization and imperialism in the film generate violence beyond the battlefield. The ethos of non-killing emerges here not only in sparing lives but in resisting domination and cultural erasure (Galtung, 1996).

Negative peace refers to the absence of direct violence or war, a condition where conflict may be suspended but not resolved.

Positive peace, in contrast, refers to the presence of conditions that foster justice, dignity, equality, and human flourishing. It is not merely about preventing violence, but about creating social systems in which violence is unnecessary.

One of Galtung's most influential contributions is the concept of structural violence the idea that violence is not limited to acts of physical aggression, but can also be embedded in institutional arrangements, economic systems, and cultural hierarchies that prevent individuals or groups from realizing their full potential.

### **Structural Violence in The Last Samurai.**

In the Last Samurai, the most pervasive form of violence is not found in the battlefield scenes, but in the modernization, policies imposed by Japan's imperial government under pressure from Western powers. The aggressive drive toward Westernization results in the marginalization

of traditional culture, the erosion of collective memory, and the replacement of spiritual values with military-industrial expansion.

The samurai, led by Katsumoto, are not resisting technological advancement per se, but rather the loss of meaning, beauty, and identity that comes with cultural erasure. The forced conscription of peasants into a Western-style military, the banning of traditional dress, and the destruction of temples represent forms of structural violence—systems that silence diversity and compress human expression into uniformity.

Galtung would argue that these changes, though framed as “progress,” are actually mechanisms of domination. When the imperial regime privileges efficiency and firepower over wisdom and dialogue, it institutionalizes violence through governance, not guns.

### **1. Non-Killing as Resistance to Structural Violence**

The non-killing ethos in the film, therefore, is not only visible in individual acts of mercy, but also in the collective moral stance of the samurai as a cultural group. Their refusal to assimilate, their preservation of language, ritual, and code—all represent forms of resistance to structural violence. In Galtung’s framework, this resistance is a positive peace-building act: it asserts the right to cultural integrity without seeking revenge or domination.

Nathan Algren, who begins the film aligned with the imperial forces, slowly awakens to this deeper form of violence. His personal transformation—from enabler of conquest to guardian of memory—reflects Galtung’s idea that peace must be internalized and re-constructed from within, not merely enforced from above.

### **2. Cultural Survival as Peacebuilding**

By the end of the film, Algren presents Katsumoto’s sword to the Emperor, symbolizing not just the honor of one man, but the continuity of a worldview that resists annihilation. It is a symbolic act of reclaiming dignity, one that calls upon the Emperor to recognize the structural violence embedded in his policies—and to restore a vision of peace that is inclusive rather than imperial.

Thus, Galtung’s theory helps us understand *The Last Samurai* not just as a story of war and resistance, but as a narrative about healing systems—where non-killing is not avoidance, but active confrontation with dehumanizing structures.



## **Chaiwat Satha-Anand and Active Nonviolence**

In the *Last Samurai*, this philosophical stance finds its most profound cinematic expression in the character of Katsumoto. Although Katsumoto is trained in the martial arts and leads a resistance movement against the imperial army, his actions are rooted not in hatred or ambition, but in a deep spiritual commitment to cultural continuity, justice, and dignity. He engages in combat not for conquest, but as a ritual of protection defense of the sacred. His affinity for poetry, his reflective solitude, and his respect for enemies signal a kind of inner clarity that mirrors Chaiwat's vision of "sacredness in action." (Satha-Anand, 2017).

Katsumoto's leadership style reflects Chaiwat's concept of "political listening." He listens to his people, contemplates the costs of resistance, and even grants dignity to his captives especially Nathan Algren. The trust he extends to Algren is not strategic but ethical; it is grounded in the belief that understanding, not annihilation, is the path to peace. When faced with the possibility of surrender, Katsumoto chooses to die with honor, not as a rejection of peace, but as a commitment to integrity. His final bow to the Emperor encapsulates a nonviolent confrontation dignified, unarmed, and morally unshakable.

Nathan Algren's character arc also exemplifies Chaiwat's non-killing warrior ideal. A man initially conditioned by war and desensitized by guilt, Algren's exposure to the samurai way and Katsumoto's influence rekindles his moral imagination. He learns not only the language and customs of his captors, but also their ethical orientation. His decision to fight alongside the samurai is not merely an act of loyalty, it is a rebirth into a new warrior identity, one rooted in restraint, empathy, and self-possession.

He ultimately refuses to deliver the final blow when he has the opportunity, choosing instead to become a witness to dignity, rather than an agent of destruction. Chaiwat argues that nonviolence is not passive; it is an intentional act of moral will that requires clarity, courage, and creative resistance. He states, "The nonviolent warrior fights not to destroy the other, but to transform the relationship between self and other" (Satha-Anand, 1994).

This statement finds cinematic form in the relationship between Algren and Katsumoto—two men from opposing worlds who become spiritual allies through mutual respect and the shared rejection of dehumanization.

Thus, Chaiwat's theory does more than enrich our understanding of *The Last Samurai* it illuminates the ethical architecture of the film. It reveals that beneath the armor and choreography

lies a profound meditation on what it means to be strong without being violent, and how the deepest form of resistance may not be through force, but through fearless moral clarity.

Together, these four frameworks provide the lens through which *The Last Samurai* can be understood not merely as a war film, but as an ethical inquiry into the possibility of becoming a peaceful warrior in a world conditioned by violence.

## **RESEARCH METHODOLOGY**

This article employs a qualitative, interpretive approach grounded in film analysis and moral philosophy. *The Last Samurai* (Zwick, 2003) is treated not merely as historical fiction, but as a moral narrative, analyzed through selected scenes that portray themes of non-killing, restraint, and ethical transformation.

Using thematic content analysis, key cinematic moments are interpreted through four intersecting frameworks: Bushido, Gandhi's Ahimsa, Galtung's theory of positive peace, and Chaiwat Satha-Anand's nonviolent paradigm. This methodology aims to uncover how the film dramatizes a reimagined warrior ethos rooted in conscience and cultural integrity.

## **RESEARCH RESULTS**

### **Thematic Analysis of Key Scenes**

In *The Last Samurai*, non-killing is not only discussed in dialogue, it is revealed in cinematic moments, body language, silence, and culturally rich rituals. This section highlights key scenes that reflect the film's nonviolent ethos.

#### **1. The Captivity That Heals, Not Harms**

When Nathan Algren is captured by the samurai, he is not beaten or tortured. Instead, he is given food, shelter, and space to observe. This radical hospitality disrupts the expectation of violence and sets the foundation for mutual respect (Zwick, 2003). In Gandhian terms, it is an act of Satyagraha, truth-force rooted in love and discipline (Gandhi, 2001).

#### **2. Mutual Language Learning**

Agren begins to learn Japanese, and Katsumoto's people attempt English. This exchange goes beyond utility; it symbolizes a moral effort to understand the other. Johan Galtung emphasizes that peace-building requires communication and empathy across difference (Galtung, 1996).

### **3. Bowing Before the Enemy**

A powerful scene features Algren and Katsumoto bowing toward Imperial soldiers—despite the threat of death. This bow is not surrender but dignified defiance. It embodies Bushido's ideal of Meiyo (Honor) and Chaiwat Satha-Anand's notion of "Nonviolent - Confrontation" (Satha-Anand, 1994).

### **4. Refusing to Kill a Former Enemy**

At one point, Algren is given the chance to kill a former superior who had betrayed him. He hesitates, then refrains. This moment, subtle and quiet, reveals ethical transformation a choice to preserve life when revenge seems justified. It is the moment he becomes, in essence, a samurai.

These scenes demonstrate that in *The Last Samurai*, non-killing is not weakness it is clarity, forged through empathy, discipline, and cultural exchange.

## **DISCUSSION & CONCLUSION**

As seen in the evolving journeys of Nathan Algren and Katsumoto, *The Last Samurai* deconstructs the archetype of the warrior as a mere killer and reimagines him as a guardian of integrity and restraint. In a cinematic world where power is often measured by domination and violence, this film offers a quiet, forceful counter-narrative: one in which true strength lies in the clarity of conscience, the courage to withhold the blade, and the wisdom to recognize humanity even in the face of war. Instead, the warrior is reimagined as a guardian of dignity, a preserver of cultural wisdom, and a student of inner peace. The sword, in this context, becomes less a weapon and more a symbol of spiritual discipline and ethical commitment.

By engaging with four rich ethical traditions Bushido, Gandhi's ahimsa, Galtung's structural peace theory, and Professor Dr. Chaiwat Satha-Anand's active nonviolence, this study has demonstrated that *The Last Samurai* is far more than a historical epic. It is a cinematic meditation on peace, articulated not through slogans but through silence, compassion, mutual learning, and death with dignity.

This moral depth is perhaps best captured in the film's final moments, when Algren chooses to present Katsumoto's sword not as a tool of resistance, but as a final plea for

remembrance, justice, and cultural integrity. It is an act of nonviolent confrontation, embodying what Galtung might call positive peace, and what Gandhi would describe as ahimsa in action.

The film teaches that moral clarity is not the absence of conflict, but the presence of conscience within it. In a world that demands killing whether for nation, empire, or ideology to choose not to kill becomes the ultimate act of resistance, and perhaps the deepest expression of courage. And so we return to the poetic image that captures this ethos: “If ahimsa is the yeast, then ethics becomes the malt together they ferment the moral clarity of a non-killing samurai.”

This metaphor reminds us that peace is not an accident, nor is it born overnight. Like brewing, it is a slow, deliberate process that requires patience, balance, and care. Ahimsa nonviolence is the agent that gives life, and ethics is the grain that gives it substance. Together, they ferment something rare and potent: a warrior’s heart committed not to conquest, but to compassion. In this sense, *The Last Samurai* becomes not just a film but a philosophical brew of cultures, codes, and consciences. It stands as a cinematic reminder that even amidst swords and war cries, it is still possible to imagine, and to live, a life that does not kill.

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# **Creative Media as a Catalyst for Cultural Reproduction: Revitalizing the Nora Tradition in Southern Thailand**

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## **ABSTRACT**

UNESCO's recognition of Nora as an essential Southern Thai performing art now faces threats from globalization and reduced participation from younger generations. Using documentary production and cultural mapping as creative media, this study investigated how they might preserve and express Nora's changing function within Southern Thai societies. Ethnographic fieldwork and semi-structured interviews provided qualitative data from six main locations within Thasala, Sichon, and Khanom districts. Findings revealed three core areas of cultural continuity: Artists and troupes maintain cultural continuity through performance transmission, while Nora costume makers produce cultural artifacts and schools preserve heritage through education-based initiatives. The documentary, which explores ritual heritage alongside global connections through digital platforms, succeeded in boosting cultural involvement and information exchange. Using participatory methods, researchers created a cultural map that showed Nora's living heritage spatially and made it available online for everyone to access. The findings show that creative media successfully convert specific cultural knowledge into easily accessible formats, which help transfer knowledge between generations while raising public awareness. Educational settings, together with artistic spaces and digital platforms, enable adaptive cultural reproduction, which sustains Nora's heritage.

**Keywords:** Creative Media Production, Cultural Reproduction, Intangible Cultural Heritage, Nora Performance

## INTRODUCTION

The traditional Southern Thai performing art known as “Nora” or “Manora” constitutes a rich cultural expression that synthesizes religious ritual, indigenous knowledge, and artistic performance. Transmitted through generations, Nora represents not merely a performative genre, but a holistic cultural system embedded in spiritual devotion, communal identity, and localized epistemologies. The epistemic dimension of Nora encompasses sacred rituals, animistic worldviews, and ceremonial practices, which collectively reflect the metaphysical foundations sustaining its status as a sacred art form. Simultaneously, its aesthetic dimension is exemplified in dynamic body movements, lyrical chants, musical compositions, and elaborate costuming, which together create a vibrant performative tradition (Burarat et al., 2014; Petkaew, 2016). Its inscription in 2021 on UNESCO’s Representative List of the Intangible Cultural Heritage of Humanity under the title “*Nora, Dance Drama in Southern Thailand*” affirms its enduring relevance both nationally and internationally, highlighting its role as a medium through which ethical values, regional belief systems, and spiritual consciousness are transmitted across generations (UNESCO, 2021). Rituals such as *Nora Rong Khru*, which center on honoring ancestral spirits and lineage masters, illustrate how Nora operates not solely as an art form but as a mechanism of moral cultivation and social cohesion. Through improvisational verse, ritual chant, and choreographed movement, Nora facilitates communicative processes that are both culturally embedded and spiritually charged (Burarat, 2013).

However, its continuity has been increasingly challenged by the forces of globalization, socio-economic transformation, and the pervasive influence of digital technologies. Traditional modes of learning and performing Nora, once deeply embedded in community-based religious practices, have been significantly restructured in response to new sociocultural realities (Waiyawek, 2023). Contemporary manifestations of Nora now extend into formal educational settings, tourist performances, and digital media, reflecting a complex negotiation between preservation and innovation. Troupes and individual practitioners have strategically adapted their practice to appeal to contemporary audiences, particularly younger generations, without

compromising the symbolic integrity and ritualistic essence of Nora (Nikomrat, 2022). Despite the erosion of traditional performance venues and a general decline in youth engagement due to the dominance of mainstream media, Nora continues to function as a form of living cultural capital that holds relevance for local communities (Samansuk & Andhivarothai, 2016). Artists have actively responded to contemporary challenges by reimagining performance styles for modern stages, producing Nora-themed cultural goods, and engaging digital platforms to disseminate their art to broader publics. These responses exemplify a process of cultural reproduction wherein Nora is not statically preserved but dynamically reinterpreted and recontextualized through contemporary communication channels (Waiyawek, 2023). In this process, community agency and creative resilience converge to redefine the place of Nora in modern Thai society.

Against this backdrop, creative media production emerges as an instrumental strategy for sustaining and communicating the multifaceted meanings of Nora. Whether through documentary filmmaking, cultural mapping, photography, or online storytelling, media platforms offer not only archival functions but also educational and dialogic potential. Such media foster cultural transmission across generations, amplify local identity, and stimulate public engagement with intangible heritage in diverse social arenas (Burarat & Buakhwan, 2016). Accordingly, the present research—*Creative Media Production to Present the Role and Cultural Continuity of Nora amid Social Change*—aims to investigate the evolving dynamics of Nora in Southern Thai communities and to analyze how creative media can be employed to transform indigenous knowledge into communicable forms that support sustainable cultural preservation and community-based learning in the contemporary sociocultural milieu.

## LITERATURE REVIEW

### Folk Media

Traditional communication systems known as folk media are fundamental components of local communities' cultural, spiritual, and social worldviews. Traditional forms like storytelling and puppetry function as entertainment while serving as educational and socialization tools that transmit local knowledge (Burke, 2001; Höivik & Luger, 2009; Mohanty & Parhi, 2011; Mushengyezi, 2003). Folk media develop into contextually relevant tools for rural development and cultural continuity in remote areas where industrialized media remain physically or culturally

unavailable to communities (Panford et al., 2001). The Nora tradition in Southern Thailand represents folk media that preserves community spiritual beliefs and local values as a living memory archive. The Nora performance tradition operates as both a ritualistic practice and artistic expression while delivering ethical lessons and demonstrating respect for ancestors through its precise movements and poetic language alongside music (Burarat et al., 2014; Mohanty & Parhi, 2011). The expressive system of Nora functions as a medium for intergenerational dialogue while reinforcing community solidarity where it exists. The interaction between traditional values and contemporary influences has transformed the execution and perception of folk media, including Nora.

The merging of historical folk practices with modern digital tools has created new media formats that maintain traditional Indigenous expression while expanding their accessibility and flexibility. Modern extensions of folk media through documentaries and online video platforms, together with cultural mapping projects, empower practitioners to reframe traditional performances for today's audiences and expanded public spheres (Coleman, 2010; Dimitropoulos et al., 2018; Giaccardi & Palen, 2008). Folk media remain relevant and dynamic through active reinterpretation during their integration within changing sociotechnical environments. Moreover, public folklore and heritage study methods encourage community-led activities that emphasize cultural self-determination and the sustainable passing down of heritage (Baron, 2016; Titon, 2016). Heritage frameworks dismiss static preservation ideas and treat heritage as a dynamic dialogic process that strengthens communal identity and supports ongoing cultural vitality. The revitalization of folk media such as Nora serves to protect intangible cultural heritage while creating important spaces for educational opportunities and cultural activism that build intergenerational connections (Burarat et al., 2014).

## **Cultural Reproduction**

Bourdieu's theory of cultural reproduction (1986) describes how cultural knowledge and values move between generations through active transmission and transformation within changing contexts (Jæger & Breen, 2016). The process transforms heritage into a dynamic entity through ongoing negotiations of meanings that adapt to changing socio-economic, political, and technological environments. Digital convergence in today's world has radically transformed the replication and interpretation of heritage. Modern media technologies enable cross-media communication while developing systems that back cultural creation and distribution through collaboration. Digital platforms like YouTube, combined with interactive archives, help maintain



ongoing exposure for intangible cultural practices such as traditional music and craftsmanship by recording their development and offering access to a wide range of viewers (Pietrobruno, 2014). Interactive documentaries enhance cultural storytelling processes through immersive sustainable methods, which create deeper public participation, according to Podara et al. (2021). Digital platforms function as preservation systems and interactive venues that bring heritage interpretation and re-envisioning to modern-day contexts.

The Nora dance drama of Southern Thailand demonstrates how digital intermediation can transform cultural reproduction within the realm of intangible heritage. The use of digital technologies to adapt the ritual practices and symbolic expressions of this cultural performance enables simultaneous preservation and innovation, which sustains its significance in fast-changing cultural landscapes (Dimitropoulos et al., 2018; Giaccardi & Palen, 2008). Geospatial mapping technologies, digital archival systems, and documentary films serve as tools that change traditional knowledge and practice into formats that connect well with today's audiences. The recontextualized spaces transform cultural reproduction into an active meaning-making process that re-expresses traditional values via contemporary communication methods. According to heritage and folklore researchers, narrative structures operate as essential mechanisms for transmitting cultural worldviews as well as social norms and collective identities (Hennessy, 2012; Imada & Yussen, 2012). Digital platforms for sharing culture help preserve important traditions while also allowing for new creative ideas through public involvement and encouraging discussions between different generations about culture and self-reflection.

### **Documentary Production**

Documentary filmmaking serves as an active medium for storytelling social and cultural realities, which enables an interactive interpretation and transmission of heritage and identity through memory. Documentary production functions as an active engagement in meaning-making processes that seek to educate audiences while provoking critical reflection and generating discourse about important cultural and historical subjects (Nichols, 2017). The documentary procedure operates through three fundamental stages—pre-production planning, production data collection and audiovisual capture, and post-production narrative editing with voiceover (Aufderheide, 2007). Documentary filmmaking becomes more than conventional ethnographic observation through collaborative practices that enable dialogic cultural engagement.

Documentary production achieves greater ethical and epistemological richness through participatory methods when involving indigenous or marginalized communities. Working with local knowledge holders becomes essential and foundational to maintain authenticity and cultural accuracy in these settings (Berry, 2003). Researchers and local communities, together with Nora artists, maintained a persistent collaboration throughout the development of the Role and Cultural Continuity of Nora documentary in this study. The participatory method applied joined forces with digital storytelling techniques known to strengthen indigenous communities through oral wisdom amplification along with intergenerational knowledge sharing and community resilience development (Cunsolo Willox et al., 2013; Hennessy, 2012). The documentary serves as both a preservation tool for Nora's intangible cultural heritage and a revitalizing force through new media, which turns this heritage into a contemporary, accessible story. The documentary functions as a cultural reproduction platform that enables heritage transmission to reach wider digital and educational audiences beyond its original local context.

### **Cultural Mapping Toolkit**

Cultural Mapping has become an increasingly influential approach in the documentation, interpretation, and spatial visualization of cultural assets at the local level. Initially conceptualized as a community-based practice, it now intersects with broader domains of participatory governance, policy design, and cultural planning (de Abreu Santos & van der Borg, 2023; Duxbury, 2019). By integrating academic inquiry with advocacy and planning agendas, cultural mapping contributes to democratizing knowledge, enhancing transparency, and fostering dialogue between communities and institutions (Fahy & Ó Cinnéide, 2009). In addition to highlighting cultural identities and traditions, mapping practices can support sustainable development and place-making initiatives, particularly when they are inclusive and grounded in local narratives. However, scholars have noted ongoing challenges in standardizing mapping methodologies and incorporating the outputs into institutional planning frameworks, thus calling for more coherent models that balance community engagement with policy relevance (de Abreu Santos & van der Borg, 2023; Lee & Gilmore, 2012).

The present study employed the Cultural Mapping Toolkit developed by the Creative City Network of Canada (2010) to create a spatial profile of Nora cultural practices across Thasala, Sichon, and Khanom districts in Southern Thailand. This toolkit, structured around six stages—

planning, project design, implementation, data synthesis, map creation, and public dissemination—provided a systematic yet flexible methodology suited to local engagement and cultural complexity (Jeannotte, 2010). The resulting map documented spatial data on Nora artists, performance troupes, ritual practitioners, and cultural producers, effectively visualizing the networks and geographies that sustain the tradition. Beyond documentation, the mapping process served as a medium for community empowerment, enabling local stakeholders to articulate cultural priorities and advocate for heritage preservation within broader development agendas. By bridging community knowledge with spatial planning, cultural mapping in this context functioned as a strategic instrument for cultural sustainability, contributing not only to the visibility of intangible heritage but also to its integration into forward-looking cultural governance models.

## **RESEARCH METHODOLOGY**

The study utilized a qualitative research framework to examine how Nora persists and spreads through direct observation of its socio-cultural environments. The study used a combination of in-depth interviews and ethnographic field observations to attain a nuanced understanding of the practices, meanings, and community dynamics surrounding Nora. The researchers utilized these methods to document both the visible knowledge and the hidden, embodied aspects of Nora's performance and production in the studied communities.

### **Data Collection Procedures**

The research team collected primary data by conducting semi-structured interviews and maintaining systematic observational logs. The research team conducted fieldwork in three historically and culturally significant districts—Thasala, Sichon, and Khanom—located in Nakhon Si Thammarat Province because of their importance in maintaining Nora traditions. Through prolonged site visits and participation in workshops and learning centers, the research team directly interacted with cultural practitioners and bearers. Researchers gathered detailed context-oriented information through deep community interaction by using this immersive methodology.

### **Sampling Strategy and Participants**

Purposive sampling allowed researchers to identify participants whose experiences and knowledge matched the study goals established by Ritchie et al. (2003). The sample included

stakeholders from different backgrounds who actively participated in preserving and performing Nora as well as transmitting its elements to future generations. Master Nora artists, including Nora Kan Chaowapong, performed works that displayed intergenerational knowledge transmission together with ritual authority. The research incorporated the performance ensembles Nora Somnuek Chusil, Nora Phensri Yodrabam, and The Descendants of Nora Rerm Chalorsilp, which stood as representatives of various stylistic and regional expressions inside the Nora tradition. Cultural producers from Baan Lukpad Wijitsilp provided vital information about how handcrafted costumes and symbolic performance accessories support Nora's visual and ritual authenticity. The educational sector participated through Khanompittaya School, which runs a Nora Learning Center while embedding Nora practices in both its academic and additional activities. The research gained a nuanced understanding of Nora as a living heritage through interaction with diverse participants who help advance its artistic, educational, and community-based evolution.

## **RESEARCH RESULTS**

### **Nora in Thasala, Sichon, and Khanom Districts of Nakhon Si Thammarat Province**

The fieldwork results from Thasala, Sichon, and Khanom districts demonstrate Nora's multifaceted existence throughout different aspects of local community life. Nora functions beyond traditional performance to become a dynamic cultural system supported by personal artistry along with household engagement and educational programs and artisan production alongside organized troupe activities. We synthesized the data into three primary categories, each reflecting a distinct yet interrelated domain of Nora's contemporary presence. The three data synthesis categories include performance troupes and artists together with cultural production companies and academic organizations.

#### **1. Nora Artists and Performance Troupes**

The initial group includes Nora practitioners who function as cultural custodians and creative agents, which features Nora Kan Chaowapong, Nora Phensri Yodrabam, and The Descendants of Nora Rerm Chalorsilp. These individuals play key roles in passing down Nora while continuously reshaping it to fit new generations and cultural settings. Their expertise in essential Nora components such as stylized dance and costume design highlights their abilities as artist educators and community leaders. Each performer helps create unique ensemble identities, which further bolster regional cultural traits. Through informal learning and continued

apprenticeship, Nora Kan Chaowapong demonstrates a non-hereditary approach to mastering the Nora tradition, which led to her creation of a nationally acclaimed performing troupe. Through lineage-based transmission, Nora Phensri Yodrabam builds upon her ancestral heritage to earn recognition as an expert in improvisational poetic performance while preserving traditional aesthetics and content. The descendants of Nora Rerm Chalorsip integrate ancestral ceremonial traditions with modern performance techniques, utilizing current lighting and sound technologies to captivate audiences while maintaining authentic rituals. Their articulated goal involves the preservation of "ancient rituals" through a modernized presentation style for today's audience. The group's collective artistic practices represent an advanced system of cultural reproduction that combines reinterpretation with adaptive preservation to keep Nora's sacred and artistic principles relevant in contemporary times.

## **2. Nora Product Manufacturers**

Material production and economic aspects of Nora are represented by Baan Lukpad Wijitsilp, which serves as a center dedicated to making traditional performance clothes and culturally meaningful artifacts. The production center creates essential Nora performance costumes and accessories from natural materials such as buffalo horn, brass, and resin. The workshop broadened its product line to include modern cultural goods like keychains and decorative lamps, which help create stronger public connections to Nora outside of performance venues. The center's growth shows how cultural heritage converts into creative industries by turning intangible values into practical products for today's markets. Baan Lukpad Wijitsilp functions as a connector between traditional values and modern creativity while helping Nora stay viable both culturally and economically.

## **3. Educational Institutions and Cultural Transmission**

The third category demonstrates how formal education preserves and spreads Nora through Khanompittaya School as an exemplary institution. The school acts as a cultural learning center where local young people participate in structured learning of Nora's art and technical skills. Students learn practical skills while gaining cultural insights as they create performance items, including headdresses, beaded ornaments, and costumes. The school functions as a "knowledge reproduction site" where educational systems incorporate Nora traditions to foster intergenerational teaching and produce new experts. The school partners with local Nora

professionals to foster complete cultural education, which connects artistic skills and identity development with broader community education goals.

### **Creative Documentary Production: The Role and Presence of Nora in Thasala, Sichon, and Khanom Districts**

The creative documentary series *The Role and Presence of Nora* integrates ethnographic understanding with modern media production strategies to express Nora's ongoing importance in Southern Thailand's changing sociocultural environment. Throughout its pre-production, production, and post-production stages, this process achieved documentation of cultural practices and fostered community involvement along with knowledge sharing and cross-generational conversation through the medium of audiovisual storytelling.

#### **1. Pre-production**

In the first stage, the team worked on conceptualizing and designing the narrative structure of the documentary series. The research team utilized previous fieldwork experiences and comprehensive interviews to determine thematic directions and select filming spots along with participant groups in Thasala, Sichon, and Khanom districts, which are known for their cultural richness and Nora connections. The research team selected six principal sites, which included master artists alongside performance ensembles and local cultural production centers. The documentary structure was guided by the concept of a value-based documentary, intended to narrate the temporal and cultural dimensions of Nora across three episodes: The series explores Nora's legacy through (1) ritual inheritance, followed by (2) globalization adaptation and (3) sustainable borderless communication. The production plan, along with the script, prioritized cultural authenticity by integrating local dialects and traditional Nora verses while engaging with community members for authentic cultural representation.

#### **2. Production**

Professional audiovisual equipment was employed on-site to capture genuine documentation of Nora's cultural settings and daily practices. The research team conducted interviews with cultural practitioners such as Nora Kan Chaowapong and Baan Lukpad Wijitsilp, as well as Nora Phensri Yodrabam and Nora Somnuek Chusil, together with Khanompittaya School and descendants of Nora Rerm Chalorsilp. The film production covered numerous activities, including rehearsal sessions and traditional ritual performances such as Nora Rong Khru, together with youth

development programs at Khanompittaya School. The documentary documented the costume creation at Baan Lukpad Wijitsilp, teaching sessions at cultural centers, and community festivals that showcased Nora. The documentary team used observational filming methods to record natural interactions, while traditional music and artist voiceovers provided narration that placed the visuals in their cultural and ritual settings.

### 3. Post-production

In the last phase, participants selected and arranged audiovisual materials into a unified narrative structure. The editors structured three episodes to last about 25 minutes each, and they preserved structural continuity and thematic exploration of Nora's cultural presence.

*Episode 1: Nora and the Role of Ritual Belief Inheritance* explores the intimate relationship between Nora and sacred ritual practices, including *Nora Rong Khru*, *Krob Therd*, ceremonial dance forms, and trance-like spirit possession. As conveyed in the interviews, artists and community members emphasize that such performances are not simply artistic displays but are understood as acts of reverence and ancestral veneration—manifestations of deeply rooted spiritual traditions.

*Episode 2: Nora's Adaptation in the Globalization Era* portrays how Nora has evolved in response to changing societal and technological conditions. The segment presents transformations in stagecraft—lighting, sound, costume design—as well as linguistic adaptations in poetic verse. It further illustrates the integration of Nora into tourism promotion, classroom instruction, and public media, revealing an ongoing negotiation between heritage preservation and modernization.

*Episode 3: Nora's Sustainability in the Era of Borderless Communication* addresses the expansion of Nora's reach through digital platforms, particularly Facebook and YouTube. These technologies have enabled ritual performances and cultural knowledge to be disseminated to broader and more diverse audiences, thereby extending the relevance of Nora beyond its local context and into a global digital sphere.

The documentary serves as both a record of intangible cultural heritage and a transformative medium that creates a “new cultural space” for communities, artists, and viewers to co-create the evolving meaning of Nora. The documentary integrates ethnographic knowledge into creative

media, which aids in preserving culture across generations and revitalizes public interest in traditional folklore during changes in media consumption.

### **Development of a Cultural Map of Nora Artists in Thasala, Sichon, and Khanom Districts, Nakhon Si Thammarat Province**

We developed a cultural map using field data from Thasala, Sichon, and Khanom districts in Nakhon Si Thammarat Province. The mapping initiative gained its direction through interactions with Nora artists and performance groups, as well as cultural product producers and educational institutions. The mapping process adhered to the six-phase methodology from the Cultural Mapping Toolkit (2010) created by 2010 Legacies. Now working with the Creative City Network of Canada while focusing on participatory techniques for documenting culture spatially.

#### **1. Planning**

The first planning stage included selecting research sites according to their cultural importance and levels of community participation. The fieldwork was methodically structured to include six distinct sites in three specific districts, which represented the cultural and geographic variety of Nora traditions throughout Southern Thailand.

#### **2. Project Design**

The creation of the mapping project followed the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn with a focus on maintaining local wisdom and sustainably using cultural resources. The study implemented a qualitative research method by using in-depth interviews and field-based observations as its main tools for collecting data. The research team successfully obtained ethical clearance before beginning the study to maintain academic research standards while respecting community participants.

#### **3. Implementation**

Researchers collected field data from six important locations throughout Thasala, Sichon, and Khanom Districts, which together represent different aspects of the Nora cultural heritage. The performance practices and community-based transmission insights in Thasala District were shared by Nora Kan Chaowapong and Baan Lukpad Wijitsilp. In Sichon District, researchers studied Nora Phensri Yodrabam and Nora Somnuek Chusil, whose practices demonstrated the dual aspects of hereditary traits and educational methods in maintaining Nora continuity. Khanompittaya School, along with the descendants of Nora Rerm Chalorsilp in Khanom District, provided understandings of



formal education programs and modern interpretations of ritual performances. Through their collective contributions, these sites provided an extensive understanding of the spatial and cultural frameworks that support Nora traditions, including artistic expression and costume production, as well as educational outreach.

#### 4. Synthesis

After conducting fieldwork, researchers examined collected data to identify spatial patterns and thematic connections along with unique cultural traits specific to each site. The researchers synthesized their findings to create a cultural map that shows where Nora-related entities stand and explains their functions and cultural importance in the area.

#### 5. Map Creation

The map design showed where Nora heritage sites existed in Thasala, Sichon, and Khanom districts. The cultural map displays illustrated images of heritage sites along with brief descriptions and contact information aimed at encouraging cultural study and academic research. Figure 1 displays the completed front side of the cultural map.



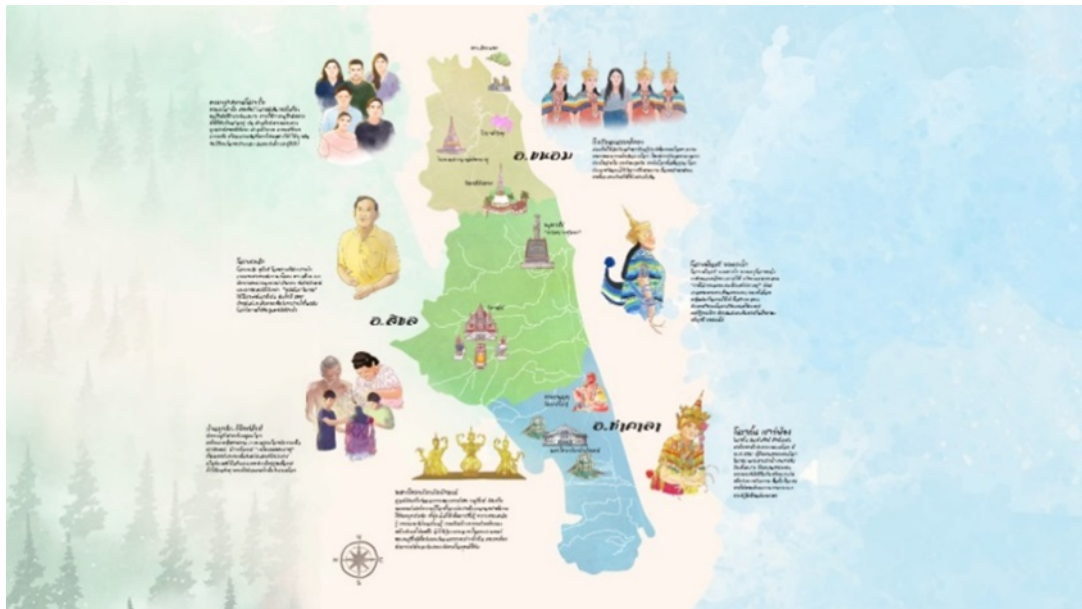
**Figure 1:** Cultural Map of Nora in Thasala, Sichon, and Khanom Districts, Nakhon Si Thammarat Province (Front Side)

Source: Research Team (2024)

#### 6. Public Dissemination

The last phase targeted making the content publicly accessible via digital distribution. The Walailak University Academic Creative Center uploaded the finalized cultural map to their official website ([https://acc.wu.ac.th/?page\\_id=2760](https://acc.wu.ac.th/?page_id=2760)), as seen in Figure 2. This distribution method

provides diverse audiences immediate access to the map, thus promoting public awareness and heritage tourism alongside research and adapting to modern digital information-seeking behavior.



**Figure 2:** Cultural Map of Nora in Thasala, Sichon, and Khanom Districts, Nakhon Si Thammarat Province, Published on [wacc.wu.ac.th](http://wacc.wu.ac.th)

## DISCUSSION AND IMPLICATIONS

### Discussion

#### 1. Cultural Resilience and Reproduction in Local Nora Communities

Data collected from Thasala, Sichon, and Khanom districts demonstrate the ongoing role of Nora as a vital cultural system that remains deeply integrated into community life. Nora has adapted dynamically to changing socio-cultural conditions rather than experiencing a decline. Research shows that practitioners like Nora Kan Chaowapong and Phensri Yodrabam use Nora performances to pass down moral values and spiritual beliefs, along with local knowledge, between generations. Burke's 2001 research alongside Burarat et al. supports this discovery. Burarat et al. (2014) explain that folk media serve dual roles as both systems for communication and stores of collective memory in rural and semi-urban areas where indigenous media forms continue to play a central role in daily life.

The combination of formal educational programs and informal community training systems demonstrates a mixed approach to passing knowledge. These mechanisms represent Bourdieu's (1986) cultural reproduction theory, which shows that inherited cultural capital passes through both active educational involvement and imaginative interpretation instead of mere passive inheritance. The Nora performers analyzed in this study demonstrate adaptability by interpreting traditional ritual practices and artistic aspects to meet current societal demands and technological advancements, according to Jæger & Breen (2016). These results support Waiyawek's (2023) argument that modern Nora artists demonstrate agency through their strategic balance between tradition preservation and artistic innovation, which helps keep the tradition both culturally meaningful and socially integrated.

The practitioners demonstrate dynamic continuity through their preservation of sacred rituals such as Nora Rong Khru alongside their adoption of modern staging methods and digital sound systems, which target audience engagement. The observed flexibility within these communities contradicts limited preservationist approaches while supporting Titon's (2016) understanding of heritage as an evolving dialogue. Cultural vitality emerges from local actors maintaining fundamental symbolic meanings even as they adjust performative forms to fit changing cultural contexts.

## **2. Documentary Production as Dialogic Cultural Mediation**

The production and distribution of this three-part documentary about Nora's cultural significance shows that cultural transmission expands beyond conventional teaching methods to include modern digital audiovisual platforms. Our documentary project followed Nichols's (2017) and Aufderheide's (2007) frameworks, which define documentary production as a participatory co-creation process that brings together artists, academics, and local communities. Every episode served as an interactive narrative space dedicated to sacred ritual, globalization adaptation, and digital transformation, which represented Nora while actively reproducing its symbolic and cultural meanings. Hennessy (2012) and Cunsolo Willox et al. validate this analysis through their research. The research by Cunsolo Willox et al. (2013) demonstrates how participatory documentary functions as a tool for passing down knowledge between generations and strengthening both cultural resilience and community power.

The series becomes more visible through distribution on platforms such as YouTube and Facebook, which allows Nora to reach audiences beyond its original geographical and linguistic

constraints, thus creating what Pietrobruno (2014) calls “networked cultural heritage.” Through this exposure, Nora develops digital cultural capital with the ability to circulate through online communities while enabling community narratives to spread and drawing diverse audiences into dialogues. Through performative voiceovers alongside ritual chants and poetic recitations with supporting visual imagery, the documentary creates a multimodal representation of Nora that appeals to viewers emotionally and cognitively, thus supporting Nichols’s (2017) argument that documentary film serves as a form of cultural persuasion through real-life experiences and collective identity.

### **3. Cultural Mapping as Participatory Visualization and Strategic Preservation**

The six-phase methodology from the Cultural Mapping Toolkit by the Creative City Network of Canada (Jeannotte, 2010) guided cultural mapping in Thasala, Sichon, and Khanom districts through community engagement, data integration, and public dissemination processes. The map emerged not as a fixed list of cultural resources but as a living representation of the spatial and social systems that support Nora's prosperity. The map records the locations and functions of Nora artists and their associated troupes, costume producers, and ritual specialists to create a localized knowledge system that shows how place relates to practice and identity.

Santos and van der Borg (2023) and Duxbury (2019) inform a mapping process that reveals cultural planning as an emerging approach that connects local knowledge with policy structures. The mapping process enables sustainable development while advocating for community interests and institutionalizes the recognition of intangible cultural heritage. The map creates a participatory heritage understanding through the combination of story-based insights and spatial information while resisting centralized control and elevating community narratives. Fahy and Ó Cinnéide (2009) found that cultural mapping makes heritage management more democratic while allowing for more adaptable cultural governance structures.

The digital distribution of the map via [wacc.wu.ac.th](http://wacc.wu.ac.th) follows digital heritage approaches, which aim to broaden cultural content visibility while enhancing its usability and interactive features for various audiences. The map functions beyond documenting cultural presence by serving as both an educational resource and advocacy instrument while supporting strategic development, which strengthens its application in scholarly research as well as educational curricula and cultural tourism. Spatial data enables practitioners to connect with their geographic areas while generating fresh networks that create meaning, participation opportunities, and resource distribution. Lee and

Gilmore (2012) demonstrate that successful cultural mapping merges local stories with practical strategies to bolster cultural sustainability across symbolic and material dimensions.

## **Implications**

### **1. Policy Implications: Advancing Participatory Heritage Governance**

Research results show that there is an urgent need for policies that recognize the importance of community involvement and the changing nature of intangible cultural heritage examples like Nora. Policymakers need to move beyond static preservation and instead implement dialogic and participatory approaches to empower local communities' creative potential. The research illustrates how cultural mapping and documentary production offer concrete models to engage stakeholders for cultural knowledge identification, representation, and transmission. The practices discussed match dialogic models in heritage studies (Baron, 2016), which define heritage as an evolving process involving negotiation. Cultural authorities both at national and local levels throughout Thailand and ASEAN member states should implement planning tools that embrace community-driven documentation along with oral history and digital storytelling for heritage management purposes.

The combination of these tools with public education systems and regional development strategies would increase cultural exposure while supporting tourism initiatives that reflect local traditions. Investing in platforms that allow broader access to folk media through community archives and digital spaces leads to increased cultural engagement and guarantees sustainability. Through this approach, intangible cultural forms such as Nora could become vital assets for regional innovation and sociocultural prosperity.

### **2. Educational Implications: Recontextualizing Folk Knowledge in Curricula**

Introducing Nora into formal education settings like Khanompittaya School showcases how indigenous performance traditions can enrich academic and extracurricular programming. Research findings reveal that Nora's pedagogical benefits go beyond artistic education to promote ethical thinking while also enhancing communication between generations and boosting spiritual awareness and cultural identity. Nora possesses the necessary qualities to effectively support localized interdisciplinary education that connects history with literature and performing arts alongside civics instruction. This approach reflects Mushengyezi's 2003 research alongside

Mohanty and Parhi's 2011 findings, which support using folk media as educational methods that deliver indigenous knowledge systems with cultural congruence.

The creation of teaching modules inspired by Nora, together with digital resources and performance assessments, will increase student engagement and validate regional identity. Educational institutions and teacher-training programs need to work together with cultural bearers and media producers to create heritage curricula. The active participation of students in cultural mapping and documentary production initiatives reveals how young people can serve as dynamic contributors to cultural transmission, which supports enduring cultural strength.

### **3. Community Implications: Revitalizing Nora as a Living Tradition**

The study shows practical benefits and affirmation at the community level. Through cultural mapping documentation of artists' experiences and spatial heritage, local stakeholders were able to discover and express their cultural assets differently. The Nora practitioners who participated in the documentary and mapping processes affirmed their cultural importance while simultaneously feeling more dedicated to passing their knowledge on to succeeding generations. The accessible map and documentary consisting of three episodes from the project resulted in strengthened community pride while serving as educational resources for schools and enabling cross-district practitioner networks. The visible and valued outcomes of cultural work generate increased agency and continuity for cultural custodians. According to Waiyawek (2023), cultural heritage sustainability requires meaningful participation and creative transformation beyond simple preservation.

## **CONCLUSION**

The study indicates that Nora maintains its status as intangible cultural heritage through ongoing cultural reproduction processes that blend traditional elements with innovative practices in performance, production, and education. Documentary filmmaking and cultural mapping emerged as essential creative media tools that documented and rejuvenated Nora's complex role among Southern Thai communities. Through these media tools, indigenous knowledge became accessible to communicate to different generations while increasing cultural visibility and engaging wider audiences. The research shows that heritage sustainability depends on active reinterpretation of traditional practices through community involvement and digital platforms rather than simple preservation efforts. Cultural practitioners working together with educators and researchers show



how community-driven creative methods can combat cultural loss and restore local identity within evolving sociotechnical settings. Nora must evolve by blending traditional practices with modern communication methods to ensure its survival.

### **ACKNOWLEDGEMENT**

We extend our heartfelt gratitude to Nora Kan, Baan Lukpad Wijitsilp, Nora Phensri, Nora Somnuek, the Nora Rerm troupe, and the Nora group from Khanompittaya School for their invaluable contributions to this research. We are also deeply appreciative of the support provided by the research team, including Pennapa Waiyawek and Anutsara Ruengmak, as well as our dedicated research assistants—Nanthikarn Choeichuenchit, Kanathip Khongchana, and Kampanat Kongwa. Special thanks are due to our advisor, Asst. Prof. Supat Narksen, whose guidance and encouragement were instrumental throughout the course of this project.

### **HUMAN RESEARCH ETHICS APPROVAL**

This article is derived from the research project entitled “The Existence of Nora: A Case Study of Nora in Thasala District, Sichon District, and Khanom District, Nakhon Si Thammarat Province, Thailand,” funded by the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn for the year 2024. The study was conducted in accordance with established ethical standards and received approval from the Walailak University Human Research Ethics Committee (WUEC-24-113-01).

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# **Model of Participation Universal Design of Temple Facilities in Sathing Phra Peninsula, Songkhla Province**

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## **ABSTRACT**

This study aimed to investigate the provision of temple facilities for inclusive accessibility and to develop a participatory universal design model suited to temples in Sathing Phra Peninsula, Songkhla Province. Employing a qualitative research methodology, the study involved surveys and in-depth interviews with 8 representatives from temples and temple committees in the target area, including Ratchapraditsathan Temple (Wat Phakho) in Sathing Phra District, Chalae Suwannaram Temple in Singha Nakhon District, Ek Choeng Sae Temple in Krasae Sin District and Khlong Daen Temple in Ranot District. In addition, focus group discussions were conducted with 20 participants from various relevant sectors, including government agencies, tourism entrepreneurs, academics, temple representatives and members of local communities. The qualitative data were analyzed using thematic analysis. The findings indicated that existing facilities universally designed for temples—such as internal pathways, parking areas, and information services (including directional and interpretive signs for buildings and activity areas)—are generally inadequate for elderly individuals, persons with disabilities and wheelchair users. Based on these insights, a participatory universal design model was developed, tailored to the specific context of Sathing Phra Peninsula. The model covers 4 key components: 1) Context

of the Local Area – Incorporating distinctive Lankan-style temple architecture and integrating local cultural traditions associated with the temples; 2) Tourist Accessibility – Prioritizing inclusive access for both domestic and international visitors, including children, the elderly, and people with disabilities, to ensure full participation in temple activities; 3) Environmental Setting – Applying the seven principles of universal design while considering sustainable environmental management practices within both temple and community settings; and 4) Sustainable Management

**Keywords:** Universal design of facilities, Temples, Sathing Phra Peninsula

## INTRODUCTION

The world is rapidly transitioning into an "aging society," with the global elderly population growing quickly today and projected to increase exponentially in the future. This trend is expected to intensify throughout the 21st century. According to the United Nations, the global population aged 60 and older is expected to double again by 2050, when it is projected to reach nearly 2.1 billion. Two thirds of the world's older persons live in the developing regions, where their numbers are growing faster than in the developed regions (United Nation, 2017). When analyzed by continent, Asia, including Thailand, is found to have the highest proportion of individuals aged 60 years and older. Projections indicate that by 2050 individuals aged 65 years and above will account for approximately 15.21% of Thailand's population, rising to about 39.17% by 2100 (Alvarez, 2023). The growing elderly population has led to a corresponding increase in the number of individuals with disabilities. According to a World Health Organization (WHO) survey in 2021, approximately 1.3 billion people globally, or 16% of the world's population (1 in 6 people), live with some form of disability (WHO, 2023). Disabilities are categorized into various types, including hearing impairments (6.0%), visual impairments (3.2%), intellectual impairments (2.6%), and wheelchair users (1.0%) of the global population (WHO, 2021). The elderly represent the largest market segment for the travel and tourism industry. The World Tourism Organization (UNWTO) projects that by 2050 there will be over 2 billion international trips taken by tourists aged 60 and above. This group is recognized as a high-value segment due to their significant purchasing power and extended travel periods. Being retired, they often have the financial resources accumulated over their working years. Surveys conducted by TripAdvisor and Virtuoso reveal that senior tourists allocate 1.5 times more budget to travel compared to other groups,

spending an average of 262,080 Baht (approximately \$8,736) per trip (National Tourism Policy Board, 2023). Additionally, most senior travelers undertake trips lasting more than five days (Alén et al., 2017). The primary motivation for senior travel is the pursuit of knowledge and the desire to experience natural and cultural attractions, with cultural experience being particularly significant (Otoo et al., 2020).

Managing the environment of tourist attractions to ensure accessibility for all visitors is essential, particularly for elderly and disabled tourists. Disabled individuals often face long-term physical, mental, intellectual, or sensory challenges that can create barriers to fully and equally participating in society. Additionally, factors such as age, gender, race, religion, health conditions, and disabilities result in varying healthcare needs for individuals (WHO, 2021). Elderly individuals experience physical, mental, and social changes over time, particularly physiological changes such as reduced gland function, muscle shrinkage, bone thinning, poor digestion and difficult or abnormally frequent urination. They may also face diminished vision and hearing capabilities (Thai Health Promotion Foundation, 2018). These changes result in unique needs for elderly tourists, especially regarding safety. A study on travel limitations for elderly individuals has found that, in addition to lacking interest in activities, they often feel unsafe and are concerned about potential accidents during their travel (Prasongthan et al., 2021). To address these issues, tour operators and relevant agencies should implement management strategies and measures that ensure satisfaction and accessibility for all tourists. The WHO World Tourism Organization (UNWTO) emphasizes that accessibility in tourism is crucial for sustainable tourism development. Its concept of "tourism for universal access" not only fosters economic growth but also enhances the prosperity of destination communities. This aligns with Thailand's 13th National Economic and Social Development Plan (2023-2027), which aims to position the country as a quality, sustainable tourist destination by promoting niche markets, including elderly tourists, retirees, and long-term residents (Office of the National Economic and Social Development Council, 2022). Furthermore, the 3th National Tourism Development Plan (2023-2027) advocates for balanced tourism growth by improving safety, hygiene, and travel standards to build tourists' confidence (National Tourism Policy Committee, 2023).

Temples and religious sites are particularly popular among elderly tourists. Surveys indicate that most senior travelers prefer visiting beautiful natural attractions, temples, and religious sites for relaxation, admiring nature, and spiritual rejuvenation (Sangkhakorn et al.,

2015). These destinations allow them to appreciate architecture, worship sacred objects, and seek blessings for themselves and younger members of their families (Worakul-amornrat & Boonmeesrisa-nga, 2017). In Sathing Phra Peninsula area of Songkhla Province, which includes Sathing Phra District, Ranot District, Krasae Sin District, and Singha Nakhon District, temples hold significant cultural and historical value. The religious sites, established during the Ayutthaya period (circa 2123-2142), are documented on historical maps and include 69 ancient temples (Thongsang, 2014). Their rich history and spiritual significance make them key attractions. The temples in Sathing Phra Peninsula have a rich history and house important religious artifacts. They are also well known for their holy monks such as Somdet Chao Phakho, or Luang Pu Thuat, and Luang Phor Doem, etc. These revered figures and sacred objects serve as significant attractions for elderly tourists and other groups. Temple activities for tourists can be categorized into four types: 1) Exploring Architectural Beauty: Visitors can appreciate the unique and stunning architecture within the temple, including pagodas, Buddha images, and other sacred structures. 2) Worship and Blessings: Activities include worshipping sacred religious objects such as Buddha images, relics, and revered monks to seek blessings, enhance one's fortune, dispel bad luck, etc. 3) Practicing Dhamma: These activities focus on spiritual development, which plays a vital role in improving personal health and quality of life (Rojas & Camarero, 2006). and 4) Learning Religious and Buddhist History: Visitors engage in activities that provide insights into the history of the religion and the life of Lord Buddha (Khamkhiao, 2019). Full participation in these activities can create meaningful and memorable experience for tourists.

Recognizing this, the researcher aims to study the provision of temple facilities for universal accessibility, and the development of a participatory model for universal design of temple facilities in Sathing Phra Peninsula, Songkhla, that can accommodate tourists of all genders, ages, and abilities, including those with disabilities.

## **LITERATURE REVIEW**

### **Universal Design**

As defined by the Disability Act 2005, Universal Design (UD) refers to two key aspects (The Centre for Excellence in Universal Design, 2005): 1) The design and creation of environments that are accessible, understandable, and usable by all individuals. 2) Electronic systems and processes

that leverage electronics to develop products, services, or systems usable by any person. This concept aims to accommodate a diverse range of individuals, including people with physical disabilities, the elderly, children, pregnant women, vulnerable groups, and visitors in unfamiliar environments. Universal Design consists of seven principles (The Centre for Excellence in Universal Design, 2005): 1) **Equitable Use:** Designs that can be used equally by all, regardless of age, culture, or ability. 2) **Flexibility in Use:** Designs that accommodate diverse individual preferences and abilities, offering adaptable options. 3) **Simple and Intuitive Use:** Designs that are easy to understand, irrespective of users' experience, knowledge, language, or current interest level. 4) **Perceptible Information:** Designs that effectively communicate essential information to users, regardless of their sensory abilities or environmental conditions. 5) **Tolerance for Errors:** Designs that minimize risks and the consequences of unintended actions. 6) **Low Physical Effort:** Designs that allow efficient, comfortable use with minimal fatigue. 7) **Size and Space for Approach and Use:** Designs providing adequate space for users of varying physical sizes, postures, or abilities to access and use facilities effectively.

## RESEARCH METHODOLOGY

### Research Site

This study was conducted in Sathing Phra Peninsula, Songkhla Province, which is located in Southern Thailand. The research focused on four temples: Wat Ratchaprathit (Wat Phra Kho) in Sathing Phra District, Wat Khlong Daen in Ranot District, Wat Laem Chak in Singha Nakhon District and Wat Ek Choeng Sae in Krasae Sin District.

### Sampling and Data Collection

The samples of the study are representatives from the sectors involved in designing temple facilities. Using purposive sampling, including representatives from government agencies, tourism entrepreneurs, academics, temple representatives and local communities at Wat Ratchaprathit ( Wat Phra Kho) in Sathing Phra District, Wat Khlong Daen in Ranot District, Wat Chalaesuwannaram in Singha Nakhon District and Wat Ek Choeng Sae in Krasae Sin District, a totally of 26 people.

## **Data collection and analysis**

The researcher collected data by observation and in-depth interviews from a representative of all 4 temples during October - November 2024, studying the current situation of providing temple's facilities for all people. The data collected tool was used is a structured interview form, consisting of the context of the temple and the facilities within the temple. A group discussion involving 26 participants from relevant sectors was conducted in January 2025 to study the model of participatory temple facility design that aligns with the context of the temple.

Data analysis in this study is a qualitative analysis, information obtained from observation, In-depth interviews and focus groups were analysed by categorizing, linking relationships and content analysis. To summarize the situation and model of participatory temple facility design for all people, Sathing Phra Peninsula, Songkhla Province.

## **RESEARCH RESULTS**

This study of universal design for temple facilities—examining both the contextual characteristics and existing infrastructure—served as the foundation for developing universal design solutions tailored to temples in Sathing Phra Peninsula, Songkhla Province. The key findings are outlined below:

### **Current Status of Universal Design for Temple Facilities in Sathing Phra Peninsula**

Area surveys and in-depth interviews with 8 temple representatives reveal that, while temples across Sathing Phra Peninsula share some common contextual features, each also possesses unique characteristics that must be taken into account to ensure that facility designs are appropriately tailored to their specific settings. In terms of the existing infrastructure, some temples have implemented features that support accessibility for a broad range of visitors. However, many areas still lack essential elements needed to guarantee that all individuals—regardless of age, gender or physical ability—can fully engage in temple activities. The key findings are summarized as follows:

#### **1. Context of the Area**

The physical landscape of temple sites across Sathing Phra Peninsula are found to vary widely. Some temples, such as Wat Phakho, are situated on elevated terrain with steep slopes, making movement within the grounds difficult. Others are located in low-lying areas prone to



flooding, increasing the risk of slips and falls. Several temples in the region, including Wat Phakho and Wat Chalaе Suwannaram, date back to the Ayutthaya period (circa 1548–1568 A.D.) and feature distinctive architectural elements—such as Ayutthaya–Lankan style pagodas, as well as traditional assembly halls, ordination halls and preaching halls—that serve as important markers of cultural heritage. The surrounding local communities are deeply rooted in tradition and continue to preserve long-standing religious and cultural practices related to the temples. A prominent example is the annual Phra Borommathat Suwankhiri Pagoda Cloth Wrapping Ceremony, held on the 15<sup>th</sup> day of the waxing moon in the 5<sup>th</sup> lunar month. During this event, local residents and tourists come together to wrap the pagoda with a long yellow or red cloth as a form of reverence. However, the absence of accessible features—such as entrance ramps—prevents wheelchair users from fully participating in this meaningful tradition.

## **2. Temple Facilities**

***Travel Routes and Ramps*** - Access to temples is generally convenient, with paved roads connected to main thoroughfares. However, within temple grounds, some pathways and walkways remain uneven and are susceptible to standing water. Many stairways are steep and lack handrails, posing safety concerns for visitors. While some ramps have been installed, they do not provide full coverage throughout the temple grounds, limiting accessibility to certain areas. ***Parking Areas*** - Parking areas are typically unpaved, consisting of sand or gravel surfaces, and often lack clearly marked parking lines. There are currently no designated parking spaces for the elderly, individuals with disabilities or wheelchair users, reducing the ease of access for these groups. ***Information Services*** - Universal symbols are widely used to indicate the presence of various facilities. However, signage that communicates behavioral guidelines—such as prohibitions against smoking or touching sacred objects—is often missing. While maps and directional signs are generally present and helpful, some remain unclear or poorly positioned. Most informational signs and interpretive boards are written only in Thai, using small fonts, and are not supported by alternative formats such as images, audio guides, or Braille—making them inaccessible to children, non-Thai speakers and individuals with visual or hearing impairments. ***Buildings and Activity Areas*** - Entrances to buildings and religious activity areas often lack ramps, making them inaccessible to wheelchair users. Worship spaces typically require sitting on the floor, which poses challenges for the elderly and people with disabilities. Additionally, there are no designated seating areas for wheelchair users in communal religious spaces, further limiting inclusive participation. ***Restroom Facilities*** - In

many temples, restrooms designed for the elderly or individuals with disabilities are either unavailable or inaccessible from all surrounding areas. Moreover, emergency call buttons are generally absent, reducing the level of safety for users in need of assistance (see Table 1).

**Table 1** temple facilities for universal accessibility in Sathing Phra Peninsula, Songkhla Province

Temple facilities for universal accessibility	Wat Phra Kho	Wat	Wat Ek Choeng Sae	Wat Khlong Daen
<b>1. Walkways and ramps inside the temple</b>				
1.1 Walkways inside the temple				
• Smoothness of the walkway	×	×	×	×
• No Waterlogging	×	×	×	×
• There is a roof throughout	×	×	×	×
• Sufficient lighting	×	×	×	×
1.2 stairs				
• Stairs with handrails	×	✓	✓	✓
• Appropriate slope	×	✓	✓	✓
1.3 Ramps for wheelchair users				
• Ramp with handrail	✓	×	×	×
• Appropriate slope	✓	-	-	-
• Covering various locations within the temple	×	-	-	-
• Having roofs	×	-	-	-
<b>2. Car parking</b>				
2.1 Car parking				
• Space for parking	✓	✓	✓	✓

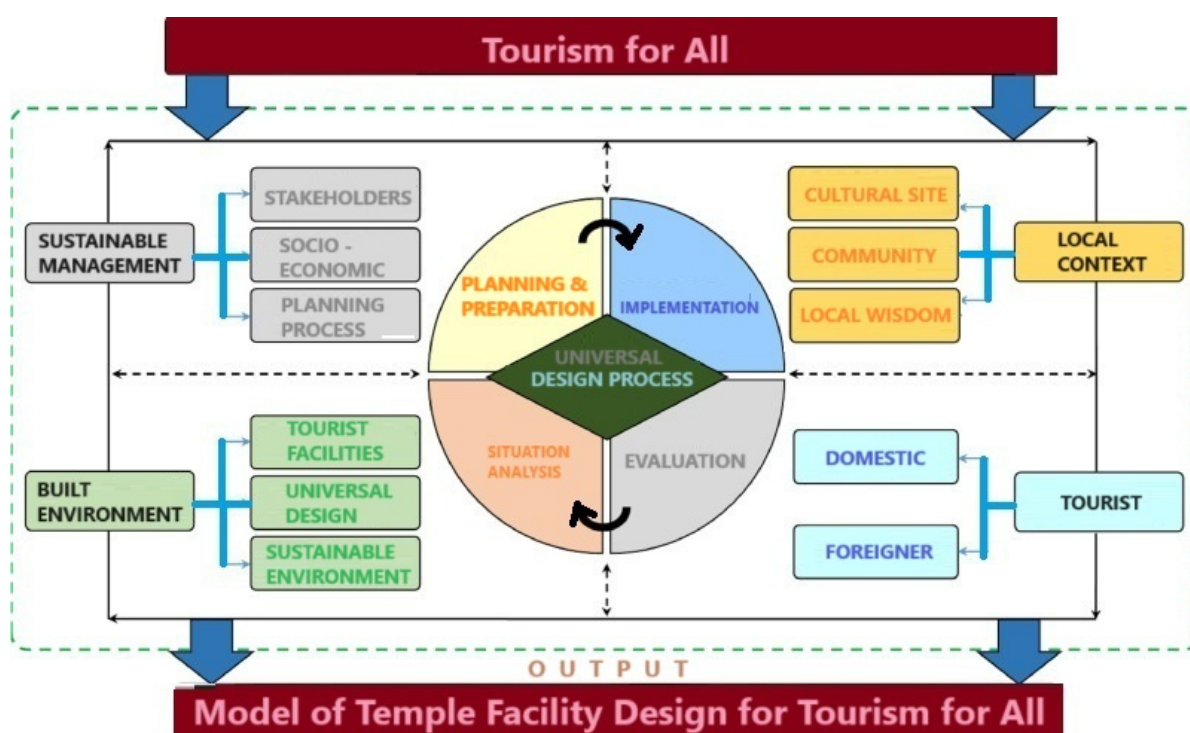
<b>Temple facilities for universal accessibility</b>	<b>Wat Phra Kho</b>	<b>Wat</b>	<b>Wat Ek Choeng Sae</b>	<b>Wat Khlong Daen</b>
<ul style="list-style-type: none"> <li>Line markings of parking spaces</li> </ul>	×	×	×	×
<b>2.2 Parking for wheelchair users</b>				
<ul style="list-style-type: none"> <li>There are parking spaces for the elderly. Disabled people or wheelchair users</li> </ul>	✓	×	×	×
<ul style="list-style-type: none"> <li>Located near the elevator or important places of the temple.</li> </ul>	✓	-	-	-
<b>3. Information service</b>				
<b>3.1 Maps and signposts</b>				
<ul style="list-style-type: none"> <li>There are map showing the location of places and facilities within the temple</li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>There are signposts showing directions to various places within the temple</li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>The signposts are placed in a clearly visible location.</li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>The text is international.</li> </ul>	✓	×	×	×
<ul style="list-style-type: none"> <li>There are universal symbols that represent amenities.</li> </ul>	✓	✓	✓	✓
<b>3.2 Interpretive signs</b>				
<ul style="list-style-type: none"> <li>The text is international.</li> </ul>	×	×	✓	×
<ul style="list-style-type: none"> <li>The text is large.</li> </ul>	×	×	×	×
<ul style="list-style-type: none"> <li>It is presented in other formats such as sound, pictures, or Braille letters.</li> </ul>	×	×	×	×
<b>4. Buildings and areas for activities</b>				
<b>4.1 Entrances to buildings or other places</b>				
<ul style="list-style-type: none"> <li>Ramp at the entrance of buildings or places of worship.</li> </ul>	×	×	×	×

<b>Temple facilities for universal accessibility</b>	<b>Wat Phra Kho</b>	<b>Wat</b>	<b>Wat Ek Choeng Sae</b>	<b>Wat Khlong Daen</b>
<ul style="list-style-type: none"> <li>• Sliding entrance door is wide for wheelchairs.</li> </ul>	×	×	×	×
<b>4.2 A space for activities and worshipping sacred things</b>				
<ul style="list-style-type: none"> <li>• Preparing chairs for the elderly in religious ceremony buildings</li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>• Providing a wheelchair accessible area for people to sit together.</li> </ul>	×	×	×	×
<b>5. Toilet</b>				
<b>5.1 Toilet</b>				
<ul style="list-style-type: none"> <li>• There are separate toilets for men and women.</li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>• Good drainage, no flooding</li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>• Non-slip floor</li> </ul>	✓	✓	✓	✓
<b>5.2 Toilets for the elderly, disabled or wheelchair users</b>				
<ul style="list-style-type: none"> <li>• There are toilets for the elderly, disabled or wheelchair users.</li> </ul>	✓	×	×	×
<ul style="list-style-type: none"> <li>• Sliding doors and wide dimensions.</li> </ul>	✓	-	-	-
<ul style="list-style-type: none"> <li>• There are handrails at the toilet and sink.</li> </ul>	✓	-	-	-
<ul style="list-style-type: none"> <li>• Lever or automatic faucet. No need to use strength.</li> </ul>	✓	-	-	-
<ul style="list-style-type: none"> <li>• Has an emergency signal button.</li> </ul>	×	-	-	-

### **Model of Universal Design for Temple Facilities Aligned with the Local Context and Inclusive of All Tourists in Sathing Phra Peninsula, Songkhla Province**

Through focus group discussions with 25 representatives from key sectors—including government agencies, tourism entrepreneurs, academics, temple representatives, local communities and tourists—ideas were collaboratively explored to develop a participatory universal design approach

for temple facilities that aligns with the local context and meets the needs of all visitors. The resulting participatory universal design model for temple facilities in Sathing Phra Peninsula (as illustrated in Figure 1) covers four main considerations, detailed as follows:



**Figure 1.** Model of Temple Facility Design for Tourism for All

### 1. Context of the Area.

Many temples in Sathing Phra Peninsula are over 500 years old, with numerous religious structures dating back to the Ayutthaya period (1548–1568 A.D.). These temples are distinguished by Lankan architectural influences, particularly pagodas that enshrine Buddha’s relics brought from Lanka. The surrounding communities have preserved traditional cultural practices closely tied to the temples, forming a unique local identity. As such, the application of universal design in buildings and facilities must respect and harmonize with this Lankan architectural heritage. It should also reflect the character of the local community and emphasize the use of natural and locally available materials. Universal design should enable all visitors to fully engage in cultural traditions—such as the annual Phra Borommthat Suwankhiri Pagoda Cloth Wrapping Ceremony—ensuring inclusive participation in both religious and cultural experience related to the temple (as shown in Figure 2)



**Figure 2.** Designed to allow wheelchair users to participate in the Phra Borommathat Suwankhiri Pagoda Cloth Wrapping Ceremony

## 2. Tourists:

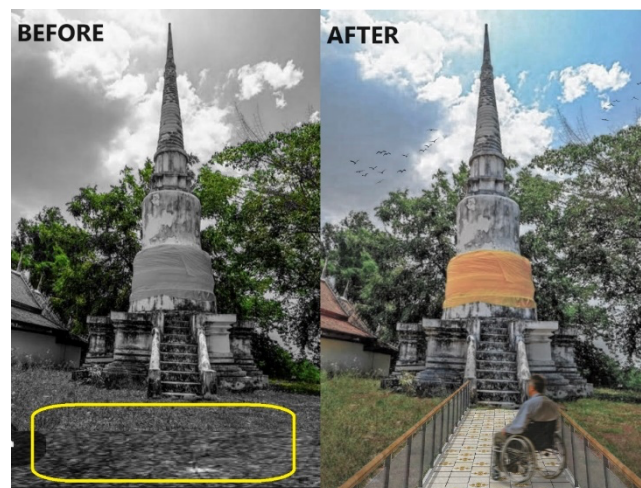
Temples in Sathing Phra Peninsula feature stunning architecture and revered religious artifacts, drawing both Thai and international visitors—particularly from neighboring countries such as Malaysia and Singapore. Many tourists visit to pay their respects, especially at notable sites like Wat Phakho, home to the highly venerated Luang Pu Thuat. To accommodate this diverse group of visitors, temple facilities must be designed to be inclusive and accessible for everyone, including children, the elderly and individuals with disabilities. These facilities should support full participation in temple activities—such as worshiping sacred artifacts, engaging in local cultural traditions, learning about religious teachings, practicing Dharma, fostering spiritual development, etc. In doing so, the temples can offer all visitors a meaningful educational experience, as well as opportunities for peace, reflection and relaxation.

## 3. Environmental Setting

Temple facilities should be developed to ensure convenient access for tourists of all ages, genders, and abilities, including individuals with disabilities. The design should follow the seven principles of universal design: Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible Information, Tolerance for Error, Low Physical Effort, and Size and Space for Approach and Use. These principles should be applied while also considering the sustainable environmental management of both the temple and the surrounding community, as outlined below:

### Access Routes and Pathways in Temples

Temple roads should be designed or improved to ensure smooth, even surfaces that are free from rough patches and standing water. Stairs should be equipped with appropriately sloped steps and handrails positioned at a height suitable for both children and adults. Ramps with proper length and gradient should be installed throughout the temple grounds, including access to worship areas and key activity zones (Figure 3). Parking areas should be planned to accommodate a sufficient number of vehicles, with clearly marked parking lines. Designated spaces for the elderly, individuals with disabilities and wheelchair users should be spacious enough to allow for easy wheelchair access and be located as close as possible to important temple areas for maximum convenience.



**Figure 3.** Wheelchair accessible improvements

### Information Services and Cultural Signage

Maps should be available to show the layout and facilities within the temple grounds. Clear and accurate directional signs should be prominently placed for easy visibility, using universal symbols to indicate facilities, practices, or prohibitions that can be easily understood by all visitors—especially foreign tourists. These include signs such as "No Smoking" or "Do Not Touch.", etc. Signs within the temple should also provide informative content on the history, significance, and origins of worship sites or objects, as well as stories related to Buddhism, local customs, cultural traditions, etc. Information should be presented in large, easy-to-read text in both



Thai and foreign languages like English or Chinese. Additional formats—such as audio guides, illustrations, and Braille—should be included to ensure accessibility for children, as well as for visitors with hearing or visual impairments.

#### Accessibility to Religious Activities for Tourists

Entrances to buildings and key areas within the temple should be designed to accommodate all groups of tourists, ensuring inclusive participation in religious activities. This includes the installation of ramps and doorways wide enough for wheelchair access. Activity and ceremony spaces should be thoughtfully arranged to provide seating for the elderly and individuals with disabilities who cannot sit on the floor, as well as open areas for wheelchair users to join alongside others. Worship spaces should also be made accessible, allowing individuals to worship while sitting, standing, or using a wheelchair. Additionally, altars and sacred objects should be positioned at appropriate heights so that children can also participate comfortably, etc. (Figure 4).

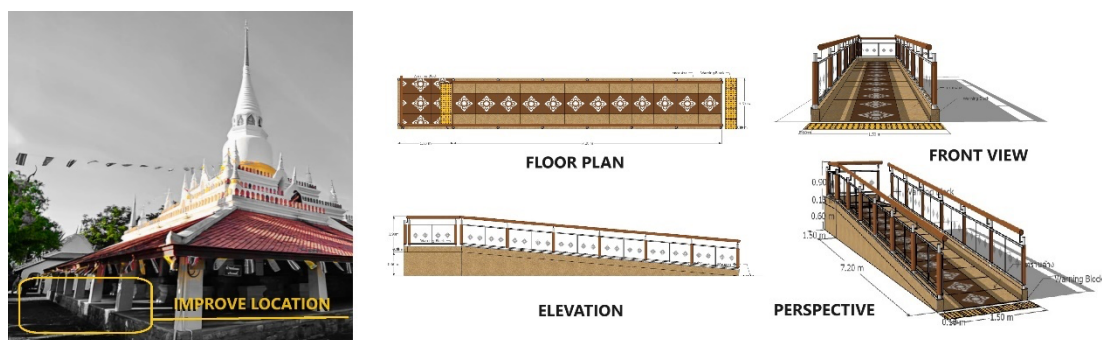


**Figure 4.** Improving the building ramp

#### Landscape Architecture of Buildings and Structures

The renovation or application of universal design in buildings and facilities should be carried out in a way that harmonizes with the original architecture, helping to maintain cultural appeal and attract tourists. For example, ramps to buildings or religious sites (Figure 5) can be thoughtfully integrated without disrupting the traditional aesthetics. Facilities should be designed for ease of use, requiring minimal effort, while ensuring safety for all visitors—especially children, the elderly, individuals with disabilities and wheelchair users. This includes features such as accessible restrooms that are spacious enough to accommodate wheelchairs, allow for turning space, and are equipped with non-obstructive handrails and emergency call buttons, etc.





**Figure 5.** A building ramp that is consistent with Ayutthaya period architecture

### 3. Sustainable Management.

Universal design of temple facilities should allow participation of all concerned parties, including government agencies, private sectors, temples and community members near the temple, by setting up a working group consisting of representatives from various sectors and defining the roles and responsibilities of each person in the participatory design process based on situation analysis, design planning, plan implementation and assessment of economic, social and cultural impacts on the local area.

## DISCUSSION & CONCLUSION

From the surveys of the existing conditions and the universal design for temple facilities, it is found that both the contextual surroundings and current temple facilities must be considered when designing inclusive spaces. These spaces should allow individuals of all genders, ages, and abilities to safely and conveniently participate in temple activities. To ensure harmony between the design and the temple context as based on the 7 principles of universal design, a participatory design model was developed for temple facilities in Sathing Phra Peninsula. This covers 4 key considerations, outlined as follows: **1) Context of the Local Area.** This component involves incorporating architectural styles—such as the Lankan influences present at several religious sites—into the design, while also supporting local traditions that reflect and preserve the region’s unique cultural identity. This approach is consistent with the findings of Sawangjaroen et al. (2017), who emphasize that design for facilities in national parks should operate on three levels: ensuring safety, promoting equality, and integrating with the natural environment. **2) Tourists.** Facilities should be designed to accommodate both Thai and foreign tourists, including children,

the elderly and persons with disabilities. The goal is to create an environment that is not only accessible but also enriching—providing a space where all visitors can enjoy a relaxing, educational, and participatory experience in the temple's unique cultural and religious life. **3) Environmental Setting.** This component focuses on designing accessible pathways, efficient traffic systems, comprehensive information services and interpretive signs that respect cultural sensitivity. These features ensure that all visitors can access key areas and engage in religious practices such as worship and ceremonies without segregation. This approach is supported by Polumysna et al. (2022), whose study of universal design at Christian temples and churches in Ukraine highlights the importance of designated spaces for individuals with limited mobility throughout worship halls. The architectural landscape of temple facilities are based on the 7 principles of universal design: Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible Information, Tolerance for Error, Low Physical Effort, and Size and Space for Approach and Use. This aligns with the framework proposed by the Centre of Excellence in Universal Design, 2005. Furthermore, it reflects the findings of Kim & Chang (2018), who identify 6 user-perceived principles of universal design in sports facilities: Equitability, Usability, Convenience, Aesthetics, Safety, and Pleasantness—while also taking into account sustainable environmental management. This model also aligns with Kanawattanakul's (2019) universal design proposal for senior tourists in the North to Central Pataya Beach Road area, which covers 4 dimensions: Knowledge and Awareness, Qualified Suppliers, Facilities and Infrastructure, and Marketing and Promotion. **4) Sustainable Management.** This component emphasizes participatory management involving various stakeholders within the community. It takes into account the economic, cultural and social impacts on the local area. By integrating these considerations into the design, a balanced and sustainable approach can be achieved—one that supports long-term well-being across all environmental, social, cultural and economic dimensions of the local area.

## Suggestions

Based on this study of the model of universal design for temple facilities in Sathing Phra Peninsula, the following recommendations are proposed for implementation:

**1. Fostering Interagency Collaboration.** Collaboration should be strengthened among local administrative organizations and relevant government agencies, such as the Buddhism Office of Songkhla Province, to develop infrastructure and facilities that ensure accessibility to temples

and temple activities for all tourist groups. Such efforts can help attract a greater number of both Thai and foreign visitors to the temples.

**2. Establishing a Multisectoral Working Group.** A dedicated working group should be formed, comprising temple representatives, tourism entrepreneurs and local community members. This group would be responsible for designing and managing inclusive facilities and ensuring active participation in situation analysis, planning, implementation and assessment of both positive and negative impacts on social, cultural, and economic situation of the local area.

**3. Promoting Local Resource Conservation.** Local communities should be encouraged to engage in the conservation and restoration of their natural and cultural heritage. This includes preserving religious traditions related to the communities, vernacular architecture and local natural resources, all of which can help draw more tourists to the temples.

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# **Development of App-Based Learning on Android: A Case Study for Health Officials in Phatthalung Province for Dementia Prevention of the Elderly, based on the Spiritual Dimension in a Multicultural Context**

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## **ABSTRACT**

This research aimed to develop a learning application for the Android operating system tailored to the needs of public health personnel in Phatthalung Province, Thailand. Its primary objective was to promote dementia prevention among the elderly through an approach that integrates spiritual dimensions rooted in the multicultural context of local communities. The development process employed the ADDIE Model, comprising five systematic phases: Analysis, Design, Development, Implementation, and Evaluation. This model ensured a structured and evidence-based approach to instructional design, allowing the application to be grounded in real-world needs and user-centered principles.

In the analysis phase, data were collected to identify the specific educational needs of healthcare workers regarding dementia prevention in the elderly. The design phase focused on developing a learning framework that incorporated spiritual care practices aligned with local

cultural values. During the development phase, multimedia elements—such as animations, narrated text, and interactive learning modules—were created to enhance engagement and understanding. The implementation phase involved testing the application with the target users, while the evaluation phase assessed its quality and effectiveness.

Expert evaluations indicated that the application demonstrated excellent quality in three core areas: content accuracy, technological integration, and instructional design. The content was up-to-date, clearly structured, and highly relevant to real-life caregiving contexts. The user interface was intuitive, and the multimedia features—including images, videos, and audio—encouraged active learning and improved comprehension.

The application achieved an efficiency score of 80.78/95.11, surpassing the standard benchmark of 80/80. Moreover, users' learning outcomes significantly improved after using the application, with statistical significance at the 0.01 level. User satisfaction was also high, with an average rating of 4.99 out of 5.

In conclusion, the application has proven to be an effective educational tool for promoting dementia prevention among the elderly. It fosters collaborative learning and communication among public health professionals, community health volunteers, caregivers, and older adults, contributing meaningfully to community health development within a culturally diverse setting.

**Keywords:** App-Based Learning, Dementia Prevention, Elderly, Spiritual Dimension, Multicultural Context

## INTRODUCTION

The global population is aging at an unprecedented rate, leading to a significant increase in age-related health conditions, including dementia. Dementia, a syndrome characterized by a decline in cognitive function beyond what might be expected from normal aging, poses substantial challenges to individuals, families, and healthcare systems worldwide [World Health Organization, 2023]. In Thailand, the aging population presents similar concerns, with a growing need for

effective strategies to prevent and manage dementia, particularly within diverse cultural and community settings.

Phatthalung Province, located in southern Thailand, is characterized by a rich multicultural fabric, where Buddhist, Islamic, and other cultural traditions coexist and influence daily life, including healthcare practices and beliefs about aging and well-being. Within this context, addressing dementia prevention requires culturally sensitive approaches that resonate with the local population and integrate existing support systems, including spiritual and community resources [Phatthalung Provincial Health Office, 2024].

Recognizing the potential of mobile technology to disseminate health information and facilitate learning, this research aimed to develop an Android-based learning application tailored to the specific needs of public health personnel in Phatthalung Province. The primary objective was to promote dementia prevention among the elderly through an innovative approach that strategically integrates spiritual dimensions grounded in the multicultural context of the local communities. By equipping healthcare workers with culturally relevant knowledge and tools, this application seeks to enhance their capacity to educate and support older adults and their caregivers in adopting preventive measures and fostering a supportive community environment. This research addresses a critical gap in providing culturally and spiritually sensitive dementia prevention education within a specific regional context.

## **LITERATURE REVIEW**

Dementia is a growing global health crisis, with significant social and economic implications. Alzheimer's disease, the most common form of dementia, accounts for a substantial proportion of cases, followed by vascular dementia, Lewy body dementia, and frontotemporal dementia [Alzheimer's Association, 2023]. While there is currently no cure for most forms of dementia, research increasingly highlights the potential of lifestyle modifications and early intervention strategies in reducing the risk and delaying the onset of cognitive decline [Livingston et al., 2020]. These preventive measures often include promoting physical activity, maintaining a



healthy diet, managing cardiovascular risk factors, engaging in cognitive stimulation, and fostering social engagement.

In the context of elderly care, the integration of spiritual and cultural dimensions has gained increasing recognition for its positive impact on well-being and coping mechanisms [Swinton & Pattison, 2010]. Spirituality can provide a sense of meaning, purpose, and hope, which can be particularly important for older adults facing health challenges, including cognitive decline. Cultural beliefs and practices also significantly influence how individuals perceive health, illness, and caregiving [Kleinman, 1988]. Therefore, healthcare interventions that are culturally congruent and incorporate spiritual support are more likely to be accepted and effective within specific communities.

The use of mobile learning applications (m-learning) in healthcare education has demonstrated significant potential in enhancing knowledge acquisition, improving skills, and promoting behavioral changes among healthcare professionals [Kukulska-Hulme, 2012]. M-learning offers flexibility, accessibility, and interactivity, allowing learners to engage with educational content at their own pace and convenience. Multimedia elements, such as videos, animations, and interactive quizzes, can enhance engagement and facilitate deeper understanding of complex health information [Mayer, 2009].

The ADDIE Model (Analysis, Design, Development, Implementation, and Evaluation) provides a systematic framework for instructional design, ensuring that learning interventions are developed based on a thorough understanding of learner needs and are evaluated for their effectiveness [Branch, 2009]. This model has been widely applied in the development of healthcare education programs and m-learning applications, offering a structured approach to creating high-quality and impactful learning experiences.

Within the multicultural context of Thailand, and specifically Phatthalung Province, the integration of spiritual beliefs and practices into healthcare is particularly relevant. For instance, Buddhist principles of mindfulness and compassion may offer valuable approaches to managing stress and promoting emotional well-being among both older adults and their caregivers [Gethin,



1998]. Similarly, Islamic traditions emphasize community support and respect for elders, which can play a crucial role in dementia care [Khan, 2019]. Understanding and incorporating these cultural and spiritual nuances into dementia prevention education can enhance its relevance and acceptability within the local community.

Previous research on dementia prevention in Southeast Asian contexts has highlighted the importance of community-based interventions and the involvement of family members and local healthcare providers [Chee et al., 2017]. However, there is a relative scarcity of studies focusing specifically on the integration of spiritual dimensions within mobile learning applications for dementia prevention in multicultural settings like Phatthalung Province. This research aims to address this gap by developing and evaluating a culturally and spiritually sensitive m-learning tool for public health personnel.

## **RESEARCH METHODOLOGY**

This research employed a mixed-methods approach, primarily focusing on the development and evaluation of a mobile learning application using the ADDIE model. The study was conducted in Phatthalung Province, Thailand, targeting public health personnel involved in the care of the elderly.

The ADDIE Model Framework:

**Analysis:** This phase involved a thorough assessment of the needs and characteristics of the target audience, including their existing knowledge about dementia prevention, their technological literacy, and the cultural and spiritual context in which they work. Data were collected through:

**Needs Assessment Surveys:** Questionnaires were distributed to public health nurses, community health volunteers, and other healthcare workers in Phatthalung Province to identify their perceived educational needs and challenges related to dementia prevention among the elderly.

**Focus Group Discussions:** Several focus group sessions were conducted with healthcare professionals and community leaders to gather qualitative data on cultural beliefs, spiritual practices, and existing community resources relevant to elderly care and dementia.

**Literature Review:** A review of existing literature on dementia prevention, mobile learning in healthcare, and culturally sensitive care practices in Thailand and similar multicultural contexts was conducted to inform the content and design of the application.

**Design:** Based on the analysis phase, a detailed learning framework was designed. This included

**Learning Objectives:** Clear and measurable learning objectives were defined based on the identified needs and best practices in dementia prevention.

**Content Outline:** The content was structured into modules covering key aspects of dementia, risk factors, preventive strategies (including physical, cognitive, and social engagement), and the integration of spiritual care practices relevant to the local cultural context (e.g., mindfulness meditation, community support networks based on religious values).

**Interface Design:** The user interface (UI) and user experience (UX) were carefully designed to be intuitive, user-friendly, and culturally appropriate, incorporating local languages and visual elements.

**Multimedia Integration:** Decisions were made regarding the types of multimedia elements to be used (e.g., animations explaining the pathology of dementia, narrated text providing information on preventive strategies, and interactive scenarios illustrating culturally sensitive communication with older adults).

**Development:** In this phase, the learning application was created based on the design specifications. This involved:

**Content Creation:** Textual content was developed, incorporating accurate and up-to-date information on dementia prevention, tailored to the local context, and integrating spiritual care principles.

**Multimedia Production:** Animations, videos, audio recordings, and interactive learning modules were produced to enhance engagement and cater to different learning styles. Local cultural elements and scenarios were incorporated into these materials.

**Application Development:** The Android application was developed, integrating the content and multimedia elements in a user-friendly and accessible format. The application was designed to be compatible with a range of Android devices commonly used by the target audience.

**Implementation:** The developed application was implemented with a group of public health personnel in Phatthalung Province. This phase involved

**Training Sessions:** Participants received training on how to use the application and its features.

**Application Deployment:** The application was installed on the participants' Android devices.

**Usage Monitoring:** Participants were encouraged to use the application over a specified period, and their usage patterns were monitored (e.g., frequency of use, modules accessed).

**Evaluation:** The final phase involved evaluating the quality and effectiveness of the learning application. This included

**Expert Evaluation:** A panel of experts in gerontology, mobile learning, instructional design, and cultural studies reviewed the application based on predefined criteria, including content accuracy, pedagogical design, technical functionality, and cultural sensitivity. A rubric with rating scales (e.g., 1-5) was used for the evaluation.

**Efficiency Evaluation:** The efficiency of the application was assessed by comparing the learning gains of the participants with the time and effort they invested in using the application. The formula used was  $\text{efficiency} = (\text{learning gain} / \text{time invested}) \times 100$ . The benchmark for efficiency was set at 80/80 (80% learning gain with 80% of the allocated time).

**Learning Outcome Assessment:** Pre- and post-tests were administered to the participants to assess their knowledge and understanding of dementia prevention before and after using the application. Statistical analysis (e.g., paired t-tests) was used to determine the significance of any observed changes in learning outcomes.

**User Satisfaction Survey:** After using the application, participants completed a satisfaction survey using a Likert scale (1-5) to assess their perceptions of the application's usability, content relevance, engagement, and overall satisfaction. Qualitative feedback was also collected through open-ended questions.

## **RESEARCH RESULTS**

The evaluation of the developed learning application yielded positive results across multiple dimensions:

**Expert Evaluation:** The expert panel rated the application as demonstrating excellent quality in three core areas:

**Content Accuracy:** The content was deemed up-to-date, scientifically sound, and highly relevant to the real-life caregiving contexts in Phatthalung Province (mean score: 4.85/5).

**Use of Technology:** The application's user interface was found to be intuitive and easy to navigate. The integration of multimedia elements (images, video, and audio) was considered effective in promoting active learning and comprehension (mean score: 4.90/5).

**Learning Design:** The instructional design was praised for its clarity, logical flow, and effective use of interactive elements. The incorporation of spiritual dimensions within the cultural context was considered appropriate and well-integrated (mean score: 4.78/5).

**Efficiency Evaluation:** The application achieved an efficiency score of 80.78/95.11. This indicates that the participants demonstrated an average learning gain of 80.78% relative to a potential maximum while utilizing approximately 95.11% of the recommended engagement time. Importantly, the efficiency score exceeded the pre-defined standard benchmark of 80/80, suggesting that the application was an efficient learning tool.

**Learning Outcome Assessment:** The results of the pre- and post-tests showed a statistically significant improvement in the participants' knowledge and understanding of dementia prevention after using the application. The mean score on the pre-test was [Insert Mean Pre-test Score], while the mean score on the post-test was [Insert Mean Post-test Score]. A paired t-test revealed a statistically significant difference between the pre- and post-test scores ( $t = [\text{Insert } t\text{-statistic}], p < 0.01$ ), indicating that the application had a significant positive impact on learning outcomes.

**User Satisfaction:** The user satisfaction survey revealed a high level of satisfaction among the participants. The average satisfaction score was 4.99 out of 5, indicating that users found the application to be useful, engaging, and relevant to their professional needs. Qualitative feedback highlighted the application's user-friendliness, the clarity of the content, and the value of incorporating spiritual and cultural perspectives. Participants also appreciated the flexibility and accessibility offered by the mobile learning format.

## **DISCUSSION & CONCLUSION**

The findings of this research provide strong evidence for the effectiveness and quality of the developed Android-based learning application in promoting dementia prevention knowledge

among public health personnel in Phatthalung Province, Thailand. The application's success can be attributed to several key factors:

Firstly, the systematic approach of the ADDIE Model ensured that the application was developed based on a thorough understanding of the target audience's needs and the specific context of Phatthalung Province. The analysis phase provided valuable insights into the educational requirements and the importance of integrating cultural and spiritual dimensions into dementia prevention education.

Secondly, the design phase focused on creating a learning framework that was not only pedagogically sound but also culturally sensitive. The deliberate incorporation of spiritual care practices aligned with local cultural values enhanced the relevance and acceptability of the application among the users.

Thirdly, the development phase resulted in a user-friendly and engaging application that effectively utilized multimedia elements to enhance learning. The positive feedback from the expert evaluation regarding content accuracy, technology use, and learning design underscores the quality of the developed resource.

The significant improvement in learning outcomes, as demonstrated by the pre- and post-test scores, indicates that the application is an effective tool for knowledge transfer. The high efficiency score further suggests that the application delivers learning effectively within a reasonable timeframe.

Furthermore, the exceptionally high level of user satisfaction highlights the application's usability, relevance, and engagement. The positive qualitative feedback from the participants reinforces the value of tailoring the learning content and delivery to the specific needs and cultural context of the target audience.

The integration of spiritual dimensions within the multicultural context of Phatthalung Province appears to be a significant strength of this application. By acknowledging and incorporating local beliefs and practices, the application fosters a more holistic and culturally

congruent approach to dementia prevention. This is particularly important in communities where spiritual well-being is closely intertwined with overall health and quality of life for the elderly.

The application's potential to encourage collaborative learning and communication among public health professionals, community health volunteers, caregivers, and older adults is another significant contribution. By providing a shared resource and a common understanding of dementia prevention strategies within a culturally relevant framework, the application can facilitate more effective teamwork and community-based initiatives.

In conclusion, this research demonstrates that a well-designed, culturally sensitive, and spiritually integrated mobile learning application can be an effective educational tool for promoting dementia prevention among the elderly in a multicultural setting like Phatthalung Province. The findings suggest that leveraging mobile technology and incorporating local cultural and spiritual values can significantly enhance the knowledge and capacity of public health personnel, ultimately contributing to improved community health development and the well-being of older adults.

Future research could explore the long-term impact of the application on actual dementia prevention practices and the well-being of the elderly in the community. Further studies could also investigate the adaptability of this model to other cultural contexts and health-related topics.

## **FUTURE STEPS**

The success of the Android-based learning application for dementia prevention in Phatthalung Province has laid a strong foundation for future enhancements. To expand its impact and accessibility, the following steps are planned:

### **Development of an iOS Version**

The research team aims to extend the application's reach by developing a version compatible with iOS devices. This will ensure that healthcare professionals and caregivers using

iPhones or iPads can also benefit from the culturally sensitive and spiritually integrated learning content. The iOS version will maintain the same features, including multimedia elements, interactive modules, and localized cultural adaptations, ensuring a seamless experience across platforms.

### **Enhanced Accessibility Features**

To promote inclusivity, the application will be upgraded with additional accessibility features, such as text-to-speech functionality, adjustable font sizes, and high-contrast display options. These improvements will accommodate users with visual or auditory impairments, ensuring that the tool is accessible to a broader audience, including older adults and caregivers with varying needs.

### **Offline Functionality and Data Synchronization**

Recognizing the challenges of internet connectivity in rural or remote areas, the application will be optimized for offline use. Users will be able to download essential content—such as videos, quizzes, and reading materials—for offline access. A synchronization feature will allow progress and data to update automatically once an internet connection is restored, ensuring continuity in learning and usability.

### **Long-Term Impact Assessment**

Future research will evaluate the long-term effects of the application on dementia prevention practices among healthcare workers and the elderly community. This will involve tracking behavioral changes, adoption of preventive measures, and overall improvements in the well-being of older adults. Feedback from users will also be collected to refine and expand the application's content and features.

### **Expansion to Other Regions and Languages**

The success of the application in Phthalung Province opens opportunities for adaptation to other multicultural regions in Thailand and beyond. Future versions may include translations



into additional languages and incorporate region-specific cultural and spiritual practices to ensure relevance and effectiveness in diverse communities.

By pursuing these future steps, the application will continue to evolve as a scalable, inclusive, and impactful tool for dementia prevention, ultimately contributing to healthier aging populations in multicultural settings.

## **ACKNOWLEDGMENT**

The authors would like to express their sincere gratitude to the public health personnel in Phatthalung Province for their participation in this research. We also acknowledge the valuable contributions of the expert reviewers who provided insightful feedback on the application, and thank you to Thaksin University and TSRI for providing research funding.

## **HUMAN RESEARCH ETHICS APPROVAL**

This research did not involve direct interaction with human subjects for data collection (e.g., no direct interviews or assessments of elderly individuals were conducted). The study focused on the development and evaluation of an educational tool for healthcare professionals. Therefore, this research did not require human research ethics approval.

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# **Why do women participate in ROSCAs more than men? A Case Study of Female Farmers and Workers in the Natural Rubber Industry in Nakhon Si Thammarat Province, Thailand**

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## **ABSTRACT**

The objective of this study is to investigate the reasons why women participate in Share more than men. The concepts of gender division of labor and Social Capital are used as a theoretical framework. The study employs a qualitative research method, collecting data through in-depth interviews with 12 female farmers and workers in the natural rubber industry in Nakhon Si Thammarat Province, Thailand.

The results reveal that one key factor that leads female farmers in the natural rubber industry to participate in Share more than men is the division of labor between males and females at both the family and community levels. At the family level, women are assigned to take care of food, the home, and children, which requires them to manage finances and leads them to participate in Share groups to help them save money. At the community level, women have stronger social networks and trust among each other than men, enabling them to establish and continuously run Share groups. Interestingly, women's continuous participation in Share further strengthens their social networks and trust, which helps them to increase social capital among women in the community.

**Keywords:** Women, ROSCAs, Share, Rubber industry, Thailand

## INTRODUCTION

Rotating Savings and Credit Associations (ROSCAs) are one of the most common forms of informal financial institutions in developing countries (Ambec & Treich, 2007; Anderson et al., 2009). Although the formats of ROSCAs in different areas vary, the fundamental principles of ROSCAs in each area are similar. It starts with the gathering of members, followed by organizing meetings. In each meeting, everyone contributes to the pot together according to the amount agreed upon by the group members. In each round of meetings, the group gives the money in the pot to only one selected member. This member will not receive the pot at the next meeting but will still need to contribute to the pot at every meeting. This process will be repeated until all members receive the pot. Then, the ROSCAs will be canceled or a new round will start. The distribution of the pot to members in each round may use previously agreed-upon methods, such as random roscas or bidding roscas (Ambec & Treich, 2007).

ROSCAs are used as mechanisms for saving money to achieve various goals, such as saving money as insurance (Calomiris & Rajaraman, 1998; Ryu & Suzuki, 2020), to purchase durable goods (Besley et al., 1993), as commitment saving devices (Gugerty, 2007), for investment (Azman & Kassim, 2019; Choudhary & Tyagi, 2022), for coping within the context of a covariate shock like COVID-19 (Otudor, 2020), for empowering women (Adekanla, 2021), and as a strategy that wives use to protect their savings from their husbands' demands (Anderson & Baland, 2002; Johnson, 2004).

Many research studies have found that ROSCAs often have more female members than male members, as observed in Malaysia, Turkey, China, Thailand, Taiwan, Ethiopia, and Kenya (Azman & Kassim, 2019; Kahyaoglu et al., 2016; Tsai, 2000; Steinwand, 1994; Levenson & Besley, 1996; Kedir & Ibrahim, 2011; Anderson & Baland, 2002). The reasons and characteristics of women's participation in ROSCAs vary by region. For example, in Malaysia, women entrepreneurs have more difficulty accessing formal financial resources compared to men, which leads them to rely on informal financing (Azman, Kassim, 2019). In China and Ethiopia, it was found that women are more trustworthy than men when it comes to repaying money, which is why they came together to form ROSCAs (Tsai, 2000; Kedir & Ibrahim, 2011). Similar to what Levenson & Besley (1996) found, in Taiwan, women's social networks are stronger than those of men, leading to more effective enforcement mechanisms for participation in ROSCAs.

In Thailand, the popular ROSCAs are called "Share" or "Lenshare". Similar to many countries, research has found that Shares in Thailand are more popular among women than men (Steinwand, 1994). However, in the study of Share in Thailand, there has not been any research that explains the reasons why women participate in Share more than men. This study, therefore, aims to investigate the reasons that lead women to participate in Share more than men by studying a sample group that the researcher can access for interviews, specifically female farmers and workers in the natural rubber industry in Nakhon Si Thammarat Province.

### **Study Objectives**

To study why women, participate in Share more than men

## **LITERATURE REVIEW**

### **Women's Participation in ROSCAs**

In each society, women have different reasons and goals for using ROSCAs, such as saving money for investment, for household expenses or child-rearing, as a mechanism to protect their money from their husbands, and to create power within the household.

Women in many countries do not have access to formal credit, so they use savings methods through ROSCAs, such as in Turkey (Kahyaoglu et al., 2016), Malaysia (Azman & Kassim, 2019), and Nigeria (Musa & Norashidah, 2016). Women who cannot access formal credit use ROSCAs to save money for investment and business development. In South Africa, in addition to using ROSCAs for business, poor women also use ROSCAs as income-earning activities (Buijs, 1998).

In Cameroon and Kenya, it has been found that women participate in ROSCAs at a higher rate than men in order to save money for household expenses. In Cameroon, most Cameroonian women do not have legal rights to land and are rarely employed in paid jobs. Therefore, ROSCAs are a strategy that Cameroonian women use to meet their financial needs, including daily household expenditures (Dumes, 2004). In Kenya, married women with a steady income are most likely to participate in ROSCAs. They use ROSCAs to accumulate savings for household expenses and raising children. Additionally, saving money in ROSCAs also helps women to protect their money from their husbands (Anderson & Baland, 2002).

Meanwhile, Sedai (2021) found that under the control of the patriarchal society of India, where male members of the household make important decisions, ROSCAs are significant for empowering women. ROSCAs enable women to exercise their rights and make important economic decisions for their households. They provide loans to families, increasing women's access to cash for daily expenses. Being a member of a ROSCA enhances the chances for women to have their names included on property documents, similar to the situation in Ethiopia, where ROSCAs are a crucial tool for empowering women by giving them financial independence.

## **Theoretical Framework**

### **Gender division of labor**

The gender division of labor refers to the way in which each society allocates work between men and women, as well as boys and girls, based on socially defined gender roles (UN Women Training Centre, n.d.). This division of labor plays a crucial role in social inequality. It has two key aspects: first, most women still bear the primary responsibility for caregiving and household chores, which are typically unpaid; second, women do not receive the same level of compensation for their contributions to paid work as men do. However, these circumstances are gradually changing, as women are increasingly able to participate in the workforce (Crompton, 2012).

### **Social Capital**

Social capital refers to the network of relationships among people who live and work in a particular society, which enables that society to function effectively. Dudwick et al. (2006) identifies six dimensions of social capital that help to clarify its characteristics: groups and networks, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion and empowerment and political action.

The concepts of gender division of labor and social capital will be used to explain the reasons behind women's participation in Share, as well as to further explain why women are able to continue engaging in it.

## **RESEARCH METHODOLOGY**

This study utilized a qualitative research method. Data was collected through in-depth interviews with female farmers and workers in the natural rubber industry, specifically

interviewing 12 members of the share group. The sample employed purposive sampling. A semi-structured interview was used as a data collection method. The data was interpreted using thematic analysis. The study area was Nakhon Si Thammarat Province, Thailand.

## **RESEARCH RESULTS**

One important factor that encourages female farmers and workers in the natural rubber industry to participate in Share more than men is the division of labor between males and females, both at the family and community levels.

### **Family levels**

The interview revealed that at the family level, men are assigned the role of head of the household and have the primary responsibility of earning money. Meanwhile, women are not only expected to help a family to earn an income but also to take care of household chores, cook, and raise children. This responsibility is linked to household spending, so women are also tasked with managing the household finances.

“Men earn money, while women manage the spending. Women cook, go to the market, take care of the house, and look after the children. The expenses for children's education can be significant, so it's important to manage them well.”

“If you need to buy a gas stove and pay for a blanket in installments, men usually don't handle it; women are the ones who manage it.

Additionally, in low-income households that lack access to credit, women are often expected to take on the role of borrowers or savers. For instance, in savings groups, if the husband participates, he usually gives money to his wife to represent him. Another example is participating in savings schemes aimed at accumulating assets, such as Share for gold savings.

“My husband knows that I invest in Share. He also participates, but he gives me money to invest on his behalf. He earns money but does not like managing long-term finances.”

“In the past, people participated in Share for gold savings during a time when gold prices were not high. Gold shops would form Share groups, where members paid in installments. Once the payments were complete, they would receive gold. All the participants were women.”

Several interviewees agreed that women are more disciplined with their finances than men. In many families, when men are in charge of managing the money, it often leads to problems, as they tend to spend rather than save. Additionally, women are generally more disciplined in their financial contributions to Share than men. This activity allows them to spend time sharing their stories about daily lives with one another. As a result, women have a stronger social obligation to uphold their commitments than men do, in order to maintain relationships within the group.

“If men are in charge of saving, in some families, the husbands end up spending it all on bird-singing competitions. Women are better at saving.”

“When it is time to make the payment each round, it is not just about coming to pay to Share and then leaving. It is also about sharing personal stories with each other. If someone is in need, we talk it over. Sometimes, we even let the person in need use that month's Share money to help them.”

“Women have better credit than men and generally do not have many issues. If they do not have money, they usually come and talk first to borrow, and they rarely run away.”

Another important point is Share can empower women. They can use Share as a tool to increase their income. There are cases when they earn money directly from Share and use Share to promote their careers.

“I establish Share and earn money from it; members in the Share group will pay me some money as a fee for managing ROSCAs.”

“Apart from rubber plantation, I also run a shop, which has many competitors, so I established a Share group. The members are customers in the shop, and this helps me to retain customers.”



Additionally, women farmers can use Share to support their livelihoods during times of economic shocks. When rubber prices fluctuate or continuously decline, the Share group can adapt the Share model to suit the economic conditions.

“20 years ago, farmers in the community made sheet rubber and sold rubber in cycles, participating in monthly savings groups, which allowed them to save a significant amount of money. At that time, members of the Share groups saved money with the purpose of paying off debts, buying cars, and repairing houses. Later on, most farmers switched to selling natural latex, earning a daily income, and changed to setting up daily Share groups. When rubber prices were high, the Share groups could charge high interest because members had money to pay. During that time, members profited from participating in the Shares, but when rubber prices fell, they switched to daily Shares with lower interest, using the money for household expenses.”

### **Community levels**

At the community level, women have stronger social networks than men. In the studied community, members come together to engage in social activities. The research shows that women clearly represent their households more than men when participating in community activities. For example, members of the village fund or Village Health Volunteers (VHV) are often women. Even in monthly village meetings, women tend to attend and participate more than men.

“The village fund or Village Health Volunteer (VHV) is mainly comprised of women. In addition, during the monthly meetings in the village, most of the participants are women. However, in community development activities like tree cutting or mowing, there are more men involved.”

In addition, the grouping of men in the community is usually small and involves leisure activities such as fishing and bird-singing competitions rather than social activities

“In their leisure time, men usually go fishing, join bird-singing competitions, and rarely work in groups like women do. Men who participate in social activities are mostly those who have duties in the community, such as village headmen.”

The division of labor between men and women is one important factor that allows female farmers and workers in the natural rubber industry to participate in Share more than men. Additionally, women can organize and maintain social networks better than men, enabling them to continuously engage in Share.

## **DISCUSSION & CONCLUSION**

This study is interested in exploring the reasons why women participate in Share more than men, by studying women farmers and workers in the natural rubber industry in Nakhon Si Thammarat Province, Thailand. The results show that the division of labor between men and women, both at the household and community levels, is a condition that allows women to engage in Share more than men. In the studied community, women are assigned the tasks of managing food and caring for children, thus needing to manage money to be sufficient for these activities. Share has therefore become one of the tools for managing money, as well as protecting their own money from their husbands, similar to what has occurred in Cameroon (Dumes, 2004) and Kenya (Anderson & Baland, 2002).

Women who cannot access formal credit still use Share to save money for their desired purposes, similar to what occurs among women entrepreneurs in Turkey (Kahyaoglu et al., 2016), Malaysia (Azman, Kassim, 2019), and Nigeria (Musa & Norashidah, 2016). However, an important difference is that the majority of the interviewed sample uses money from Share for household expenses rather than investing as entrepreneurs. Additionally, although Share is used to promote businesses, it is only in the form of indirect support and cannot be used as a primary source of income for sustenance. This situation is similar to that in South Africa, where poor women still use ROSCAs as a means to generate additional income (Buijs, 1998).

Members of the community, both men and women, also believe that women have better financial discipline than men and have stronger social networks and social penalties. This is similar to findings in China and Ethiopia, where research by Tsai, 2000; Kedir & Ibrahim, 2011 found that women are more trustworthy than men in repaying loans, leading to the formation of more smoothly operating ROSCA groups, as in Taiwan, where women's social networks are stronger

than men's, leading to more effective enforcement mechanisms for participation in ROSCAs (Levenson & Besley, 1996).

When considering the dimension of social capital, the fact that women are more involved in community activities than men results in women having larger and closer social networks than men. This becomes an important social capital in participating in savings groups because, in forming these groups, members are selected. Women within the same group will know who can be trusted and will invite others to join as members. If the established savings group is successful, it will continuously increase trust and solidarity within the group. Furthermore, in the event of facing economic shocks, women can establish ROSCAs to support each other by utilizing existing relational networks, reflecting the collective action and cooperation of women in the community. Importantly, the ability of female farmers to adapt the structure of ROSCAs in response to economic changes also reflects the potential of women as social innovators, which will accumulate as social capital in the social networks of these women.

This research studied Share group participants from only one occupation group. In the future, there should be research on participants in Share groups in other professions. Additionally, this study found that the format of Share is resilient and changes according to social dynamics. The changes in the format of Share should also be studied.

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## Session 2

# Sustainable Business Practice

### Committee:

- 1) Prof. Erna Hernawati, PhD, Ak., CA., CPMA., CGOP., CQRP.
- 2) Asst. Prof. Indri Arrafi Julianniasa, SE., ME.

### Moderator:

- 1) Lect. Wanwisa Watcharakorn
- 2) Lect. Purimprat Songsri





# Unlocking Prosperity: Strategic Risk Management for Sustainable Business Practices Amid Indonesia's Digital Revolution

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## ABSTRACT

The era of digitalization presents both significant opportunities and profound challenges for business sustainability, particularly as organizations navigate an increasingly complex landscape of risks. These risks, which can arise from both internal and external sources, necessitate the development of innovative and adaptive risk management strategies to ensure operational continuity and sustained competitive advantage. This study employs a descriptive qualitative methodology, utilizing a comprehensive literature review to explore various theories, concepts, and insights related to risk management in the context of digital transformation. The findings underscore that the success of risk management initiatives in supporting business sustainability fundamentally relies on three essential aspects: the integration of advanced technology, fostering cross-sector collaboration, and cultivating a strong organizational culture. Furthermore, the study reveals that companies that successfully embed sustainability principles into their risk management frameworks often exhibit enhanced competitiveness in the marketplace. Therefore, it is imperative for organizations to adopt technology-driven and sustainability-focused risk management strategies as foundational elements for achieving long-term business sustainability in the digital age. By doing so, they position themselves to effectively mitigate risks while harnessing the potential of digital transformation to create enduring value.

**Keywords:** Risk Management, Business Sustainability, Digitalization

## INTRODUCTION

In the context of an intensively evolving digital landscape, businesses are confronted with challenges posed by rapid and complex technological advancements. The global business environment is experiencing significant shifts, leading to the emergence of new dynamics across multiple industries. These technological changes affect not only the operational practices of organizations but also reshape competitive market structures and the nature of interactions between businesses and their consumers.

Digitalization has emerged as a pivotal factor driving transformation within the business realm. Advancements in digital technology have fundamentally altered how individuals communicate, shop, and perform their work. Organizations are compelled to swiftly adapt to technological developments and leverage these tools to gain competitive advantages. In an increasingly interconnected and digital-centric environment, businesses must formulate strategic initiatives to ensure their sustainability and maintain competitiveness in a progressively challenging market (Rahmasari, 2023)

In addition to technological advancements, companies must also comprehend the shifts in consumer behavior resulting from the digital era. Today's consumers enjoy extensive access to information through digital platforms, which significantly influences their decision-making processes. Organizations need to recognize and adapt to these evolving consumer behavior trends, thereby developing marketing and sales strategies that align with such changes alongside their digital adaptation efforts.

Digital technology has introduced remarkable opportunities, including borderless market access, the sophistication of artificial intelligence to enhance marketing and sales processes, and improved operational efficiency that simplifies business operations. However, alongside these opportunities come significant challenges, such as cyber security risks, data breaches and hacking incidents, dependence on technology, and the increasing complexity of global competition in the digital arena. Consequently, companies are necessitated to adopt innovative approaches to remain competitive.

In the current volatile landscape, organizations face an imperative to continuously adapt to technological advancements characterized by uncertainty and dynamism. Digital transformation

not only necessitates the adoption of new technologies but also compels companies to re-evaluate and overhaul their operational practices. Such extensive changes often introduce additional risks, including internal resistance from employees, a deficit of digital skills within the workforce, and potential missteps in technology implementation that can inadvertently hinder productivity.

In this context, risk management emerges as a critical component of strategic business operations. Companies are required not only to identify and mitigate emerging risks but also to formulate effective strategies that safeguard the continuity of their operational activities. Modern risk management transcends traditional reactive approaches, evolving into a proactive strategy that enhances organizational stability and competitiveness in the face of multifaceted challenges and the uncertainties inherent in digitalization. Thus, the appropriate implementation of risk management practices is paramount to ensuring long-term business sustainability.

## **LITERATURE REVIEW**

### **Digitalization and Risk Management**

Digitalization refers to the process of transforming information, services, or business processes from analog formats into digital formats, as well as the integration of digital technology into the everyday activities and operations of an organization. This encompasses the implementation of technology aimed at enhancing efficiency, accessibility, and innovation, fundamentally altering how organizations function and engage with their surroundings. (Gede et al., 2025). Furthermore, digitalization involves the incorporation of digital technology into various operational and strategic aspects of an organization, with the objective of boosting efficiency, fostering innovation, and improving overall performance. It entails a shift from analog systems and processes to digital ones, as well as the application of technology to redefine organizational operations and interactions. Organizations that effectively implement digital strategies often experience increased productivity and higher levels of customer satisfaction. (Rosalina Widayanti, 2024).

Digitalization is a fundamental transformation that alters how services, information, and business processes are presented and managed. This process involves the adoption of digital technologies to enhance innovation and the performance of an organization, affecting both daily

operations and long-term strategies. However, while digitalization presents numerous opportunities, it also introduces risks that can impact business sustainability if not properly managed. In general, risk can be defined as a situation faced by an individual or organization that entails a possibility of adverse outcomes. Risks can be categorized into two forms (Vikaliana, 2017), (Albin et al., 2023):

a. Speculative Risk, which refers to a situation faced by a company that may yield both gains and losses. Speculative Risk presents at least three possibilities: the potential for profit, the possibility of breaking even, and the potential for loss. For instance: (1) A business owner experiences a significant increase in sales, indicating a fortunate outcome; (2) An entrepreneur or investor may face bankruptcy or losses due to a sharp decline in sales or poor market performance; (3) A business owner or investor may break even, experiencing neither profit nor loss, as the sales revenue matches the investment used to generate profit, resulting in a break-even point. Conversely, speculative risk in the context of digitalization offers opportunities that can lead to increased efficiency and productivity. For instance, the successful implementation of e-commerce platforms can expand market reach and elevate sales figures. Such technologies are essential for ensuring business sustainability and resilience.

b. Pure Risk, which denotes a risk that can only result in negative outcomes or have no effect at all, with no potential for profit. Pure Risk is characterized by the potential for loss, without any opportunity for gain; the only chance for a favorable outcome arises if the risk does not occur. Examples include risks such as fire, flooding, landslides, tsunamis, hurricanes, and earthquakes. Pure Risk within the scope of digitalization primarily entails the potential for losses or the absence of any impact (without opportunities for gain). These risks have immediate consequences for companies, potentially affecting their operational stability. Examples include data loss and/or hacking incidents, network disruptions, and significant recovery expenses.

However, potential drawbacks associated with this risk include substantial investments in technology that may not align with business needs, resulting in suboptimal performance or, in some cases, causing significant financial losses for the organization. From the mentioned explanation, risk can yield either positive or negative outcomes, or it may simply result in uncertainty. Consequently, risk is closely linked to opportunities or losses, as well as the potential for uncertainty within an organization. Each risk possesses its own distinct characteristics,

necessitating specific management or analytical approaches. Furthermore, risks can be classified into (1) Compliance Risk (or mandatory risk); (2) Hazard Risk (or pure risk); (3) Control Risk (or uncertainty risk); (4) Opportunity Risk (or speculative risk) (Wibowo, 2022).

In a business context, risk management plays a crucial role as it enables an organization to recognize and assess risks that could potentially disrupt operational continuity, lead to financial losses, damage the company's reputation or image, or hinder the achievement of strategic objectives. (Lisnawati et al., 2023). Effective risk mitigation strategies are essential for minimizing the negative impacts of identified risks. Some commonly employed strategies include (Rahmi et al., 2024):

a. Diversification: Reducing risk by diversifying products, markets, and resources. For instance, a company may develop new products or enter new markets to decrease reliance on a single revenue stream.

b. Hedging: Utilizing financial instruments to protect the company from fluctuations in commodity prices, foreign exchange rates, or interest rates.

c. Insurance: Transferring specific risks to an insurance company to lessen potential financial losses.

d. Contingency Planning: Creating emergency plans to address crisis situations such as natural disasters, technological failures, or other operational disruptions.

## **RESEARCH METHODOLOGY**

This study employs a descriptive qualitative methodology to analyze risk management practices that enhance business stability and sustainability during the era of digitalization. Through a literature review, the research gathers insights from various sources, including journals, books, and reports, systematically evaluating strategies focused on improving business sustainability in a digital context. The research investigates how organizations adapt to and respond to digital transformation, viewing it as critical for maintaining business sustainability. It also examines the strategies employed by businesses to leverage digital opportunities, thereby increasing their competitiveness. The ultimate goal is to provide a better understanding of the necessary actions

that both individuals and organizations must undertake to secure and sustain their operational viability.

## **RESULTS AND DISCUSSION**

### **1. Key Risk in The Era of Digitalization**

In general terms, organizations strive to minimize compliance risk, mitigate hazard risk, manage control risk, and capitalize on opportunity risk. However, it is crucial to acknowledge that no classification of risks is universally deemed "right" or "wrong." Various literatures often present differing classifications of risks, each of which may hold its own relevance.

In addition, the author will elaborate on several other risks that are highly pertinent to the rapid advancements in digitalization. These risks are directly linked to technological developments and include operational risks such as cybersecurity, digital marketing, regulatory compliance, and financial risks stemming from technology investments.

Operational risk encompasses the risks that stem from human errors, system malfunctions, insufficient execution of processes and procedures, as well as external factors. These elements collectively contribute to the occurrence of failures associated with operational risk (Indonesian Banking Association, 2015). It can be concluded that operational risk represents the potential misalignment between expected outcomes and actual results due to inconsistencies within human resource systems, failures in internal processes, and other external factors (Nurapih, 2019). Cybercrime, or computer-related crime, encompasses illicit activities that target computers or computer systems. The nature of cybercrime is notably intricate, ranging from straightforward actions like eavesdropping or surveillance on computer systems to the deployment of malicious viruses that threaten the integrity of these security mechanisms. For organizations and enterprises, the threats posed by cybercrime are extensive and varied (Susanto et al., 2023):

a. **Theft of Corporate Data:** The foremost threat posed by cybercrime to companies and businesses is the theft of corporate data. This data includes confidential information such as product innovations, business strategies, and other critical reports that can be exploited maliciously.

b. **Employee Data Theft:** In addition to corporate data, the personal information of employees within the organization is also vulnerable to theft. Such breaches can be misused to damage the company's reputation and can significantly affect employee morale and performance.

c. **Theft of Consumer Data:** Consumer data, which is highly sensitive and must be protected, is at risk of being stolen and improperly disclosed. If such consumer information is misappropriated and disseminated, it can severely tarnish the company's reputation. Moreover, consumers may pursue legal action against the company if their information is used in ways that cause them direct harm.

In an increasingly technology-dependent business environment, cybersecurity breaches can severely undermine an organization's resilience. These cyber threats not only lead to financial and operational losses but can also bring business operations to a standstill if not addressed promptly. Damage to a company's reputation, decreased competitiveness, and leaks of sensitive information are some of the consequences that organizations may face if cybersecurity risks are not detected and managed early on.

The potential risks associated with digital marketing emerge as a result of both inherent business risks and those arising from the rapid advancements in digital technology. Generally, the risks in digital marketing can be identified as follows (Albin et al., 2023):

1. **Cost and Investment Risks:** Aside from expenses arising from technological advancements themselves, it is undeniable that the costs associated with product development in the digital era can escalate rapidly over short periods. Company management must remain continuously creative and innovative to ensure that their product concepts and marketing strategies surpass those of competitors.

2. **Loss of Market Share:** It is indisputable that the internet has broadened access and eliminated geographical boundaries. Any digital marketing content can be accessed by individuals across different regions and even countries. The potential for losing market share increases if there are no proactive measures and responses to competition.

3. **Reputation/Image Risks for Companies and Products:** The phenomenon of “netizen bullying,” as observed across various online media, can pose a significant threat to both products and companies. A minor error in a launched product can swiftly trigger the dissemination of

negative information or result in a situation that goes "viral." The reputation of the company or product is at substantial risk in such scenarios.

Another challenge organizations face in the digital age is the shift in consumer behavior patterns. In modern society, consumers have greater access to information, which influences their selection of specific products or services. This readily available information plays a crucial role in their decision-making processes. Consequently, companies not only contend with competition in traditional markets but also find themselves competing in the digital domain, where innovative strategies and digitalization become increasingly vital for capturing consumer attention.

In addition to the two mentioned risks, the author has identified another equally significant risk: regulatory compliance risk. Regulatory compliance refers to the process of adhering to laws, regulations, standards, and other guidelines established by governmental and regulatory bodies. Compliance is a crucial aspect of conducting business, as companies are required to conform to specific laws and regulations to maintain their operations. (Kamus, n.d.).

The evolving global business landscape compels companies to not only concentrate on technology but also to ensure that all operational activities are conducted in accordance with applicable regulations. Compliance with regulations related to data protection, information security, and business standards has become increasingly critical.

However, not all companies are able to align their operations with existing regulations, which can lead to instances of non-compliance. This non-compliance can have serious repercussions for the company itself, including fines, litigation, and the potential loss of reputation or positive image in the eyes of the public and government. In this context, it is essential to recognize that compliance risk not only results in financial losses but can also threaten the long-term sustainability of the business.

Moreover, increasingly stringent regulations, such as Indonesia's Law No. 27 of 2022 concerning Personal Data Protection (UU PDP) and the General Data Protection Regulation (GDPR) in the European Union, require companies to secure customer data adhering to high security standards. Non-compliance with these regulations can arise from cybersecurity failures, resulting in substantial fines and significant legal risks. Such scenarios undoubtedly pose threats to business sustainability.



Digitalization compels companies to make substantial investments in technology. In many instances, organizations become ensnared in the excitement of technological advancements without fully understanding how these technologies align with their business objectives. This misalignment creates financial risks, particularly for companies lacking robust strategic budget planning or adequate resources. Moreover, reliance on technology amplifies operational risks, including system failures, downtime, or technology mismatches.

However, these risks do not imply that digitalization should be avoided. On the contrary, business sustainability in the digital era can be achieved through effective risk management. Companies must proactively identify and assess these risks. Implementing strategic measures, such as robust cybersecurity systems, can assist in mitigating emerging threats.

## **2. Risk Management Strategies to Support Business Stability and Sustainability**

Historically, risk management has been viewed as a reactive process, primarily focusing on the identification and mitigation of risk after they have emerged. However, the increasing complexity and interconnectedness of global systems have prompted a shift in paradigm towards a more proactive and integrated approach to risk management. Organizations now recognize the importance of identifying and assessing potential risk early on, enabling them to implement adaptive strategies that enhance their resilience (Fahlevi Lubis et al., 2023).

Proactively detecting potential risks at an early stage allows organizations to identify threats that may emerge in the future and prepare effective mitigation strategies. This approach not only emphasizes a company's focus on addressing the impacts of risks but also fosters long-term resilience. As a result, companies are beginning to perceive risks not merely as threats but also as opportunities to enhance their robustness and market competitiveness.

Amid the rapid digital transformation, companies must develop an awareness of and readiness for cybersecurity. The adoption of technologies such as AI, big data, and blockchain can introduce new vulnerabilities. Therefore, businesses or organizations need to implement a comprehensive cybersecurity readiness framework. Cyber risk management is a systematic approach aimed at identifying, assessing, and mitigating cybersecurity risks that may impact the organization or company (Asiyanti & Agussalim, 2024).

To safeguard digital assets, predictive cyber risk analytics is deemed essential, enabling companies to monitor and analyze risks in real-time. This approach leverages artificial intelligence (AI) and machine learning (ML) technologies to process data and provide insights into potential threats that may arise from the integration of IoT technologies within business operations. (Asiyanti & Agussalim, 2024). Here are recommended strategies that can be implemented to address cybersecurity risks and ensure business security:

1. **Implementation of Layered Security:** This strategy is crucial for cybersecurity protection, as it is considered an effective approach to counter increasingly complex threats in the digital age. Layered security involves multiple supporting layers of protection, where each layer operates independently yet remains integrated. Companies that adopt this layered security system understand that cyber threats can arise from various sources and utilize a diverse range of attack techniques. Therefore, layered security not only adds security tools but also establishes a comprehensive strategy to combat various threat scenarios. (Febrian Aska et al., 2024).

2. **Employee Training and Awareness:** Cyber threats arise not only from technical aspects but can also stem from human errors, negligence, unawareness, and ignorance. Therefore, the implementation of cybersecurity technologies must be coupled with enhanced awareness and understanding among human resources. This becomes a critical element in strengthening and safeguarding the organization against complex cyber threats.

3. **Development of Cybersecurity Policies and Procedures:** Cybersecurity policies serve as guidelines for organizations in managing and protecting their digital assets, including customer data, corporate information, and operational systems. Without well-structured policies, companies become vulnerable to cyber threats that can jeopardize business continuity at any moment.

Cybersecurity procedures serve as technical and operational measures designed to prevent, detect, and respond to threats. For example, this may include establishing protocols for managing passwords and monitoring suspicious activities. The digital era has driven significant changes in the marketing landscape, with content-based marketing emerging as a viable risk management strategy to mitigate the risk of losing market share. In this context, capturing consumer attention no longer solely depends on direct product promotions but also on providing relevant content that includes information about the product. High-quality content that addresses consumer needs can

effectively engage interest, thereby positively impacting consumer trust and fostering sustainable relationships.

Additionally, this approach not only attracts consumer interest but also helps strengthen the brand image and distinguish the company from competitors. In an uncertain market situation, content-based marketing clearly serves as an effective risk management tactic. By creating relevant and high-quality content, businesses can reduce the risk of losing consumers. Moreover, market uncertainties are often triggered by external factors such as economic fluctuations, disruptions, or even changes in policies or regulations. In this regard, risk management necessitates that companies adopt flexible marketing strategies. Consequently, businesses should employ an omnichannel approach to mitigate the risks associated with relying on a single marketing channel.

To enhance the risk management performance of an organization, risk management initiatives are essential. The nature of these initiatives will depend on the size, complexity, and characteristics of the organization. There is no one-size-fits-all approach to implementing risk management within an organization; however, it is crucial to foster initiatives that cultivate a risk culture within the company. A strong risk culture often emerges from the values held by individuals and groups, as well as their attitudes and behavioral patterns.

An organization that consciously embraces a risk culture is characterized by communication grounded in mutual trust and a shared understanding of the importance of risk management. Additionally, there is a need to build trust in the selected control measures and a commitment to adhering to the established risk control procedures (Wibowo, 2022).

### **3. Implication of Risk Management for Business Sustainability**

The concept of business sustainability has become a primary focus for many companies. Simply put, business stakeholders seek to ensure their operations endure over the long term while maintaining stable profits. In fact, many aspire for their businesses to thrive amidst an increasingly modern era. This aspiration is realized through the implementation of business sustainability principles. Business sustainability refers to practices that consistently and sustainably provides benefits, both in the short term and long term. (Binus University, n.d.).

Business sustainability has become essential for stakeholders to remain competitive amid global competition, technological changes, and economic fluctuations. This encompasses not only

financial stability but also the integration of social and environmental aspects to create long-term value for stakeholders (Yang et al., n.d.). Digital transformation contributes to innovation, productivity, efficiency, and societal well-being by enhancing access to information, knowledge, and data. One significant trend is the massive shift from human labor to machine automation processes, which has emerged as a substantial global phenomenon. As a dominant parameter in this era, the internet, as a new technology, exerts a profound influence on digital transformation, particularly concerning the sustainability of the digital economy. (Evangelista et al., 2023).

Among the various risks discussed, identifying the most significant ones requires considering the industry context, business scale, and organizational readiness to confront challenges in the digital era. Generally, cybersecurity risks and technology-related operational risks are often viewed as the most critical due to the diverse forms of threats that can directly impact operational stability, regulatory compliance, and corporate reputation.

Effective strategies for addressing cybersecurity threats, such as implementing layered security systems, are essential. While these systems provide substantial protection for corporate data, their implementation presents challenges, particularly for small and medium-sized enterprises due to the high costs of technology and security tools. Another significant challenge arises from human resources; human error frequently represents a vulnerability exploited by attackers. Users often underestimate the risks associated with seemingly innocuous actions, such as clicking on suspicious links. Therefore, enhancing staff awareness and competencies related to cybersecurity threats and preventive measures is crucial. Increasing awareness and skillsets in cybersecurity not only provide short-term protection but also yield long-term benefits that support operational sustainability.

Business sustainability heavily depends on a company's ability to maintain consumer and partner trust. By demonstrating a strong commitment to security through robust protection systems and structured policies, companies can foster greater trust among customers and partners, solidifying their market position. Additionally, compliance with security regulations serves as an indicator of professionalism, enhancing competitive advantage.

The effectiveness of risk management implementation in the business sector is influenced by various factors, both internal and external. Internal factors play a crucial role, particularly the commitment of top leadership to ensure business continuity. A strong commitment forms the

foundation for successful risk management and fosters an organizational culture that is adaptive and proactive toward various risks. With solid commitment, leaders can ensure that the organization has the necessary resources to support risk management efforts.

Equally important to the effectiveness of risk management is structured and transparent two-way communication among employees, between employees and management, and between management and other stakeholders. As such, internal factors such as leadership and communication are fundamental to establishing a strong foundation for risk management. When all parties understand their roles and responsibilities in risk management, the organization can work synergistically toward a common goal of long-term business sustainability.

External factors, such as regulations, also shape the risk management landscape. Regulations provide guidance and standards for companies to implement risk management that complies with existing rules. By keeping abreast of regulatory developments, companies can maintain a positive reputation and avoid legal risks that could threaten business continuity.

Understanding regulatory developments remains relevant, as it helps companies navigate an ever-changing business environment. In an era filled with uncertainty, regulations can change rapidly, making this understanding a key component of enhancing competitiveness and stability.

The integration of internal and external factors is vital for achieving successful risk management within organizations. Recognizing the importance of this interplay enables companies to develop risk management systems that are not only effective but also adaptable to ongoing changes. A comprehensive approach that involves all organizational aspects and leverages technological advancements represents the best strategy to tackle challenges in today's fast-paced environment. Consequently, the success of risk management in organizations hinges on their ability to align these various elements synergistically.

## CONCLUSION

The digital era brings significant opportunities for enhancing efficiency and innovation, but it also introduces various risks, including cybersecurity threats, market uncertainty, and compliance challenges. To ensure business sustainability in this digital landscape, companies must adopt more adaptive and responsive risk management strategies in the face of rapidly evolving technologies. Proactive and integrated risk management is essential for effectively identifying,

assessing, and managing these risks. Mitigation strategies such as diversification, layered security systems, employee training, and the development of cybersecurity policies are critical to supporting business stability.

The success of risk management strategies relies not only on technology but also on fostering a corporate culture that emphasizes the importance of risk management. By creating a collaborative work environment, employees can feel engaged and understand their roles in risk mitigation, thereby enhancing the effectiveness of the implemented strategies. In this context, effective risk management becomes key, enabling companies to protect their business continuity while also establishing a competitive advantage that helps them thrive in the global market.

### **HUMAN RESEARCH ETHICS APPROVAL**

This research does not require human research ethics approval.

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# **Rethinking Gender in Entrepreneurship Research:**

## **A Conceptual paper**

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### **ABSTRACT**

The study of gender and entrepreneurship has evolved significantly since its emergence as a distinct field in the 1980s. This conceptual manuscript employs a synthesis analysis approach to examine the extant literature, drawing key articles of gender and entrepreneurship to provide a comprehensive overview of the field. The paper begins by defining entrepreneurship and highlighting its importance, subsequently tracing the development of gender and entrepreneurship research. It then synthesizes key research gaps within the literature, particularly concerning the narrow focus on women, the neglect of diverse gender identities and masculinities, and the insufficient consideration of context and intersectionality. Finally, the manuscript proposes future research directions aimed at broadening the scope of inquiry and enhancing our understanding of the complex interplay between gender and entrepreneurial activity.

**Keywords:** Gender, Entrepreneurship, Intersectionality, Research gaps

### **INTRODUCTION**

Entrepreneurship is a dynamic and multifaceted phenomenon that holds significant importance in the socio-economic landscape. While various definitions exist, a common thread involves the creation of value through the discovery, evaluation, and exploitation of opportunities (Mustafa & Treanor, 2023). Shane and Venkataraman (2000:218) famously defined it as "how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited" [1]. More recently, Ratten (2023:80) conceptualizes entrepreneurship as "the identification of business-related opportunities through a process of using existing, new, or a recombination of resources in an innovative and creative way" [1, 2].



The importance of entrepreneurship is widely recognized as it acts as a catalyst for innovation, drives competitiveness, enhances productivity, generates wealth, and creates jobs [3]. In an increasingly dynamic global environment, particularly in the wake of events like the COVID-19 pandemic, entrepreneurial activity is crucial for economic recovery and resilience [4, 5]. Moreover, entrepreneurship is often viewed as a solution to a diverse array of global challenges, especially in gender, contributing significantly to regional and international development [6, 7].

The academic exploration of the nexus between gender and entrepreneurship gained momentum in the 1980s [8]. Early observations revealed a male-dominated landscape, with women being significantly less likely to engage in new venture creation [9, 10]. The entrepreneurship literature has highlighted an inherent gender bias towards men-centric research [6, 10, 11]. This led to the emergence of a gendered critique, challenging the masculine normativity embedded within entrepreneurship discourse [6, 12]. Initial research often focused on a "deficit discourse," positioning women as lacking in ambition and entrepreneurial competence, which is not align with a male-centric model [12, 13]. However, critical feminist analyses challenged this perspective, revealing how social constructions of masculinity were mapped onto entrepreneurship, while femininity was seen as antithetical to entrepreneurial norms [12, 13]. This led to a significant body of work examining how gender constrained women's entrepreneurial activity, experiences, and outcomes [13]. The field has since evolved, increasingly recognizing the importance of context and the need to consider gender in all its iterations, moving beyond a singular focus on the "mythologized female entrepreneur" [14-16].

## **RESEARCH METHODOLOGY**

This conceptual study employed a synthesis analysis method to review the existing literature, selecting pivotal articles from the gender and entrepreneurship domain to offer a thorough overview of the field. Keywords including "minority entrepreneurship," "gender and entrepreneurs," "women entrepreneurship," and "women entrepreneurs" were used to discover relevant articles from journals indexed in the Google Scholar and SCOPUS databases. Only seminal works published between 2000 and 2024 were included.

## RESEARCH RESULTS

Despite significant advancements in understanding the interplay between gender and entrepreneurship, several crucial research gaps remain:

*The Dominant Focus on Women and Neglect of Gender as a Broader Construct:* Much of the existing literature equates gender with women, leading to a limited understanding of how gender, as a social construct, influences entrepreneurial activity for all individuals [11, 14, 17, 18]. This narrow focus homogenises women as a category and overlooks the diverse ways in which gender manifests in entrepreneurial phenomena, including the experiences of men and those who do not identify within the traditional gender binary [14, 17, 19, 20]. The social practices of gender in all its diverse forms remain under-explored within the context of entrepreneurship [19].

*Insufficient Exploration of Masculinities:* Given that the normative entrepreneur is often constructed from hegemonic notions of masculinity, the direct examination of how masculinities shape entrepreneurial behaviour, practices, and outcomes is sparse [6, 20-22]. Men are often seen as the "genderless" norm, obscuring the influence of their gender identities on their entrepreneurial journeys and the broader entrepreneurial ecosystem [20]. Understanding the production and reproduction of male authority within entrepreneurial discourse requires greater attention [23].

*Limited Consideration of Context and Intersectionality:* While the importance of context is increasingly acknowledged, research often fails to deeply explore the gendering of contexts and how they shape and are shaped by gender in relation to entrepreneurial activity [24-26]. Furthermore, there is a need for more nuanced analyses that move beyond gender as a singular variable and consider the interplay of multiple social categories such as race, ethnicity, class, sexual orientation, and their cumulative impact on entrepreneurial proclivity, experiences, and outcomes [9, 27-31]. The differential social positioning and the resulting compounding of discrimination require more in-depth investigation [28]. The dominant focus often remains on the "normativity of the white heterosexual woman entrepreneur in the Global North," neglecting the diverse experiences in other contexts [25, 26].

*A Need to Move Beyond the Deficit Discourse:* Despite critiques, elements of the deficit discourse persist, often implicitly framing women's entrepreneurship against a male norm [12, 13, 32]. Research needs to further challenge the underlying assumptions of this discourse and explore alternative perspectives that value diverse entrepreneurial approaches and motivations, rather than solely focusing on closing the "gender gap" defined by male standards [33, 34].

*The Impact of Postfeminist Sensibilities:* Contemporary discourse on women's entrepreneurship is increasingly influenced by postfeminist sensibilities that emphasize individual agency and downplay structural constraints [32, 35-38]. This can lead to a "false promise of entrepreneurship" for women, overlooking persistent gendered barriers and the potential for entrepreneurship to exacerbate inequalities [35, 36, 38, 39]. A more critical evaluation of the benefits and challenges of entrepreneurial activity for women, informed by feminist theory, is needed [35, 36].

## DISCUSSION

To address these research gaps discussed above in the research findings and advance our understanding of gender and entrepreneurship, the following research directions are proposed

*Embracing Gender as a Multiplicity:* Future research should explicitly move beyond the binary understanding of gender and explore the diverse ways in which gender identities and expressions influence entrepreneurial activity [14, 17, 40]. This includes investigating the experiences of LGBTQ+ entrepreneurs and how disruptions to the gender binary impact their entrepreneurial journeys [23, 31, 41, 42]. Qualitative methodologies, such as narrative analysis and ethnography, can be particularly valuable in capturing the nuanced and diverse articulations of gender in entrepreneurial contexts [43-46].

*Making Masculinities Visible in Entrepreneurship:* Research needs to directly examine the role of masculinities in shaping entrepreneurial norms, behaviors, and outcomes [20]. This includes exploring different forms of masculinity (e.g., hegemonic, subordinate, inclusive) and their influence on entrepreneurial practices, leadership styles, networking, and access to resources [20, 21, 47, 48]. Investigating how men perform and negotiate their gender identities within entrepreneurial settings can provide valuable insights into the perpetuation of gendered power dynamics [46, 49].

*Deepening Contextual and Intersectional Analyses:* Future research must prioritize contextualized studies that explore how gender interacts with specific social, cultural, economic, and institutional environments to shape entrepreneurial activity [15, 24, 26, 50]. Employing an intersectional lens is crucial to understanding how gender intersects with other social categories to create unique experiences of both privilege and disadvantage in entrepreneurship [27-31, 39, 51]. This requires moving beyond single-axis analyses and adopting methodologies that can capture the complexity of intersecting identities and their influence on entrepreneurial pathways and outcomes [28, 29, 31, 52, 53]. Comparative studies across different national, cultural, and socio-economic contexts are also essential to avoid Western-centric biases [25, 26, 54-56].

*Challenging Normative Assumptions with Feminist Theory:* Future research should more explicitly draw upon feminist theories to critically examine the underlying assumptions and power dynamics within entrepreneurship discourse and practice [36, 38, 57-61]. This includes questioning the inherent value attributed to certain types of entrepreneurial activities (e.g., different types of ventures) and exploring alternative models of success that may be more aligned with diverse gendered experiences and values [58, 59]. Research can also explore how feminist advocacy can challenge the conditions under which women engage in entrepreneurship and promote more equitable and inclusive entrepreneurial ecosystems [58].

*Investigating the Interplay of Gender, Technology, and Innovation:* Given the increasing importance of technology in entrepreneurship, future research should explore how gender shapes the creation, adoption, and impact of technological innovations in entrepreneurial ventures [3, 62-66]. This includes examining gendered patterns in digital entrepreneurship, the role of technology in mitigating or exacerbating gendered barriers, and how gender influences the development and marketing of technology-based products and services [52, 67].

Future research should employ longitudinal methodologies to understand how gender influences entrepreneurial trajectories over time, particularly in response to external shocks such as economic crises or global pandemics [55]. Examining how gender shapes resilience, adaptation strategies, and long-term business outcomes can provide valuable insights for policy and support interventions [5, 55].

## CONCLUSION

The field of gender and entrepreneurship has made significant strides in challenging traditional, male-centric perspectives and highlighting the unique experiences of women entrepreneurs [60, 68]. However, to truly advance our understanding, future research must embrace a more nuanced and inclusive approach to gender [14, 17, 40]. By moving beyond a singular focus on women, critically examining the role of masculinities, deepening contextual and intersectional analyses, and drawing upon the rich insights of feminist theory, we can develop a more comprehensive and equitable understanding of the complex interplay between gender and entrepreneurial activity [15, 29, 36, 69]. This will not only enrich academic scholarship but also inform more effective policies and support systems that promote inclusive and sustainable entrepreneurship for all [60, 70, 71].

## ACKNOWLEDGEMENT

The author used Google NotebookLM in this manuscript writing process, including synthesizing the literature and generating summaries. QuillBot was also used for proofreading and grammar checking.

## HUMAN RESEARCH ETHICS APPROVAL

This research does not require human research ethics approval.

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# Forecasting Thailand's Financial Business Data Index Using the LSTM Model

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## ABSTRACT

This article presents a forecasting model for Thailand's financial business sector using LSTM. The main aim is to forecast possible growth or decline in the financial sector, which could act as a crucial indicator affecting the future economic situation of the country. The analysis is limited to financial business data indices classified as BANK, FIN, and INSUR from the SET. The simulation utilized the LSTM model, which is a sophisticated AI technology. The model was built with Python to predict financials Industry data indices within the BANK, FIN and INSUR as a case study. To assess the model's forecasting accuracy, predicted trends were compared with actual data using performance metrics such as mean actual, RMSE, %RMSE, and %MAPE. Covering quarterly data from 2015 to 2025, the dataset was split into training, validation, and testing sets in a ratio of 70:20:10. In addition, the model served to carry out forward forecasting for the next two quarters to evaluate the possible economic effects resulting from fluctuations in Thailand's financial business sector. The simulation results suggest that the LSTM model developed can effectively predict financials Industry data indices for the BANK, FIN and INSUR business sectors. The BANK business sector exhibited the greatest forecasting accuracy, with a %RMSE of 8.00% and a %MAPE of 4.08%. It was followed by the INSUR business sector, which had a %RMSE of 7.57% and a %MAPE of 5.34%. By contrast, the FIN business sector showed the greatest forecasting error, characterized by an %RMSE of 10.37% and a %MAPE of 7.60%. Moreover, the projection for two more quarters, 2025Q3 to 2025Q4, showed that the average forecast index values for the BANK, FIN and INSUR business sectors were found to be 393.50, 2,935.03, and 9,052.88, respectively.

**Keywords:** BANK, FIN, INSUR, Financials, Business, LSTM Model Forecasting

## INTRODUCTION

Currently, the financials industry is essential to the national economic system, especially regarding capital allocation, risk management, and fostering investment in different economic sectors [1], [2]. Prior studies have shown that fluctuations in the financials industry can greatly affect macroeconomic stability [3] and that such volatility acts as a precursor to future economic growth trends [4].

Financial forecasting has emerged as an essential instrument for assessing trends in the business sector and aiding in the proactive development of policies designed to reduce the risk of economic crises [5]. The use of Artificial Intelligence (AI) technologies has attracted more and more interest, particularly in a time marked by extensive and intricate datasets [6]. The Long Short-Term Memory (LSTM) model, which is a sophisticated variant of Recurrent Neural Network (RNN), has become widely acknowledged for its efficiency in handling time-series data. This effectiveness is due to its capability to maintain long-term dependencies and reduce the vanishing gradient issue [7], [8]. Prior research has shown that LSTM models have a high potential for financial forecasting tasks, such as predicting stock prices, forecasting market indices, and analyzing business trends [9], [10].

In Thailand, studies examining the use of LSTM on economic data are still not extensive. Existing research has mainly concentrated on areas like energy or exports [11], resulting in a significant gap concerning investigations aimed at the financial business sector. This encompasses sectors like Commercial Banking (BANK), Finance & Securities (FIN), and Insurance and Life Assurance (INSUR), which are crucial to the Stock Exchange of Thailand (SET) and have a major impact on the nation's GDP [12].

The current research aims to create a forecasting model for Thailand's financials business sector using the LSTM method, thereby addressing this academic gap. The main aim is to evaluate possible growth or decline trends within financial industry groups using quarterly data from 2015 to 2025. The model's predictive accuracy is assessed through performance metrics like mean actual, Root Mean Squared Error (RMSE), Percentage Root Mean Squared Error (%RMSE), and Percentage Mean Absolute Percentage Error (%MAPE), aiming to forecast financial business data for the upcoming two quarters. The results of this analysis are meant to act as a decision-support

tool for creating monetary policy and strategic planning in the financial sector, especially during times of economic instability. In the end, this method aids in developing risk management strategies and fostering long-term financial stability within the country.

## **THEORIES AND MATHEMATICAL MODELS**

### **2.1 Financials Industry**

The financial sector serves as a fundamental mechanism in driving a country's economic system, acting as a key source of capital mobilization, risk management, and the efficient allocation of financial resources to the real sector (Paun et al., 2019) [1] and (Levine & Renelt, 1992) [2]. According to the (SET, 2025) [12], the financial business sector is classified into three major categories: BANK, FIN, and INSUR. BANK pertains to commercial banks governed by the Commercial Banking Act and associated laws. According to (Mishkin, 1996) [4], these institutions are essential for providing credit, managing deposits, offering payment services, and managing risk. And FIN includes finance companies, leasing firms, factoring businesses, credit card providers, securities firms, and mutual fund managers. This category bolsters liquidity for small and medium-sized enterprises (SMEs) and improves public access to funding sources (Shiller, 2015) [5]. INSUR, encompassing general and life insurance, enhances financial stability by providing risk management solutions and transferring risk from policyholders to insurers (Schinasi, 2004) [3].

The three financial business sectors BANK, FIN, and INSUR are classified as “capital,” which is one of the essential factors of production in economics, along with land, labor, and entrepreneurship. These sectors act as the financial circulatory system of the country. Consequently, development in the financial sector is directly linked to overall economic growth (Fischer & Krauss, 2018) [9]. Unlike that, the real estate sector is marked by high capital intensity and sensitivity to economic fluctuations. According to (Ouma et al., 2022) [10], real estate businesses often prosper during economic booms and suffer significant contractions during recessions, as property prices are usually elevated and buying choices necessitate prolonged consideration. Data on the economy from 1997 to 2019 highlights the real estate sector's susceptibility during significant financial crises, including the Asian financial crisis of 1997 (Tom Yum Kung crisis), the subprime mortgage crisis, and the global financial crisis (Hamburger crisis).

These occurrences demonstrate the non-cyclical characteristics of global economic trends (Sen et al., 2021) [6]. Considering these dynamics, a thorough examination of the relationship between the real estate and financial sectors is necessary for an effective evaluation of systemic stability (Pannakkong et al., 2022) [13].

## 2.2 LSTM Model

LSTM is a specialized architecture within RNNs aimed at solving the challenge of learning long-term dependencies, a task where conventional RNNs frequently falter due to the vanishing gradient problem (Hochreiter & Schmidhuber, 1997) [7]. The development of LSTM aimed to improve the retention and processing of sequence data over long durations. As a result, it is especially well-suited for applications that deal with temporally ordered data, including those in the fields of economics and finance, forecasting consumer behavior, or predicting quarterly GDP.

An LSTM network is built around three main structures that serve as its core components: Forget Gate (FG) this gate decides if specific segments of past information need to be eliminated from the memory cell. A sigmoid activation function is used, as shown in Equation (1).

$$f_t = \sigma(W_f \cdot [h_{t-1}, x_t] + b_f) \quad (1)$$

Which new details are to be incorporated into the memory cell state is decided by the Input Gate (IG). This procedure is controlled by Equation (2) and Equation (3).

$$i_t = \sigma(W_i \cdot [h_{t-1}, x_t] + b_i) \quad (2)$$

$$C'_t = \tanh(W_c \cdot [h_{t-1}, x_t] + b_c) \quad (3)$$

The value to be output from the memory cell, as defined in Equation (4), is determined by the Output Gate (OG).

$$o_t = \sigma(W_o \cdot [h_{t-1}, x_t] + b_o) \quad (4)$$

Moreover, an update of the state of the memory cell is required. Once the different components have been calculated, the internal memory is updated as detailed in Equations (5) and (6).

$$C_t = f_t * C_{t-1} + i_t * C'_t \quad (5)$$

$$h_t = o_t * \tanh(C_t) \quad (6)$$

In the context of the LSTM model,  $x_t$  denotes the input data at time step  $t$  while  $h_t$  represents the hidden state, and  $C_t$  refers to the cell state. The symbol  $\sigma$  is used to denote the sigmoid activation function, and the operator  $*$  signifies element-wise multiplication.

### 2.3 Analysis of The Results of Forecasting Models

When it comes to assessing how well forecasting models perform especially in data science, economics, and engineering it is crucial to determine their accuracy through statistical measures that methodically contrast the predicted values with the actual values. Metrics that are commonly employed include the mean actual, RMSE, %RMSE, and %MAPE. The definition and interpretation of these indicators are as follows.

The mean actual denotes the mean of all values observed in the dataset used for analysis. It acts as a foundational reference for evaluating relative error metrics like %RMSE or %MAPE (Hyndman & Koehler, 2006) [14], which allows for the evaluation of model accuracy in relation to the actual values seen in the economic system in Equations (7).

$$mean\_actual = \frac{1}{n} \sum_{i=1}^n y_i \quad (7)$$

RMSE is among the most commonly employed metrics for assessing how well forecasting models perform. When the RMSE is lower, this means that prediction errors are smaller and the model is more accurate (Chai & Draxler, 2014) [15]. RMSE's sensitivity to large deviations is one

of its main benefits, as it gives larger errors (outliers) more weight than smaller ones, as shown in Equations (8).

$$RMSE = \sqrt{\frac{1}{n} \sum_{i=1}^n (y_i - y'_i)^2} \quad (8)$$

In order to ease the interpretation of %RMSE, it is often expressed as a percentage of the mean actual value (Willmott & Matsuura, 2005) [16]. The calculation of %RMSE allows for the comparison of model performance across datasets with varying units, as shown in Equations (9).

$$\%RMSE = \left( \frac{RMSE}{mean\_actual} \right) * 100 \quad (9)$$

Another popular metric for evaluating the accuracy of forecasting models is %MAPE, as it can be directly understood as the average percentage deviation from the actual values. %MAPE's merits are its uncomplicated nature and its appropriateness for conveying findings to laypeople. Nevertheless (Hyndman & Koehler, 2006) [14], %MAPE might not be suitable when the actual values approach zero, as this can result in disproportionately large percentage errors, as shown in Equations (10). Generally, a %MAPE value below 10% is regarded as indicative of a highly accurate forecasting model.

$$\%MAPE = \frac{100}{n} \sum_{i=1}^n \left( \frac{y_i - y'_i}{y_i} \right) \quad (10)$$

## RESEARCH METHODOLOGY

This research aims to predict economic values in the financial sector, particularly within the BANK, FIN, and INSUR groups, through the use of AI technology implemented in Python. This approach is very popular today, especially the LSTM model, a kind of RNN that aims to overcome limitations in learning long-term dependencies in data relationships. The purpose of employing the LSTM model for forecasting within the financial sector is to improve the precision of data analysis and predictions, particularly concerning data linked to the BANK, FIN, and INSUR groups. Quarterly data from 2015 to 2025 is the focus of the analysis. The model development process is executed systematically using Python, and the workflow is depicted step-

by-step in the flowchart in Figure 1. The procedure consists of four primary stages, as outlined below.

### **3.1 Data Acquisition and Preprocessing**

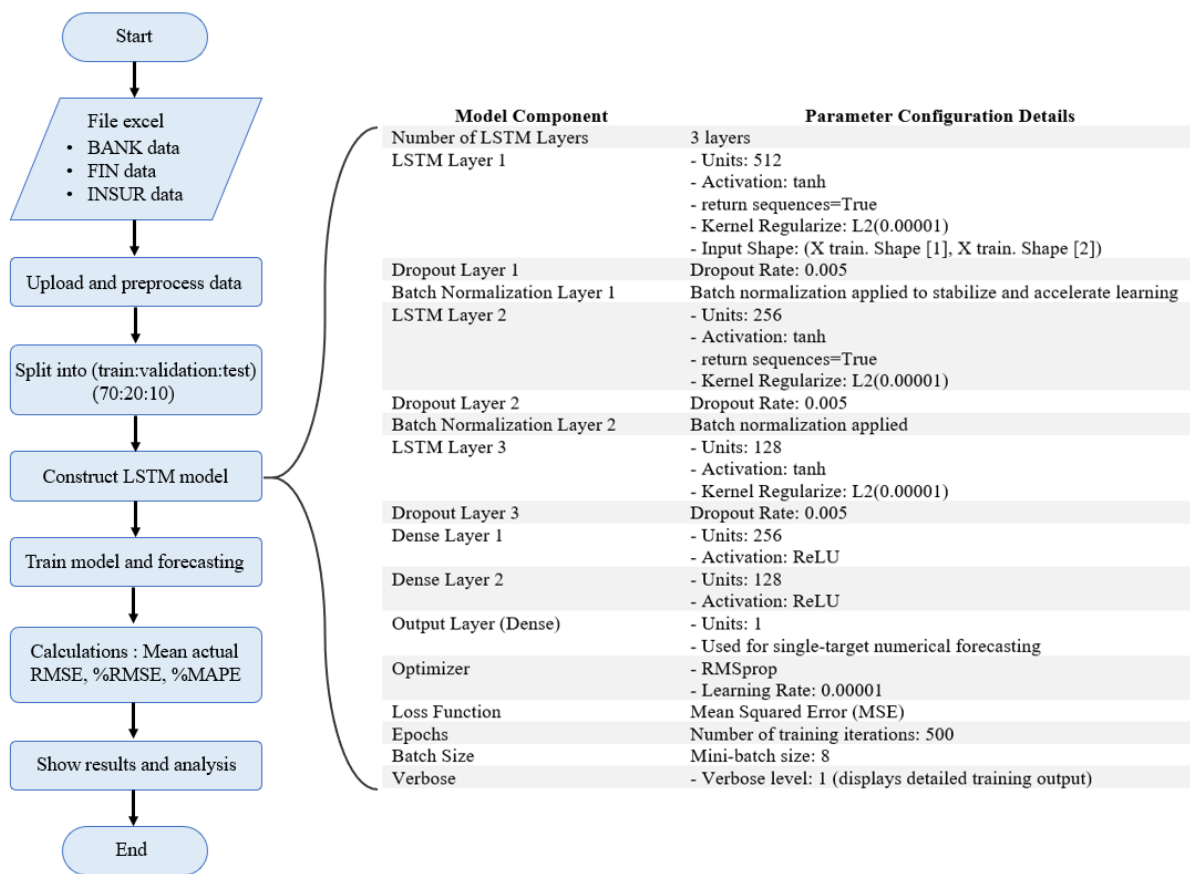
The first step, essential for the model's performance, consists of gathering time-series data associated with financial indicators. This encompasses data from the BANK, FIN, and INSUR sectors, obtained from the SET in Excel format. The data is subsequently arranged chronologically to preserve its sequential relationship. Subsequent to this, data cleaning is carried out to address missing values and outliers. The cleaned data is subsequently uploaded and preprocessed into an appropriate format, employing techniques like scaling or normalization, to improve the stability of the model's learning process.

### **3.2 Dataset Splitting**

The processed data is allocated to three sets as follows: 70% constitutes the training set, 20% serves as the validation set, and 10% is designated as the testing set. By establishing this division, the evaluation of the model's performance can be trusted.

### **3.3 LSTM Model Construction**

The architecture of the LSTM model is designed with consideration for the number of LSTM layers and neurons, tailoring these elements to match the complexity of the data. To strike a balance between the speed of learning and the precision of predictions, the RMSprop optimizer renowned for its effectiveness in adjusting parameters is employed with a suitable learning rate. Then, a dense layer is added to condense the model's output into a format suitable for numerical forecasting.



**Figure 1.** The flowchart depicts the workflow of the developed model and its parameter configuration.

### 3.4 Model Training and Forecasting

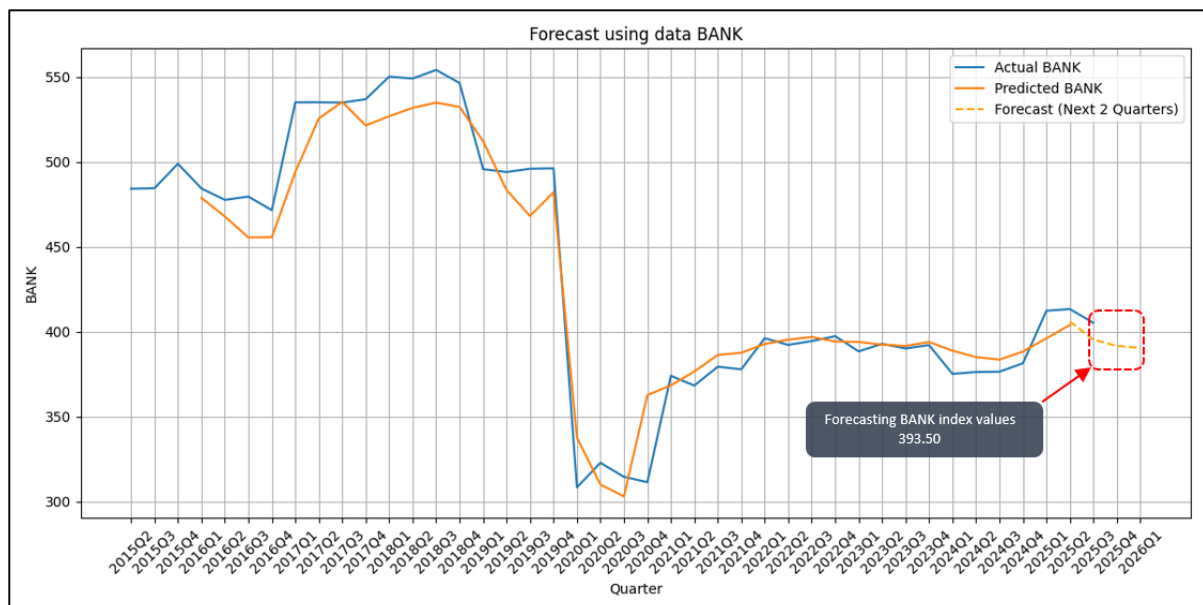
The model is trained based on the specified architecture, and the forecasting results are assessed using the test dataset. The effectiveness and precision of the model are evaluated using performance metrics such as the mean actual, RMSE, %RMSE, and %MAPE.

## RESEARCH RESULTS

The simulation results employing the LSTM model for quarterly economic analysis and forecasting in the BANK, FIN, and INSUR sectors, utilizing data from The Stock Exchange of Thailand (SET) spanning 2015 to 2025, demonstrate that the model accurately captures the dynamic behavior of financial variables within each industry group. This shows that the LSTM



model can accurately learn the data's time-series patterns and trends. It is also capable of adapting to learn and predict trends with a high degree of accuracy. The analysis of the trends' proximity, as shown by the mean actual, RMSE, %RMSE, and %MAPE values, along with a data split of 70:20:10 for training, validation, and testing, demonstrated that the LSTM model developed is effective in forecasting financial data for the BANK, FIN, and INSUR sectors. Of these, BANK exhibited the greatest forecasting precision, with a %RMSE of 8.00% and a %MAPE of 4.08%. It was followed by INSUR, which had a %RMSE of 7.57% and a %MAPE of 5.34%. As indicated in Table 1, FIN demonstrated the greatest deviation, with a %RMSE of 10.37% and a %MAPE of 7.60%.

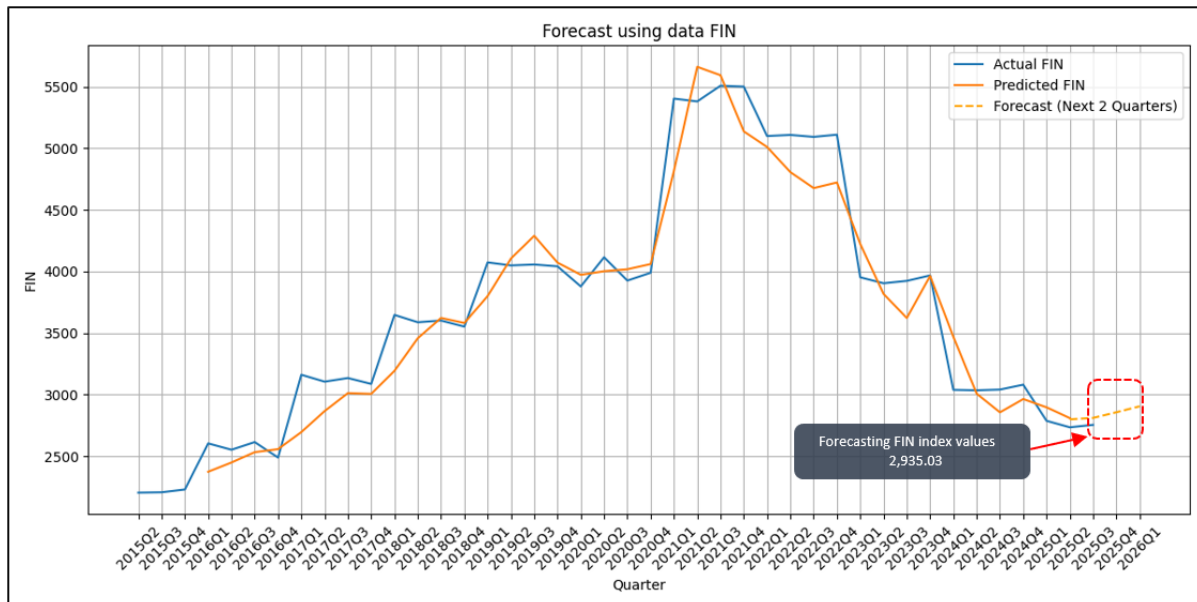


**Figure 2.** The quarterly forecasts for the BANK index values.

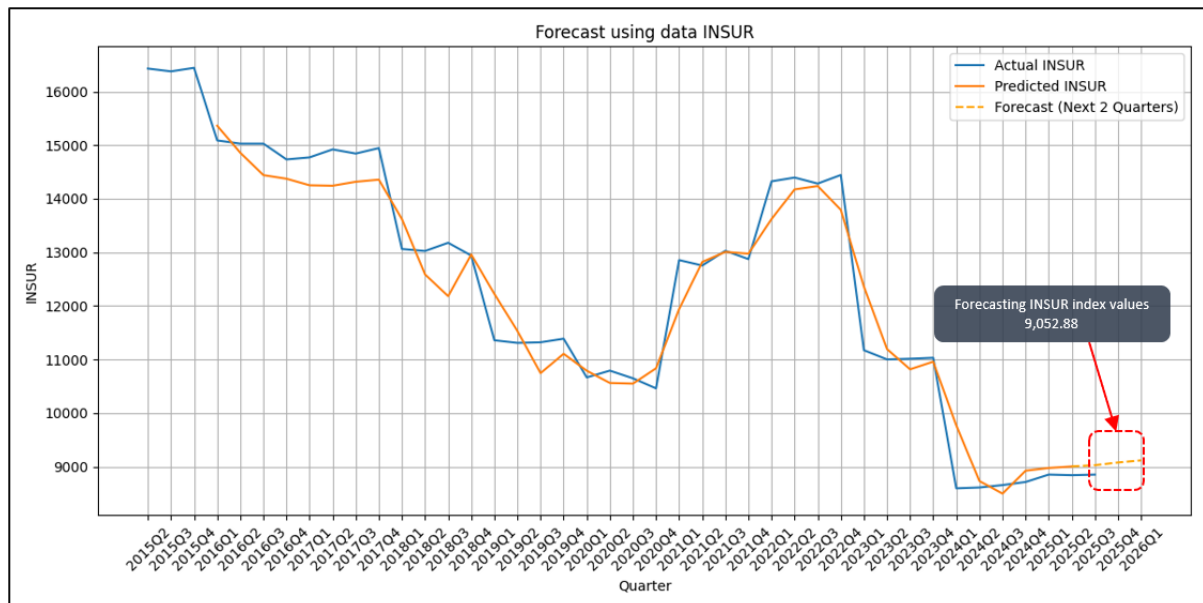
Moreover, a forecast for the upcoming two quarters was created to anticipate the economic outlook in light of fluctuations in Thailand's financial business sector. The prediction for the upcoming two quarters, derived from the data trend of 2015-2025, indicated a steady alignment with the data's direction. The average forecast index for the BANK sector during Q3-Q4 of 2025 is 393.50, as illustrated in Figure 2 and detailed in Appendix Table 1. As illustrated in Figure 3 and detailed in Appendix Table 2, the average forecast index for the FIN sector is 2,935.03. As illustrated in Figure 4 and detailed in Appendix Table 3, the INSUR sector has an average forecast index of 9,052.88.

**Table 1.** Results of financial business forecasting comparison using LSTM models.

Model	Mean Actual (unit)	RMSE (unit)	%RMSE (%)	%MAPE (%)
BANK	431.40	34.49	8.00	4.08
FIN	3,819.06	395.92	10.37	7.60
INSUR	12,071.65	913.41	7.57	5.34



**Figure 3.** The quarterly forecasts for the FIN index values.



**Figure 4.** The quarterly forecasts for the INSUR index values.

Consequently, the results assessed with the above-mentioned performance indicators indicate that all industry groups demonstrate an error level that can be deemed acceptable from an economic standpoint, especially when it comes to short-term forecasting (1-2 quarters ahead), which produces the results most closely aligned with the actual values. To sum up, the LSTM model that was developed demonstrates its effectiveness as a means of aiding policy decisions in areas such as economics, investment, and strategic planning in finance. It also has potential for future applications involving other types of data.

## DISCUSSION & CONCLUSION

This research demonstrates the use of a sequential neural network model, namely the LSTM model, for analyzing and predicting trends in Thailand's financial sector. Attention is directed toward three main business categories: BANK, FIN, and INSUR. Quarterly data from 2015 to 2025, sourced from

SET, were utilized to simulate the behavior of each sector index and predict future trends for two more quarters in 2025 (Q3-Q4). The analysis utilized the LSTM technique, which is a model within the realm of AI. The model was built with the Python programming language, and the dataset was organized into training, validation, and testing subsets in a 70:20:10 ratio. The

evaluation of model accuracy was conducted using widely accepted forecasting performance metrics, which include mean actual, RMSE, %RMSE, and %MAPE.

The study's findings show that the LSTM model performed well in forecasting financial business data, especially in the BANK sector, which had the lowest forecasting errors, with a %RMSE of 8.00% and a %MAPE of 4.08%. Following this, the INSUR sector recorded a %RMSE of 7.57% and a %MAPE of 5.34%. Conversely, the FIN sector exhibited the greatest forecasting errors, evidenced by a %RMSE of 10.37% and a %MAPE of 7.60%. This may indicate that there is greater volatility within the FIN business group than in the other sectors. Moreover, the two-quarter forecast for Q3–Q4 2025 shows that the average index values are 393.50 for the BANK sector, 2,935.03 for the FIN sector, and 9,052.88 for the INSUR sector. These index values can be useful for analyzing future trends in the Thai economy, especially considering the important causal link between the financial sector and the country's gross domestic product (GDP).

Nevertheless, financial data is intrinsically volatile and influenced by external factors like global economic conditions, policy interest rates, disasters, or geopolitical events. Due to their inability to accurately represent complex dynamics and swift changes, traditional linear forecasting models like ARIMA, exponential smoothing, and linear regression can be less effective in light of these factors. Consequently, using an LSTM model that can learn non-linear relationships and maintain long-term temporal dependencies provides a more suitable and effective option for analyzing complex financial economic data. Ultimately, this method enhances the ability of analysts, investors, and policymakers to make well-informed choices about future economic policy and business strategies.

## **ACKNOWLEDGEMENT**

The author of this research extends heartfelt thanks for the invaluable data support offered by Kasikorn Securities PCL and The Stock Exchange of Thailand.

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[17]**APPENDIX**

**Appendix Table 1.** Results from LSTM model forecasting regarding the BANK index values.

<b>Quarter</b>	<b>Actual BANK</b>	<b>Predicted BANK</b>	<b>BANK QoQ (%)</b>	<b>Predicted QoQ (%)</b>
<b>2016Q1</b>	477.56	478.74	0.54	0.47
<b>2016Q2</b>	479.52	467.81	0.41	-2.28
<b>2016Q3</b>	471.53	455.48	-1.67	-2.64
<b>2016Q4</b>	534.95	455.63	13.45	0.03
<b>2017Q1</b>	534.98	493.99	0.01	8.42
<b>2017Q2</b>	534.82	525.44	-0.03	6.37
<b>2017Q3</b>	536.81	535.20	0.37	1.86
<b>2017Q4</b>	550.09	521.33	2.47	-2.59
<b>2018Q1</b>	548.95	526.80	-0.21	1.05
<b>2018Q2</b>	554.04	531.70	0.93	0.93
<b>2018Q3</b>	546.30	534.82	-1.40	0.59
<b>2018Q4</b>	495.64	532.30	-9.27	-0.47
<b>2019Q1</b>	493.97	512.11	-0.34	-3.79
<b>2019Q2</b>	495.89	483.36	0.39	-5.61

<b>2019Q3</b>	496.12	468.13	0.05	-3.15
<b>2019Q4</b>	308.51	482.04	-37.82	2.97
<b>2020Q1</b>	322.93	337.66	4.68	-29.95
<b>2020Q2</b>	314.66	310.13	-2.56	-8.15
<b>2020Q3</b>	311.54	303.16	-0.99	-2.25
<b>2020Q4</b>	374.12	362.77	20.09	19.66
<b>2021Q1</b>	368.35	368.46	-1.54	1.57
<b>2021Q2</b>	379.47	376.63	3.02	2.22
<b>2021Q3</b>	377.94	386.37	-0.40	2.59
<b>2021Q4</b>	396.23	387.65	4.84	0.33
<b>2022Q1</b>	392.25	392.83	-1.01	1.34
<b>2022Q2</b>	394.51	395.36	0.58	0.64
<b>2022Q3</b>	397.44	396.97	0.74	0.41
<b>2022Q4</b>	388.49	394.26	-2.25	-0.68
<b>2023Q1</b>	392.87	394.00	1.13	-0.06
<b>2023Q2</b>	390.19	392.36	-0.68	-0.42
<b>2023Q3</b>	392.15	391.64	0.50	-0.19
<b>2023Q4</b>	375.20	393.96	-4.32	0.59
<b>2024Q1</b>	376.31	388.92	0.30	-1.28
<b>2024Q2</b>	376.50	385.09	0.05	-0.98
<b>2024Q3</b>	381.48	383.58	1.32	-0.39
<b>2024Q4</b>	412.36	388.38	8.09	1.25
<b>2025Q1</b>	413.37	396.15	0.24	2.00
<b>2025Q2</b>	405.24	403.96	-1.97	1.97

**Appendix Table 2.** Results from LSTM model forecasting regarding the FIN index values.

Quarter	Actual FIN	Predicted FIN	FIN QoQ (%)	Predicted QoQ (%)
2016Q1	2,554.01	2,524.93	2.16	0.99
2016Q2	2,615.78	2,600.42	2.42	2.99
2016Q3	2,490.13	2,683.99	-4.80	3.21
2016Q4	3,162.72	2,708.76	27.01	0.92
2017Q1	3,106.14	2,847.12	-1.79	5.11
2017Q2	3,135.87	3,017.49	0.96	5.98
2017Q3	3,087.82	3,163.34	-1.53	4.83
2017Q4	3,648.51	3,157.15	18.16	-0.20
2018Q1	3,588.55	3,344.20	-1.64	5.92
2018Q2	3,602.41	3,608.71	0.39	7.91
2018Q3	3,553.14	3,773.78	-1.37	4.57
2018Q4	4,074.63	3,732.54	14.68	-1.09
2019Q1	4,050.04	3,951.14	-0.60	5.86
2019Q2	4,057.62	4,255.84	0.19	7.71
2019Q3	4,042.52	4,440.10	-0.37	4.33
2019Q4	3,879.28	4,222.87	-4.04	-4.89
2020Q1	4,116.30	4,123.75	6.11	-2.35
2020Q2	3,926.85	4,152.78	-4.60	0.70
2020Q3	3,990.40	4,168.63	1.62	0.38
2020Q4	5,404.43	4,211.28	35.44	1.02
2021Q1	5,381.15	4,966.38	-0.43	17.93
2021Q2	5,508.68	5,812.20	2.37	17.03
2021Q3	5,501.71	5,743.82	-0.13	-1.18
2021Q4	5,100.03	5,287.77	-7.30	-7.94
2022Q1	5,109.05	5,161.40	0.18	-2.39
2022Q2	5,093.14	4,957.23	-0.31	-3.96
2022Q3	5,111.00	4,827.63	0.35	-2.61



<b>2022Q4</b>	3,953.59	4,873.22	-22.65	0.94
<b>2023Q1</b>	3,905.01	4,374.34	-1.23	-10.24
<b>2023Q2</b>	3,924.43	3,968.83	0.50	-9.27
<b>2023Q3</b>	3,968.84	3,773.03	1.13	-4.93
<b>2023Q4</b>	3,040.08	4,114.59	-23.40	9.05
<b>2024Q1</b>	3,036.44	3,620.32	-0.12	-12.01
<b>2024Q2</b>	3,042.28	3,158.70	0.19	-12.75
<b>2024Q3</b>	3,081.83	3,007.35	1.30	-4.79
<b>2024Q4</b>	2,788.64	3,115.19	-9.51	3.59
<b>2025Q1</b>	2,735.57	3,048.08	-1.90	-2.15
<b>2025Q2</b>	2,755.63	2,960.39	0.73	-2.88

**Appendix Table 3.** Results from LSTM model forecasting regarding the INSUR index values.

<b>Quarter</b>	<b>Actual INSUR</b>	<b>Predicted INSUR</b>	<b>INSUR QoQ (%)</b>	<b>Predicted QoQ (%)</b>
<b>2016Q1</b>	15,029.62	15,362.68	1.55	3.80
<b>2016Q2</b>	15,029.46	14,859.37	0.00	-3.28
<b>2016Q3</b>	14,734.42	14,441.41	-1.96	-2.81
<b>2016Q4</b>	14,772.41	14,373.59	0.26	-0.47
<b>2017Q1</b>	14,920.81	14,251.10	1.00	-0.85
<b>2017Q2</b>	14,842.83	14,242.87	-0.52	-0.06
<b>2017Q3</b>	14,945.54	14,316.51	0.69	0.52
<b>2017Q4</b>	13,062.68	14,356.41	-12.60	0.28
<b>2018Q1</b>	13,025.16	13,619.19	-0.29	-5.14
<b>2018Q2</b>	13,178.45	12,587.73	1.18	-7.57
<b>2018Q3</b>	12,939.61	12,181.82	-1.81	-3.22
<b>2018Q4</b>	11,358.85	12,959.41	-12.22	6.38
<b>2019Q1</b>	11,309.82	12,224.32	-0.43	-5.67
<b>2019Q2</b>	11,320.76	11,531.27	0.10	-5.67
<b>2019Q3</b>	11,388.14	10,745.26	0.60	-6.82

<b>2019Q4</b>	10,665.85	11,106.05	-6.34	3.36
<b>2020Q1</b>	10,791.81	10,790.49	1.18	-2.84
<b>2020Q2</b>	10,649.04	10,561.65	-1.32	-2.12
<b>2020Q3</b>	10,460.79	10,549.14	-1.77	-0.12
<b>2020Q4</b>	12,855.25	10,835.68	22.89	2.72
<b>2021Q1</b>	12,753.93	11,940.29	-0.79	10.19
<b>2021Q2</b>	13,028.53	12,820.15	2.15	7.37
<b>2021Q3</b>	12,873.75	13,007.60	-1.19	1.46
<b>2021Q4</b>	14,324.57	12,974.49	11.27	-0.25
<b>2022Q1</b>	14,395.50	13,621.29	0.50	4.99
<b>2022Q2</b>	14,282.98	14,174.79	-0.78	4.06
<b>2022Q3</b>	14,443.71	14,237.98	1.13	0.45
<b>2022Q4</b>	11,173.19	13,793.08	-22.64	-3.12
<b>2023Q1</b>	11,001.30	12,360.01	-1.54	-10.39
<b>2023Q2</b>	11,013.71	11,194.29	0.11	-9.43
<b>2023Q3</b>	11,032.01	10,816.13	0.17	-3.38
<b>2023Q4</b>	8,594.84	10,959.68	-22.09	1.33
<b>2024Q1</b>	8,610.46	9,768.75	0.18	-10.87
<b>2024Q2</b>	8,655.28	8,731.52	0.52	-10.62
<b>2024Q3</b>	8,714.08	8,496.93	0.68	-2.69
<b>2024Q4</b>	8,851.88	8,924.08	1.58	5.03
<b>2025Q1</b>	8,840.63	8,975.38	-0.13	0.57
<b>2025Q2</b>	8,851.23	9,003.38	0.12	0.31

# Stock Market Revitalization: Exploring the Impact of Macroeconomics and Global Indexes

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## ABSTRACT

This study focuses on the analysis to explore the impact of macroeconomic factors and global indices on the performance of the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange (IDX). The variables examined include inflation and exchange rates as representations of macroeconomic factors, as well as the Standard & Poor's 500 Index and the Hang Seng Index as indicators of global indices. Multiple linear regression is an analysis technique applied to time series data from 2018 to 2022. Eviews software version 13 was used to process the data. The results of the multiple linear regression analysis show that: (1) IHSG is not statistically significantly affected by inflation, (2) IHSG is statistically significantly affected by exchange rates, (3) IHSG is statistically significantly affected by the S&P 500 Index, and (4) IHSG is not statistically significantly affected by HSI.

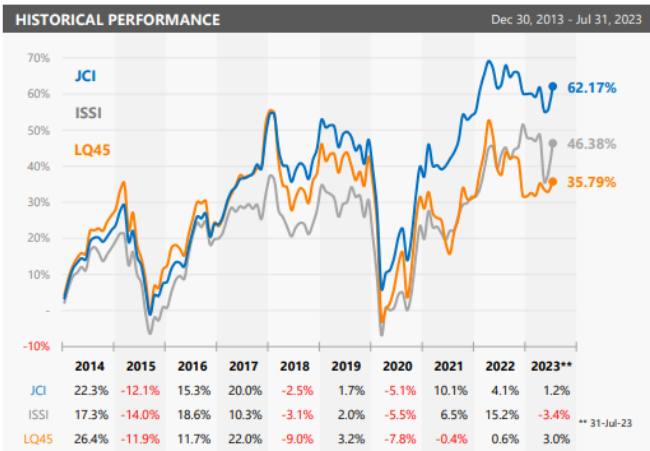
**Keywords:** Jakarta Composite Index, Inflation, Exchange Rate, S&P 500, Hang seng

## INTRODUCTION

The growth of the global economy has been accelerating rapidly year by year, and this phenomenon has had a significant impact on the world's economic landscape. The inflow of foreign capital into the financial markets of developing countries, such as the Indonesia Stock Exchange, serves as clear evidence of this impact. The capital market has become one of the main pillars of a country's economic structure, playing a crucial role in reflecting its level of economic progress. Stock indices are highly valuable resources for investors who wish to participate in the capital market, as they effectively track changes in stock prices ([www.idx.co.id](http://www.idx.co.id)).

Various aspects of the macroeconomy have the potential to significantly influence the movement of a country’s stock market. Macroeconomic factors can affect investor sentiment, corporate business outlooks, and the broader economic condition. As a result, these changes can play a pivotal role in influencing the Indonesia Composite Index (IHSG). Like other capital markets around the world, Indonesia’s capital market is not immune to the domino effects triggered by global macroeconomic events. For instance, when the world faced the 2008 global financial crisis or the more recent economic crisis brought about by the Covid-19 pandemic, the market faced considerable challenges.

Therefore, it can be concluded that the economic conditions of foreign countries can significantly influence investor sentiment in Indonesia’s stock market. The IHSG, which encompasses all aspects and components that can affect market movement, requires a deep understanding of the fundamental mechanisms that govern stock price fluctuations and particularly



**Figure 1.** Annual Performance Chart of the Indonesia Stock Exchange Composite Index (IHSG)

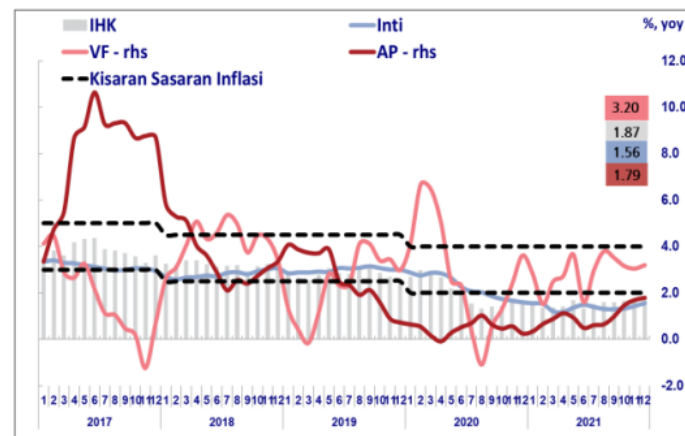
for investors.

**Figure 1** illustrates the fluctuations of the Indonesia Composite Index (IHSG) over the past five years, from 2018 to 2023. Significant events such as the Covid-19 pandemic and the US-China trade war have notably contributed to the volatility observed in the IHSG during this period.

The impact of the Covid-19 pandemic led to a considerable slowdown in economic activity, to the extent that certain sectors experienced a drastic decline. A range of complex factors

contributed to changes in the stock index, including macroeconomic conditions, interest rate fluctuations, the overall state of the global economy, global energy price dynamics, domestic political stability, and other relevant elements (Herlianto & Hafizh, 2020).

Macroeconomic aspects of a country, such as inflationary pressures that reduce purchasing power that often influence investment decisions in the stock market. Inflation refers to a general and sustained increase in prices. High inflation rates can negatively affect economic well-being and corporate earnings, thereby diminishing the appeal of the equity market or stock prices.



**Figure 2.** Inflation Disaggregation Graph for the Period 2017-2021

**Source:** [www.bi.go.id](http://www.bi.go.id)

Based on the data shown in **Figure 2**, it can be observed that the inflation rate measured using the Consumer Price Index (CPI) has increased from 1.68% (yoy) in 2020 to 1.87% (yoy) in 2021. However, Bank Indonesia's inflation target has not yet been met, with the inflation rate still in the low range.

In addition to inflation, the exchange rate, or what is known as the exchange rate, is another significant factor. Thobarry (2009) explains that a country's exchange rate against its foreign currency affects investment in the stock market. The strengthening of the Rupiah against other currencies usually indicates good economic health, which can encourage increased investment in stocks.



**Figure 3.** Average Value of USD/IDR Exchange Rate Period 2017-2022

*Source:* Katadata, Ministry of Trade

Referring to the illustration in **Figure 3**, it can be observed that the exchange rate of the US dollar against the Indonesian rupiah from 2017 to 2022 exhibited fluctuations. On average, the USD/IDR exchange rate showed variability over the period. Notably, the exchange rate in the past two years tended to be lower compared to the level recorded in 2017.

The Indonesia Composite Index (IHSG) is susceptible to the dynamics of global events, such as global economic turmoil, financial crises, or monetary policies implemented by major central banks. Conversely, movements in the IHSG also have the potential to influence global indices, particularly when significant events occur in Indonesia. For example, substantial positive or negative news concerning the Indonesian economy can influence IHSG movements.

Stock exchanges classified as advanced markets—such as those in the United States, Japan, and the United Kingdom—hold strong influence in the global market. Two major indices frequently used as benchmarks by investors are the **Standard & Poor's 500 Index**, comprising 500 large-cap U.S.-based companies, and the **Hang Seng Index**, which represents the market capitalization of companies listed on the Hong Kong Stock Exchange.

The dynamics of national and global economic developments, the factors influencing IHSG movements, and inconsistencies in findings from previous research on similar topics serve as critical reasons for conducting further studies. These studies aim to investigate and analyze in

greater depth the impact of specific variables on the behavior of the Indonesia Composite Index (IHSG).

## **LITERATURE REVIEW**

### **Contagion Effect Theory**

The Contagion Effect Theory has been a compelling subject in the economic and financial literature (Okorie & Lin, 2021). The term “contagion” originates from English, meaning “transmission” or “spread.” In the context of economics and finance, contagion refers to a significant increase in cross-market linkages, typically reflected in the co-movements of asset prices or financial flows across markets when a shock affects one country or a group of countries. This phenomenon becomes especially apparent when the shock originates in a leading market, as opposed to during periods of relative market calm or stability (Dornbusch et al., 2000).

### **Signaling Theory**

Corporate management often employs a strategy known as Signaling Theory to indicate the company's future prospects to investors. Originally proposed by Spence in 1973, this theory is based on the idea that signals serve as cues or pieces of information transmitted from one party to another. In this context, the sender—typically the information holder—attempts to convey relevant information to the receiver, namely the investor. Upon receiving the signal, investors can then respond accordingly based on their interpretation of the conveyed message.

### **Indonesia Composite Index (IHSG)**

The Indonesia Composite Index (IHSG) is a graphical representation of stock values that reflects trading activities and price variations of all listed shares on the stock exchange. The IHSG is designed to provide a comprehensive and up-to-date overview of market conditions on the Indonesia Stock Exchange (IDX) ([www.idxchannel.com](http://www.idxchannel.com)). The method for calculating the IHSG refers to the research methodology developed by Nadif et al. (2019), using the following formula:

$$IHS\% = \frac{IHS_{t-1} - IHS_{t-2}}{IHS_{t-2}} \times 100\% \quad (1)$$

Description:

- $IHS_t$  = Closing price of the IHS at period  $t$
- $IHS_{t-1}$  = Closing price of the IHS at period  $t-1$

## Macroeconomics

### 1. Inflation

Inflation is defined as a general and sustained increase in the prices of goods and services over a specific period. According to (Mankiw, 2022, pp. 339–340), the inflation rate significantly affects purchasing power, consumer spending, income, and overall welfare, making it a crucial factor in achieving development goals.

The method for calculating the IHS follows the research procedure outlined by (Setiana and Ito, 2022), using the following formula:

$$IHK = \frac{IHK_t - IHK_{t-1}}{IHK_{t-1}} \quad (2)$$

Description:

- $IHK_t$  = Consumer Price Index (CPI) for period  $t$
- $IHK_{t-1}$  = Consumer Price Index (CPI) for period  $t-1$

### 2. Exchange Rate

The exchange rate, often referred to as the foreign exchange rate, represents the price or value of one country's currency expressed in terms of another currency. In other words, the exchange rate can be defined as the amount of domestic currency required to acquire one unit of foreign currency—for example, how many Indonesian rupiah are needed to obtain one US dollar (Sukirno, 2016, p. 397).

The method for calculating the IHS follows the research procedure developed by Dwi Puspita and Seno Aji (2018), using the following formula:



$$\text{Kurs} = \frac{\text{Kurs}_t - \text{Kurs}_{t-1}}{\text{Kurs}_{t-1}} \quad (3)$$

Description:

- Exchange Rate<sub>t</sub> = Mid-rate exchange value at period  $t$
- Exchange Rate<sub>t-1</sub> = Mid-rate exchange value at period  $t-1$

## Global Indexes

### 1. Standard & Poor's 500 Index

The Standard & Poor's 500 Index, commonly referred to as the S&P 500, consists of 500 leading publicly traded companies listed on U.S. stock exchanges, representing a broad spectrum of industries ([www.idxchannel.com](http://www.idxchannel.com)). As one of the most well-known and influential indices, the S&P 500 is owned and managed by Standard & Poor's, a subsidiary of McGraw Hill.

The formula for calculating changes in the S&P 500 index is as follows:

$$\text{S\&P 500} = \frac{\text{S\&P}_t - \text{S\&P}_{t-1}}{\text{S\&P}_{t-1}} \quad (4)$$

Description:

- S&P<sub>t</sub> = Standard & Poor's 500 index value at period  $t$
- S&P<sub>t-1</sub> = Standard & Poor's 500 index value at period  $t-1$

### 2. Hang Seng Index

The Hang Seng Index is a market capitalization-weighted index comprising the 40 largest companies listed on the Hong Kong Stock Exchange. Launched in 1969, it is managed by a subsidiary of Hang Seng Bank. The Hang Seng Index plays a key role as a widely referenced economic indicator for Hong Kong and serves as a market benchmark for investors operating within the region.

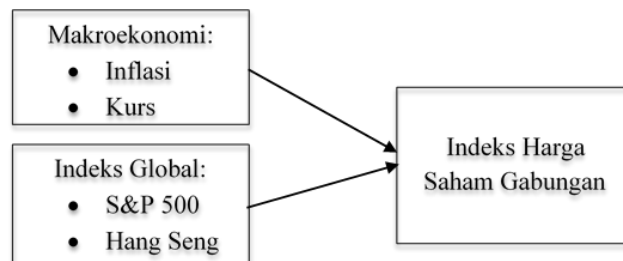
According to the research methodology by (Beurekat and Andriani, 2021), the Hang Seng Index can be calculated using the following formula:

$$HSI = \frac{HSI_t - HSI_{t-1}}{HSI_{t-1}} \quad (5)$$

Description:

- $HSI_t$  = Hang Seng Index value at period  $t$
- $HSI_{t-1}$  = Hang Seng Index value at period  $t-1$

## Research Model



**Figure 4.** Research Model

*Source: Processed data from EViews (2023)*

## Hypothesis

Based on the problem formulation and empirical review presented earlier, the hypothesis that can be drawn in this study is:

1. H1: Inflation has a positive and significant influence on the Indonesia Composite Index (IHSG).
2. H2: Exchange rate has a negative and significant influence on the Indonesia Composite Index (IHSG).
3. H3: S&P 500 Index has a positive and significant influence on the Indonesia Composite Index (IHSG).
4. H4: Hang Seng Index has a positive and significant influence on the Indonesia Composite Index (IHSG).
- 5.

## RESEARCH METHODOLOGY

The subject of the study is the population of the stock index listed on the Indonesia Stock Exchange, with the Indonesia Composite Index as the focus of the sample during the period from 2018 to 2022 in the IHSG calculation process. The determination of the sample in this study adopted a saturated sampling technique, which ensures that the sample data covers all elements in the population, making it a comprehensive research basis. Secondary data is used as the main source of data for this study, which is obtained through official sources recognized through the official website. The approach adopted for data collection is through the documentation method. Descriptive statistical analysis is used to break down the data, while the multiple linear regression analysis method is used in measuring the impact of the variables under consideration. Secondary data is processed using the Microsoft Excel 2016 application, while the significance analysis in the multiple linear regression test is supported by Eviews software version 13.0.

## RESULTS AND DISCUSSION

### Statistic Descriptive Analysis

**Table 1.** Statistic Descriptive Result

	<b>IHSG</b>	<b>Inflasi</b>	<b>Kurs</b>	<b>S&amp;P 500</b>	<b>HSI</b>
Rata-rata ( <i>Mean</i> )	0.002739	-0.001778	0.002594	0.007334	-0.003960
Nilai <i>Maximum</i>	0.090139	0.011652	0.102962	0.063380	0.103097
Nilai <i>Minimum</i>	-0.182491	-0.249802	-0.060580	-0.190681	-0.096030
Standar Deviasi	0.041081	0.032692	0.022405	0.041876	0.025612
Observasi	60	60	60	60	60

*Source: Processed data from EViews (2023)*

Based on the results of the descriptive statistical analysis in Table 1, it was found that the minimum value of the Indonesia Composite Index (IHSG) in the data was -0.182491, while the maximum value reached 0.090139. These findings reflect significant variation in the movement of the IHSG within the sample period of the study. The average value of the IHSG in this sample is approximately 0.002739, with a relatively high standard deviation of 0.041081. This indicates the level of variation and dispersion of the IHSG in the context of this study.

Based on the results of the descriptive statistical analysis for the Inflation variable, it can be concluded that the minimum value of inflation in the data is -0.249802, while the maximum value is 0.011652. This result indicates significant variation in the observed inflation levels within the context of the research sample. The average inflation in the study sample is estimated to be approximately -0.001778, with a relatively large standard deviation of 0.032692. This finding provides an understanding of the variation and dispersion of inflation in the context of this study.

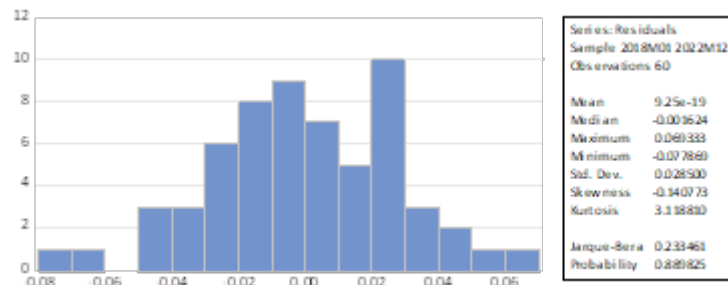
According to the results of the descriptive statistical analysis for the Exchange Rate variable, it was found that the minimum value of the exchange rate in the data was -0.060580, while the maximum value was 0.102962. This result indicates considerable variation in the exchange rate observed within the research sample. The average exchange rate in the study sample is estimated to be around 0.002594, with a standard deviation of 0.022405. These findings describe the level of variation and dispersion of the exchange rate in the context of this study.

Based on the results of the descriptive statistical analysis for the S&P 500 variable, it can be concluded that the minimum value of the S&P 500 in the data is -0.190681, while the maximum value is 0.063380. These findings reflect significant variation in the S&P 500 values observed within the sample period of the study. The average value of the S&P 500 in this sample is estimated to be approximately 0.007334, with a standard deviation of 0.041876. These findings provide an understanding of the variation and dispersion of the S&P 500 in the context of this study.

For the Hang Seng Index variable, it was concluded that the minimum value of the Hang Seng Index in the data was -0.096030, while the maximum value was 0.103097. These findings reflect significant variation in the Hang Seng Index observed in the research sample. The average Hang Seng Index in the study sample is estimated to be around -0.003960, with a standard deviation of 0.025612. These results describe the level of variation and dispersion of the Hang Seng Index in the context of this study.

## Classical Assumption Test

### 1. Normality Test



**Figure 5.** Normality Test Result (J-B Test)

Based on the residual evaluation illustrated in the diagram, the significance level of the regression considering the variables of Inflation, Exchange Rate, S&P 500 Index, and Hang Seng Index is 0.889825. In terms of statistical significance, this value exceeds the commonly accepted threshold of 0.05. Therefore, it can be concluded that the regression for these four variables demonstrates a distribution pattern that aligns with the assumption of normality.

### 2. Multicollinearity Test

**Table 2.** Multicollinearity Test Result

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.63E-05	1.121604	NA
IHK	0.014060	1.020628	1.017566
Kurs	0.042502	1.464423	1.444722
S&P500	0.012071	1.478149	1.433443
HSI	0.022562	1.026553	1.002182

*Source: Processed data from EViews (2023)*

Based on the results of the multicollinearity test presented in Table 2, there is no evidence indicating the presence of multicollinearity among the independent variables within the regression model. This conclusion is supported by the fact that all independent variables exhibit tolerance values exceeding 0.10 and Variance Inflation Factor (VIF) values below the critical threshold of 10. These findings suggest that the variables—Inflation, Exchange Rate, S&P 500 Index, and Hang Seng Index—satisfy the statistical requirements for multicollinearity, thereby confirming the model's appropriateness for further regression analysis.

### 3. Heteroscedasticity Test

**Table 3.** Heteroscedasticity Test Result

*Heteroskedasticity Test: Glejser*  
*Null hypothesis: Homoskedasticity*

F-statistic	0.661034	Prob. F(4,55)	0.6217
Obs*R-squared	2.752198	Prob. Chi-Square(4)	0.6001

*Source: Processed data from EViews (2023)*

Based on the results of the Glejser test presented in Table 3, the probability value of Obs\*R-squared exceeds the significance threshold of  $\alpha$  ( $0.6001 > 0.05$ ). This indicates that there is no statistical evidence of heteroscedasticity in the regression model. In other words, the variance of the dependent variable appears to be consistently distributed across the values of the independent variables, suggesting that the model satisfies the assumption of homoscedasticity.

### 4. Autocorrelation Test

**Table 4.** Autocorrelation Test Result

*Breusch-Godfrey Serial Correlation LM Test:*  
*Null hypothesis: No serial correlation at up to 2 lags*

F-statistic	1.451392	Prob. F(2,53)	0.2434
Obs*R-squared	3.115535	Prob. Chi-Square(2)	0.2106

*Source: Processed data from EViews (2023)*

In this study, the presence of autocorrelation was examined using the Breusch-Godfrey method. The test evaluated the probability value of the Obs\*R-squared statistic at a 0.05 significance level. The results indicate that the regression model does not suffer from autocorrelation, as the Chi-Square probability value from the test was 0.2106, which exceeds the 0.05 threshold ( $0.2106 > 0.05$ ). Additionally, the *F-statistic* probability value was recorded at 0.2434, also greater than the significance level ( $0.2434 > 0.05$ ). These outcomes suggest that the model is free from autocorrelation issues, confirming the independence of residuals in the data.

## Multiple Regression Analysis

**Table 5.** Multiple Regression Analysis Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004152	0.004036	1.028746	0.3081
IHK	0.132688	0.118575	1.119022	0.2680
Kurs	-0.978200	0.206161	-4.744841	<b>0.0000*</b>
S&P 500	0.263791	0.109870	2.400948	<b>0.0198*</b>
HIS	0.144745	0.150208	0.963631	0.3394
R-squared	0.518726	Mean dependent var		0.002739
Adjusted R-squared	0.483725	S.D. dependent var		0.041081
F-statistic	14.82002	Durbin-Watson stat		1.538531
Prob(F-statistic)	0.000000			

*Source: Processed data from EViews (2023)*

Based on the regression model table presented, the multiple linear regression equation can be formulated as follows

$$: \quad \text{IHSG} = 0.004 + 0.132\text{IHK} - 0.978\text{Kurs} + 0.263\text{S\&P500} + 0.144\text{HSI} + \varepsilon$$

- IHSG : Indonesia Composite Index
- IHK : Inflation (Consumer Price Stock Index)
- Kurs : Exchange Rate
- S&P 500 : Standard & Poor's 500 Index
- HIS : Hang Seng Index
- $\varepsilon$  : Standard Error

The output of the multiple linear regression analysis indicates that the constant value is 0.004. This implies that if the variables Inflation, Exchange Rate, Standard & Poor's 500 Index, and Hang Seng Index are held constant (i.e., assuming no variation in these independent variables), the predicted value of the Indonesia Composite Index (IHSG) would be 0.004. This constant represents the baseline level of the IHSG in the absence of changes in the predictors.

### **Partial Test (*t* Statistic Test)**

Based on the statistical analysis conducted in this study, four independent variables were examined—namely inflation, exchange rate, the S&P 500 Index, and the Hang Seng Index—while the dependent variable was the Indonesia Composite Stock Price Index (IHSG). As presented in Table 5, the independent variables exhibited varying effects on the IHSG. The inflation variable had a positive coefficient (0.132688) but was statistically insignificant, as indicated by a t-statistic of 1.119022 and a p-value of 0.2680. This suggests that inflation does not have a meaningful impact on the IHSG within the context of this study. Conversely, the exchange rate showed a significant negative relationship with the IHSG, with a coefficient of -0.978200, a t-statistic of -4.744841, and a highly significant p-value ( $p = 0.0000$ ), indicating a strong inverse effect. The S&P 500 Index displayed a positive and statistically significant influence on the IHSG, with a coefficient of 0.263791, a t-statistic of 2.400948, and a p-value of 0.0198, implying a positive association between the two indices. Meanwhile, the Hang Seng Index had a positive but statistically insignificant impact on the IHSG, with a coefficient of 0.144745, a t-statistic of 0.963631, and a p-value of 0.3394. In summary, the analysis indicates that among the four variables studied, only the exchange rate and the S&P 500 Index exert a statistically significant influence on the IHSG, while inflation and the Hang Seng Index do not demonstrate significant effects.

### **Coefficient of Determination ( $R^2$ )**

Based on the results presented in Table 5, the Adjusted R-squared (Adjusted  $R^2$ ) value is 0.4775, equivalent to 48.37% in percentage terms. This indicates that the independent variables—Inflation, Exchange Rate, Standard & Poor's 500, and Hang Seng Index—collectively explain approximately 48.37% of the variation in the Indonesia Composite Index (IHSG). The remaining 51.63% represents the unexplained variance, which may be attributed to other factors not captured within the scope of this regression model.

#### **1. The Effect of Inflation on the Indonesia Composite Index (IHSG)**

The Inflation variable has a positive but statistically insignificant impact on the performance of the Indonesia Composite Index (IHSG). This is due to the fact that during the period from 2018 to 2022, as a result of the government's interest rate policies that kept inflation controlled below 10%, the potential decrease in corporate profits that might affect the IHSG was



avoided. The Law No. 23 of 1999, which mandates the Bank of Indonesia (BI) to maintain price stability. The law gives BI the authority to adjust the interest rate and implement measures that control inflation. Furthermore, Government Regulation No. 23 of 2020 emphasizes fiscal policies that are used to stabilize the economy, which indirectly supports investor confidence by controlling inflation. As seen from the research findings and the government's regulatory framework, inflation management enhances market stability, and controlled inflation signals macroeconomic health to investors. If the IHSG were to decline, it would also be followed by a decrease in inflation, in line with the positive coefficient in the results, indicating that for every 1% increase in inflation, the IHSG would rise by 0.132688. Findings from research conducted by the Center for Economics and Law Studies (CELIOS) support this conclusion, strengthening the argument that inflation positively influences the IHSG. Participants in the survey indicated that they made investments in response to inflation phenomena, aiming to increase their income and protect the value of their money from the impact of inflation (Annur, 2022).

Furthermore, according to (Sejati & Wijaya, 2021), price increases in goods and services in response to inflation are anticipated to boost corporate revenues, which could potentially enhance IHSG performance and stock values. According to (Sia, 2023), inflation in Indonesia shows an asymmetric impact on stock performance, for moderate levels of inflation do not significantly affect the IHSG but serve as a signal of macroeconomic stability, aligning with signaling theory. In such conditions, investors may view stable inflation as an indication of economic health and make stock market investments to preserve the value of their money. However, from a contagion theory perspective, inflation in major economies can spill over into emerging markets like Indonesia. If inflation rises in key trading partners, it could lead to changes in global investment patterns, impacting the Indonesian stock market indirectly. (Dridi and Boughrara, 2023) support this by highlighting those inflationary pressures, especially in developed economies, tend to drive risk sentiment, which can affect capital flows to emerging markets. In this light, inflation, while not statistically significant in the local context, can still carry spillover effects due to global interconnectedness

Further discussion of these findings indicates that although no significant statistical impact was observed, the positive relationship between inflation and IHSG performance suggests that market participants may consider inflation as a factor in their investment decisions. For instance,

investors may use this information to manage inflation risk and select investment instruments that may yield better results in rising inflation conditions. Additionally, regulators and policymakers can consider this relationship when designing monetary and fiscal policies to strengthen capital market stability and overall economic growth. Moreover, controlled, and stable inflation can create a more favorable investment environment by stimulating economic and investment activity. However, excessively high or uncontrolled inflation can lead to economic uncertainty and erode asset values and capital market performance.

These findings align with previous research conducted by Pinem et al. (2022) and Setiana & Ito (2022), which assert that inflation has a positive but insignificant effect on the IHSG. However, this finding contrasts with studies by Marhen & Yusra (2018) and Paryudi (2021), who stated that negative inflation does not have a significant impact on the IHSG.

## **2. The Effect of Exchange Rates on the Indonesia Composite Index (IHSG)**

Exchange rate has a statistically significant negative effect on the performance of the Indonesia Composite Index (IHSG). This effect can be explained by the high level of investor attention to the fluctuation of the rupiah exchange rate when making investment decisions, meaning that the exchange rate influences the IHSG. As a result, the exchange rate will decrease when the IHSG increases, and conversely, each 1% increase in the exchange rate will lead to a decrease in the IHSG, as shown by the negative regression coefficient. The Financial Services Authority (OJK), through OJK Regulation No. 12/POJK.03/2018, aims to ensure the stability of the financial market, which includes monitoring exchange rate fluctuations and providing mechanisms to support market confidence. Indonesia's Law No. 24 of 1999 on the Foreign Exchange Act also plays a pivotal role in managing exchange rates by promoting the stabilization of the rupiah and controlling market movements. The regulation allows the Bank of Indonesia to intervene in the foreign exchange market to stabilize the currency, ensuring that fluctuations do not unduly harm the financial markets. Therefore, consistent exchange rate policies, supported by this law, provide signals to investors that they can rely on currency stability, ultimately supporting the performance of the IHSG. The growth of the US dollar against the rupiah is expected to increase company revenues due to a rise in export volume. This phenomenon positively affects the rupiah receipts of companies, particularly those engaged in import and export activities involving the US dollar and rupiah (Setiana & Ito, 2022). With improved profitability and stock values, this

can have a positive impact on the IHSG performance. From the signaling theory perspective, a company's positive export performance can boost its stock value, reflecting the overall quality of the company. Thus, the company's positive outlook can serve as an indicator for investors when making investment decisions. However, from the perspective of contagion theory, exchange rate volatility in Indonesia can have ripple effects across borders. As currencies in emerging markets like Indonesia become weaker, it can lead to capital outflows and a reduction in foreign investment, exacerbating the negative effects on the IHSG. (Falianty and Budimanta, 2020) emphasize that exchange rate fluctuations, especially during financial crises, trigger global market reactions. Their study highlights how external shocks in one country can lead to contagion effects in others, underscoring the global interconnectedness of financial markets.

The implications of these findings underscore the importance of considering exchange rates in investment analysis on the Indonesian stock market. Investors and policymakers can use this information to anticipate potential market changes in response to exchange rate fluctuations. The government can also respond to these findings by strengthening policies that support exchange rate stability, as this can positively impact the IHSG performance and the competitiveness of companies in export activities.

These findings align with previous research by Devi (2021), Moorcy et al. (2021), Sejati & Wijaya (2021), and Setiana & Ito (2022), which confirm that the exchange rate has a significant negative impact on the IHSG. However, these results differ from the study by Fitri (2019), which concluded that the positive effect of the exchange rate is not significant on the IHSG.

### **3. The Effect of the S&P 500 Index on the Indonesia Composite Index (IHSG)**

S&P 500 has a statistically significant positive effect on the performance of the Indonesia Composite Index (IHSG). When the S&P 500 increases by 1%, the IHSG is expected to increase by 0.263791, as indicated by the positive coefficient, and when the IHSG decreases, the S&P 500 is also expected to decrease. This result is consistent with contagion theory, where movements in major global indices influence financial markets in other countries, including Indonesia. (Latif, Hidayah, and Afandi, 2023) observed that the IHSG is highly responsive to global indices like the DJIA, reinforcing the idea that global investor sentiment, trade flows, and economic interdependence transmit market shocks and opportunities to emerging markets such as Indonesia. This phenomenon is linked to global financial integration, which is supported by Indonesia's Law

No. 21 of 2011 on Financial Services Authority (OJK). This law strengthens the regulation of the financial sector to ensure its integration with global markets, allowing for better handling of market shocks that ripple from major economies, such as the U.S. As such, the performance of the S&P 500, as a major global benchmark, acts as a key signal for the Indonesian stock market. Through trade channels, Indonesia, as one of the United States' key trading partners, significantly contributes to the spillover effects. This influence drives the IHSG and directly impacts Indonesia's capital market, which is a major trading partner of the US. The US can affect Indonesian exports and imports, which in turn impacts the performance of companies in Indonesia and the IHSG as a whole. Additionally, investor confidence in the performance of the S&P 500 can create a domino effect on global capital markets, including the IHSG, as financial markets are interconnected in an increasingly integrated global economy. Moreover, Indonesia's Law No. 4 of 1998 on the Indonesian Stock Exchange provides a framework for regulating foreign investments and ensuring that global financial signals, like the S&P 500's performance, are effectively absorbed by local markets.

The stability and economic growth of the United States can support Indonesia's economic growth through trade and bilateral investment relationships. However, this linkage can also increase exposure to global market volatility, making it crucial to consider external factors when planning investment strategies. Therefore, market participants in Indonesia should monitor developments in the S&P 500 as a potential indicator to understand the direction of IHSG movements. Investors can use this information to make investment decisions, especially when significant changes in the S&P 500 may signal global market trends.

This research supports previous findings by (Abnaina & Swandari, 2022) and (Najibullah, 2023), which indicate that the S&P 500 has a significant positive impact on the IHSG. However, these findings differ from those of Gunawan et al. (2021), who state that the S&P 500 does not have a significant impact on the IHSG.

#### **4. The Effect of the Hang Seng Index on the Indonesia Composite Index (IHSG)**

Hang Seng index has a positive value but does not have a statistically significant effect on the Indonesia Composite Index (IHSG). For every 1% increase in the Hang Seng, there is an increase of 0.144745 in the IHSG, in line with the positive coefficient. Conversely, when the IHSG decreases, the Hang Seng also decreases. Although, factually, the Hang Seng Index has the

potential to positively influence the IHSG because both stock exchanges are in the same geographic region, consistent with the contagion effect theory, the impact was not significant during the observed period. This could be due to the limited use of the Hang Seng index as a benchmark for investments by investors, who may be influenced by other more dominant factors affecting the IHSG performance. Furthermore, since it has connection, it is weaker compared to the other global indices. From a signaling theory perspective, the Hang Seng Index may provide signals related to regional economic conditions, but its influence on Indonesia's market is less pronounced. (Chong & Hui, 2021) suggest that, while markets in neighboring regions may signal local economic performance, their impact on Indonesia's stock market can be limited due to differing economic structures and market policies. In this study, the relatively weak signaling effect of the Hang Seng Index suggests that investors in Indonesia are more likely to respond to signals from larger, more dominant markets, such as the U.S. or Europe, rather than regional ones like Hong Kong. Indonesian financial laws do provide a basis for regional market linkages. Law No. 8 of 1995 on Capital Market, along with OJK Regulation No. 11/POJK.04/2016, lays out guidelines for the development of cross-border capital market activities. These laws help manage the flow of capital between markets, but the relatively limited spillover from the Hang Seng Index might be attributed to the economic structures and differing investment policies between Indonesia and Hong Kong. According to (Saputra, 2023) on *Investing.com*, the Hong Kong stock market faces liquidity constraints, which may reduce trading activity and impact stocks in Hong Kong. Furthermore, the lack of significant influence of the Hang Seng on the IHSG could stem from the market structure and economic policies between Indonesia and Hong Kong, which may affect the correlation between the two indices. Therefore, while there is potential for spillover effects between regional stock exchanges, specific factors related to each stock market must be considered separately in the analysis.

The findings of this research suggest that the performance of the Hang Seng Index is not only shaped by regional factors but is also significantly influenced by global macroeconomic trends and external market movements. This has important implications for both investors and policymakers.

For investors, the results highlight the need to diversify their reference points beyond neighboring or regional markets. Relying solely on the performance of nearby markets can lead to

a narrow view of risk and opportunity. By incorporating global indices such as the S&P 500 into their analysis, investors can better anticipate external shocks and enhance the resilience of their portfolios. This broader perspective helps reduce the risk of overexposure to regional volatility and improves long-term investment strategies.

For policymakers, the findings underline the importance of strengthening the transparency and liquidity of the local market. A market that is highly sensitive to global indices may indicate underlying vulnerabilities, such as weak investor confidence or limited domestic depth. By enhancing disclosure standards, improving regulatory frameworks, and encouraging greater participation from institutional investors, policymakers can reduce the Hang Seng's undue sensitivity to external movements

This finding supports previous research by (Chandrawinata & Handoyo, 2022) and Najibullah (2023), which concluded that the Hang Seng Index has a positive effect on the IHSG. However, this finding contradicts the research by Gunawan (2022), which states that the Hang Seng Index has a negative effect on the IHSG.

## CONCLUSION

Based on the analysis, it can be concluded that inflation and the Hang Seng Index, while showing a positive relationship with the Indonesia Composite Index (IHSG), do not have a significant impact. In contrast, the exchange rate and the Standard & Poor's 500 Index demonstrate a stronger and more notable influence on the performance of the IHSG.

To improve future research, the implementation of the recommendations derived from this study be enhanced by various parties to achieve more optimal results. First, for researchers, it is recommended to extend the research period and consider integrating additional relevant variables. Second, for investors, it is important to consider fundamental factors before making investments, particularly those related to the fluctuations of the variables studied. Third, the government is expected to implement monetary policies that can maintain the country's economic stability and increase investor participation. Fourth, companies should pay more attention to macroeconomic and global factors, as they have a significant impact on the company's stock performance.

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# Small and Medium-Sized Business in Kazakhstan: Challenges and Prospects

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## ABSTRACT

The article examines modern trends in the development of small and medium-sized enterprises (SMEs) in Kazakhstan. Based on the analysis of SME development, key issues in the functioning of Kazakhstani businesses were identified, and recommendations for overcoming them were provided. The purpose of this scientific article is to identify problems, justify solutions, and develop recommendations for the growth of SMEs in Kazakhstan under crisis conditions.

The scientific and practical significance of this article lies in the formulation of directions, based on the research findings, that contribute to improving SME development programs in the country.

The research methodology includes general logical, theoretical, and empirical methods, such as analysis and synthesis, induction and deduction, generalization and abstraction, as well as the hypothetico-deductive method, observation, and comparison.

The key research findings of this article include an assessment of the performance of small and medium-sized businesses in Kazakhstan, determination of their role in the country's economy, as well as an analysis of growth dynamics and structural characteristics of the sector. It also highlights the key challenges faced by business entities, such as limited access to financing and administrative barriers, with the goal of developing comprehensive support measures.

The value of the conducted research lies in the generalization and analysis of the collected statistical information, and based on this, the identification of the main problems faced by small and medium-sized enterprises in the new realities.

**Keywords:** Business, Entities, Business environment, Government support

## INTRODUCTION

The relevance of this article is driven by the ongoing economic crises that impact the development of small and medium-sized enterprises (SMEs), involving numerous stakeholders. All participants in entrepreneurial activity are interested in enhancing its efficiency. To operate successfully, SMEs must adopt modern management approaches—especially during times of instability—regularly assess their financial situation, identify growth opportunities, consider their competitive advantages and vulnerabilities, and develop strategies that reflect market competition [1].

The article examines the specific characteristics of SME operations in Kazakhstan during the period from 2020 to 2024. It presents an analysis of the number of active enterprises, their categorization, and production volumes. Based on the collected data, key problems were identified and possible solutions were proposed.

The object of the research is small and medium-sized enterprises in Kazakhstan, while the subject is the features of their functioning and development directions during a crisis. The aim of the study is to identify current problems and provide recommendations for the development of small and medium-sized businesses in the Republic of Kazakhstan under conditions of economic instability.

The article analyzes the main challenges faced by entrepreneurs, including financial and administrative constraints. The research identifies the potential of the SME sector and offers recommendations to improve the conditions necessary for its growth [2]. Additionally, it evaluates the effectiveness of existing support measures and suggests improvements.

The authors applied a systematic approach and a range of research methods—logical, theoretical, and empirical—including induction, deduction, analysis, synthesis, generalization, analogy, as well as statistical and qualitative methods.

## **LITERATURE REVIEW**

During the preparation of this article, the authors analyzed scientific works by both Kazakhstani and foreign researchers, analytical materials, regulatory legal acts, as well as statistical data reflecting the development features of small and medium-sized enterprises (SMEs) in the context of sustainable economic growth. The study of literary sources made it possible to identify the main directions of state influence on SMEs, which determine the dynamics of their development.

In the domestic scientific literature, these topics have been explored in the works of A.M. Dzhusupova, G.K. Nietalina, A.A. Zhakupova, Sh.E. Alpeisova, Zh.S. Bulkhairova, G.A. Saimagambetova, G.B. Bermukhamedova, S.T. Okutayeva, A.P. Zhaishylyk, and A.Sh. Abdimomynova.

Among foreign economists, special attention has been given to authors such as Smallbone, D. & Welter, F., and Bridge, S., which focused on identifying institutional barriers that hinder the realization of SMEs' export potential.

The authors also conducted a critical analysis of the views of researchers such as Jeffrey Sachs, Dani Rodrik, Herman Daly, and Joseph Stiglitz on different dimensions of sustainable economic development.

Throughout the research process, scientific literature on SME-related issues was summarized and structured, which enabled the identification of the main obstacles limiting the development of SMEs in Kazakhstan's regions. Based on this analysis, the authors formulated proposals to enhance government support and stimulate the growth of the sector.

## **RESEARCH METHODOLOGY**

The study utilized data from the Bureau of National Statistics and the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, as well as official documents and government programs regulating the small and medium-sized enterprise (SME) sector. The analysis was conducted using general logical methods such as analysis, synthesis, induction, deduction, generalization, and abstraction, along with theoretical and empirical approaches including observation, comparison, description, and the hypothetico-deductive method [3]. The research was based on statistical data from the past five years, which made it possible to assess the development trends of small and medium-sized businesses in the context of economic recovery

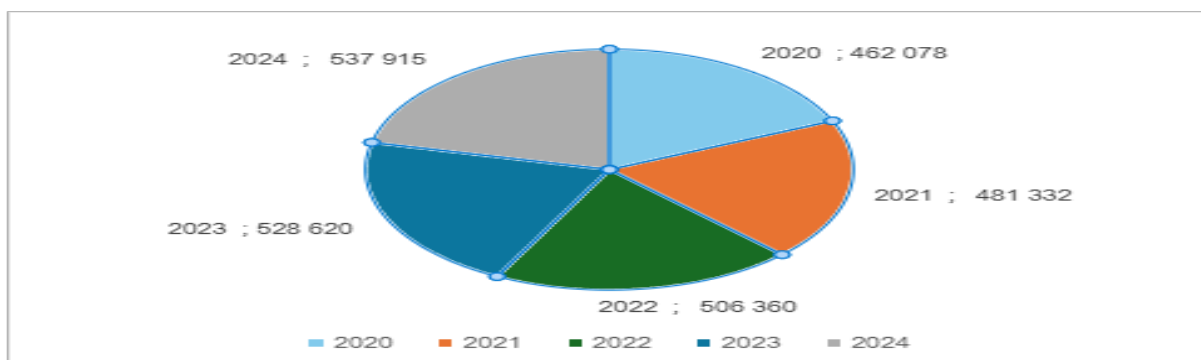
after the pandemic [4]. This allowed for the identification of key patterns and the proposal of directions for further sector development. The hypothetico-deductive method was applied to develop and test an economic hypothesis by comparing it with actual socio-economic indicators. The theoretical foundation of the study was built on the works of both Kazakhstani and international scholars specializing in the field of small and medium-sized business.

## **RESEARCH RESULTS**

The modern dynamic economic environment requires entrepreneurs and companies not only to adapt to changes but also to actively seek new market opportunities. Within the framework of this article, we conducted an assessment of the current state of small and medium-sized enterprises in selected market segments in order to identify potential prospects and directions for development. The purpose of the analysis is to determine the key characteristics and factors shaping the current position of small and medium-sized businesses in the chosen industries. We will examine the main trends, challenges, and opportunities faced by enterprises in these market segments.

The analysis of market opportunities involves an in-depth study of such aspects as economic indicators, competitive environment, consumer demand, innovation trends, and regulatory frameworks [5].

The analysis was carried out based on data from the website [stat.gov.kz](http://stat.gov.kz) on the registration and activities of enterprises, as well as materials provided by the portal. The results are presented in the following sections of the article, where the dynamics of entrepreneurship development in Kazakhstan are examined in detail. Particular attention in the study is given to aspects of sustainable development of small and medium-sized businesses, which allows for the assessment of not only quantitative but also qualitative changes in the entrepreneurial environment [6].



**Figure 1** – Number of Registered Enterprises from 2020 to 2024

Note: Compiled by the authors based on data from [2].

**Figure 1** shows the total number of registered entities from 2020 to 2024. It is evident that over five years, the number of enterprises increased from 462,078 in 2020 to 537,915 in 2024. This confirms the overall trend of growth in the number of registered entities. For more detailed information, we turn to the following table, which presents data for each type of enterprise across all years.

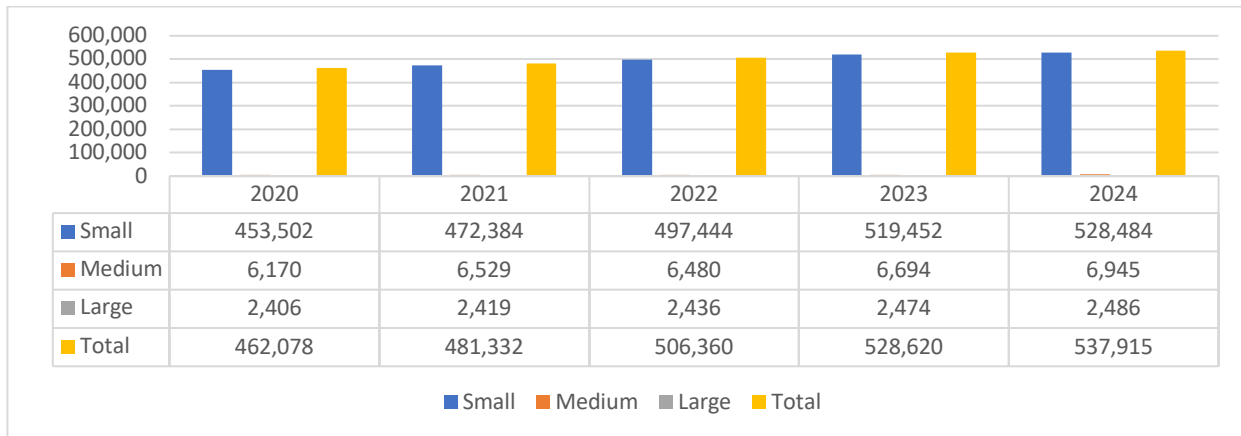
**Table 1** – Registered SMEs by size and activity for the period 2020-2024

Years	Small	Medium	Large	Total
2020	453 502	6 170	2 406	462 078
2021	472 384	6 529	2 419	481 332
2022	497 444	6 480	2 436	506 360
2023	519 452	6 694	2 474	528 620
2024	528 484	6 945	2 486	537 915

Note: compiled by the authors based on the source [2].

From 2020 to 2024, there has been a steady growth in the total number of registered entities. Small enterprises still make up the largest share, with their number increasing from 453,502 to 528,484. A slight growth is also observed among medium and large enterprises. This trend indicates a gradual increase in entrepreneurial activity in both sectors of Kazakhstan's economy. It is important to note that small businesses remain far more widespread than medium and large businesses. This suggests that small businesses continue to be the main driver of economic development in the country.

The diagram below clearly illustrates the dynamics of changes in the number of entities by category over the past five years.



**Figure 2** – Number of registered enterprises from 2020 to 2024

Note: compiled by the authors based on the source [2].

To take a closer look at the trends in the functioning of enterprises, next we will look at the data on the number of active entities over several years.

**Table 2** – Current SME entities by size and activity for the period 2020-2024

Years	Small	Medium	Large	Total
2020	317 751	5 942	2 358	326 051
2021	342 397	6 343	2 363	351 103
2022	383 622	6 329	2 396	392 347
2023	413 099	6 587	2 444	422 130
2024	414 723	6 832	2 452	424 007

Note: compiled by the authors based on the source [2].

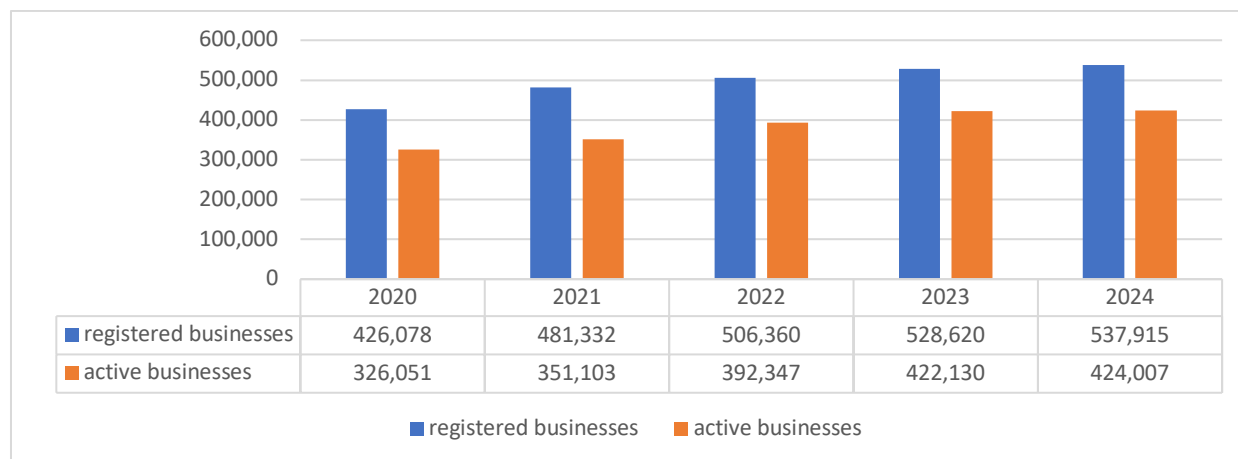
From 2020 to 2024, a steady trend of growth in the number of active enterprises across all categories is observed. This indicates an increase in entrepreneurial activity and business stability. The total number grew from 326,051 to 424,007 entities, which is an increase of over 97,000. As with the registered enterprises, small businesses consistently make up the largest share — in 2024, their number reached 414,723, which accounts for approximately 97.8% of all active entities. This is due to the fact that small businesses require less investment, offering greater flexibility and adaptability to market changes.

There is also moderate growth among medium and large enterprises: medium-sized enterprises increased from 5,942 to 6,832, and large enterprises grew from 2,358 to 2,452.

This indicates that not only is the number of registered enterprises rising, but business activity is also increasing — more entities are actively operating. To assess entrepreneurial activity



more fully, we will now compare the number of registered and active enterprises for each year. This will help understand what proportion of them are.



**Figure 3** – Dynamics of registered and operating enterprises from 2020 to 2024

Note: compiled by the authors based on the source [2].

An analysis of the comparison of registered and operating enterprises shows that, despite the increase in the number of registered entities, not all of them remain active. This may indicate the difficulties faced by entrepreneurs at the initial stages of their activities, such as lack of financing, limited access to markets, or administrative barriers.

For a more detailed understanding of the relationship between registered and active business entities in dynamics, we present the data in the table, which also includes the percentage of operating enterprises.

**Table 3** – Comparison of the number of registered and operating enterprises for 2020-2024

Years	Registered entities	Active businesses	share of active entities, %
2020	462 078	326 051	70,56%
2021	481 332	351 103	72,96%
2022	506 360	392 347	77,48%
2023	528 620	422 130	79,85%
2024	537 915	424 007	78,83%
Note: compiled by the authors based on the source [2].			

In 2020, of the 462,078 registered enterprises, only 70.56% (326,051) were active, while by 2024, this figure had increased to 78.83% (424,007) out of 537,915. This indicates that not all registered enterprises are able to continue operating. The reasons can be explained by several factors: small enterprises often face a lack of startup capital and difficulties in securing financing;

costs for rent, taxes, payroll, and accounting can exceed the capabilities of a new business; many entrepreneurs lack sufficient skills in management, marketing, or planning; and inflation, crises, reduced demand, and changes in legislation (such as tax burdens) also affect business stability.

Thus, the difference between registered and active entities, as presented in the table, is not incidental — it reflects the real challenges faced by entrepreneurs, particularly in the small business segment. Although small businesses are more accessible to start, requiring less initial capital and being simpler in structure and registration, they are also more vulnerable to closure due to limited resources and exposure to external factors. Therefore, the gap between registered and actually operating businesses predominantly affects small businesses.

To better understand entrepreneurial activity, it is important to examine how businesses are distributed by types of economic activity. This will help identify the most dynamic industries, determine areas that require government support, and understand which sectors offer the easiest opportunities for businesses to start and grow.

**Table 4** - Number of active entities by type of activity and size for 2024

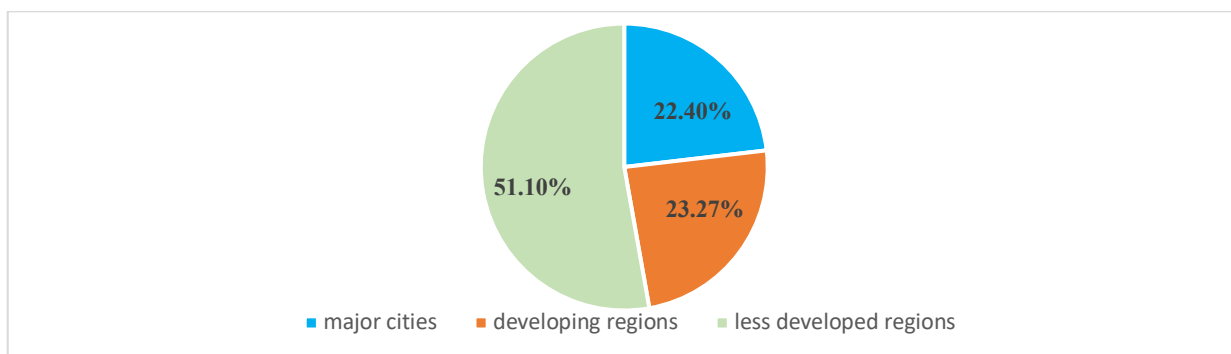
By type of activity	Quantity	By size		
		Small	Medium	Large
Agriculture, forestry, and fishing	18 120	17 802	275	43
Mining and quarrying	4 705	4 491	109	105
Manufacturing	21 579	20 798	534	247
Electricity, gas, steam, hot water, and air conditioning supply	1 625	1 467	66	92
Water supply; sewage, waste management, and remediation activities	2 159	2 055	69	35
Construction	53 251	52 794	340	117
Wholesale and retail trade; repair of motor vehicles and motorcycles	106 246	105 535	515	196
Transportation and storage	17 812	17 493	225	94
Accommodation and food service activities	8 502	8 390	85	27
Information and communication	15 487	15 349	90	48
Financial and insurance activities	5 608	5 495	57	56
Real estate activities	22 894	22 795	74	25
Professional, scientific, and technical activities	28 041	27 798	179	64
Administrative and support service activities	21 183	20 786	269	128
Public administration and defense; compulsory social security	9 417	8 699	427	291
Education	28 482	25 515	2 715	252
Human health and social work activities	10 515	9 483	479	553

By type of activity	Quantity	By size		
		Small	Medium	Large
Arts, entertainment, and recreation	6 577	6 282	245	50
Other service activities	41 803	41 695	79	29
Total	424 007	414 723	6 832	2 452
Note: compiled by the authors based on the source [2].				

The analysis shows that business most often develops in the trade sector (106,246 active enterprises), construction (53,251), professional and scientific activities (28,041), as well as education (28,482). These industries have the largest number of small enterprises, as it is easier to start a business here—there is no need for large investments, there is demand, and there are fewer barriers to entry.

In sectors such as mining and quarrying (4,705) and energy supply (1,625), on the contrary, there are more medium and large enterprises. This is due to the fact that these areas require significant investments and licenses to operate.

For a more accurate analysis, it is necessary to take into account regional differences in business development. It is important to note that business in the Republic of Kazakhstan develops asymmetrically across the territory. Differences in the level of economic development and entrepreneurial activity across regions require a separate analysis to identify the factors influencing this process.



**Figure 4** – Shares of enterprises by region in the Republic of Kazakhstan

Note: compiled by the authors based on the source [2].

Figure 4 shows that business activity is concentrated in the major cities of Kazakhstan, such as Almaty, Astana, and Shymkent, due to better infrastructure and economic conditions. Smaller regions have significantly lower shares of enterprises. The following Table 5 provides

detailed data on the number of enterprises by region and their share in the total number across Kazakhstan.

**Table 5** – Number of operating enterprises by region in 2024

Regions	Quantities	Relative share (%)
Abai	6 978	1,6%
Akmola	12 347	2,9%
Aktobe	15 426	3,6%
Almaty (region)	17 461	4,1%
Atyrau	11 372	2,6%
West Kazakhstan	10 157	2,3%
Zhambyl	12 443	3%
Zhetysu	6 750	1,6%
Karaganda	22 825	5,3%
Kostanay	12 725	3%
Kyzylorda	10 198	2,4%
Mangystau	14 484	3,4%
Pavlodar	14 349	3,4%
North Kazakhstan	9 229	2,1%
Turkistan	17 166	4,03%
Ulytau	2 591	0,6%
East Kazakhstan	11 831	2,78%
Astana (city)	79 481	18,6%
Almaty (city)	114 832	27%
Shymkent (city)	23 451	5,5%
Republic of Kazakhstan	426 096	100%
Note: compiled by the authors based on the source [2].		

The largest share of businesses is concentrated in the cities of Almaty (27%) and Astana (18.6%), due to more developed infrastructure, greater investment opportunities, and larger markets. In regions with lower levels of economic development, such as Ulytau (0.6%) and Zhetysu (1.6%), the share of businesses is significantly lower. These figures confirm that business development in Kazakhstan is uneven, with a strong concentration in major metropolitan areas and economically advanced regions.

After analyzing regional differences in business distribution, it is important to examine the age structure of entrepreneurship. This will help to understand the development stages of companies in various regions. The following table presents data on the age of business entities as of April 1, 2024.

**Table 6** - Age of business entities in the Republic of Kazakhstan as of April 1, 2024, units

Region	Size	Total	Age, years							
			up to 1	1	5	10	11-15	16-20	21-25	over 25
Republic of Kazakhstan	Small	415 188	42 081	49 611	24 810	14 172	48 243	38 604	23 056	13 362
	Medium	6 587	126	180	178	156	810	927	1 843	1 403
Note: compiled by the authors based on the source [2].										

Thus, based on the table, we can conclude that the number of business entities in the Republic of Kazakhstan decreases with the length of their existence. The longer a business operates, the fewer such businesses remain.

This decline over time can be explained by several factors. First, in the early stages of entrepreneurship, companies face high risks associated with market instability, competition, and insufficient financial sustainability. Many small businesses are unable to adapt to changes in the external economic environment, which leads to their closure or suspension of activities.

Second, over time, businesses face increasing operational costs, difficulties in complying with tax and legal regulations, and management challenges, all of which contribute to a reduction in the number of active enterprises. This is especially relevant for small and medium-sized businesses, which often lack the resources for sustainable operation and long-term development [8].

In addition, the high share of small and micro-enterprises in the business structure faces limitations in access to financing, a shortage of qualified personnel, and low innovation activity, which makes them less competitive. As a result, many companies fail to withstand market competition and exit the market [9].

Third, at more mature stages of a business's life cycle, some enterprises may merge with larger companies or be acquired by stronger competitors, which also contributes to the reduction in the total number of business entities. Others may simply exit the market due to deteriorating financial performance or an inability to meet changing market conditions.

Therefore, the decline in the number of business entities in Kazakhstan over time is explained by a range of factors, such as economic challenges, competition, legal barriers, and a lack of resources for continued growth. This highlights the need to develop strategies aimed at ensuring the sustainable development of small and medium-sized businesses, including support measures, adaptation to changing conditions, and strengthening their competitive advantages.

## DISCUSSION & CONCLUSION

In this article, we examined the current state of small and medium-sized enterprises (SMEs) in Kazakhstan for the period from 2020 to 2024. The conducted analysis showed that the SME sector continues to grow, with an increasing number of registered and active enterprises, particularly in the fields of trade, construction, education, and scientific activities.

However, despite this growth, serious challenges remain for entrepreneurs, including a lack of funding, administrative barriers, low levels of preparation among aspiring business owners, and uneven regional development. Small enterprises are particularly vulnerable, as they are the ones most likely to cease operations in the early stages.

We concluded that for the continued sustainable development of SMEs, it is essential to strengthen government support measures, making them more targeted and accessible. It is also important to create conditions for entrepreneurial activity not only in major cities but also in regions where potential remains underutilized.

Thus, small and medium-sized businesses continue to play a key role in Kazakhstan's economy, and their development should remain a priority of state policy, especially in the context of an unstable economic environment. To ensure the sustainable development of small and medium-sized businesses in Kazakhstan, it is necessary not only to expand government support but also to create a favorable entrepreneurial environment at all levels of the economy [10].

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## Session 3

# Sustainable Humanity

### Committee:

- 1) Dr. Anisara Sungchuai

### Moderator:

- 1) Lect. Patitta Gosalvitra
- 2) Lect. Thianthip Diawkee



# **The Power of Language in Swaying Consumer Behavior**

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## **ABSTRACT**

This research paper focuses on the lingua-pragmatic methods used by marketers to influence consumer choices. The goal of this article is to identify the most pervasively used linguistic tools employed in the sphere of business, specifically marketing, to encourage consumers to make purchases driven not by rationality but by impulsivity. Nowadays, many people do not even realize the influence they are subject to when they watch a seemingly harmless commercial on TV or an online ad. There is a growing need to raise public awareness of how advertisements affect consumer decisions, especially when individuals remain unaware of the lingua-pragmatic strategies being used to influence them.

The research was conducted using content analysis and case study methods. Commercials produced by Nike were analyzed to determine the linguistic techniques used by the company to sway consumers into buying their products. Ultimately, this article aims to contribute to a deeper understanding of how large global companies like Nike use language not only to persuade consumers to make a purchase but also to foster long-term brand loyalty.

**Keywords:** Consumer choice, Lingua-pragmatic means, Persuasion

## **INTRODUCTION**

There is a common misconception that the sphere of business is a one-dimensional field solely focused on the financial side of things. This may be interpreted as truth, but only to an extent. The domain of business has a cross-functional element to it, so much so that it would be

practically impossible to run a successful enterprise without ensuring that all aspects of this endeavor are addressed effectively.

It goes without saying that the main purpose of any business is to make a profit; however, the way this financial aim is achieved, as well as the means and tools used, may vary drastically. Marketing is one of the primary paths to financial gains. This research focuses on the role of marketing in driving sales and increasing revenue through various strategies designed to influence consumer choices, establish brand loyalty, and create emotional connections with products.

One of the many ways this effect can be achieved is not only through tools directly related to business but also by using language techniques involving cognitive manipulation and psychological priming. The relevance of this research lies in the fact that, now more than ever, people are affected by marketing tricks without realizing it. The reason for this is the highly digitalized world we live in today. Every year, new ways emerge to further integrate people into the globalized community, along with its popularized products—often imposed on consumers under the false pretense that they are essential. The disturbing reality is that these methods of perceptual influence become more subtle as the promoted products become less useful. Consequently, employing language as an instrument of persuasion makes it much easier to disguise certain techniques of mental framing. Only one party in this marketing equation is aware of it—those who work on creating advertisements that contain implicit means of influence.

Understanding these linguistic techniques of manipulation is essential for marketing managers. However, consumers who are affected by these covert rhetorical strategies generally fail to notice them—not due to a lack of necessity or desire to be informed. Some consumers, while being impacted by marketers' subtle techniques, do not mind falling for their tricks. They simply could not care less and feel overly comfortable being influenced by the predatory tactics of marketing professionals. That being said, there are also many individuals who remain oblivious to the deceptive ways marketers operate. They are unaware that their consumer choices are being compromised, meaning that their final purchasing decisions are imposed on them rather than made by them. Perhaps, had they known about these tactics beforehand, they would have opted for a different product—or made no purchase at all, as the item in question might turn out to be completely unnecessary.

Thus, the primary argument for this research is the necessity for ordinary consumers to recognize the psychological and linguistic tricks used in marketing. There is no doubt that this awareness would benefit consumers in several ways.

First and foremost, it is a matter of finance. Big corporations are willing to spend millions on marketing just to turn their customers' expenses into their revenue. People risk losing significant amounts of money regularly if they remain oblivious to manipulation in marketing.

Secondly, simply not being able to make one's own decisions—being unwittingly persuaded to waste hard-earned money on sometimes useless but well-advertised products—is unfair, to say the least.

The third reason why consumers are better off knowing whether their free will is being compromised is rather simple but still significant to many. In our day and age of minimalism and underconsumption, buying unnecessary things that clutter not only one's living space but also one's mind can be a valid concern. While people try their best to eliminate redundant possessions, marketers work just as hard to push them into impulsive spending.

Overall, it makes sense that both large and small companies put in significant effort to advertise their products and raise awareness about their brands through psychological priming. However, they do so at the expense of their consumers' autonomy. Thus, it is imperative to break down the most common advertising tactics that rely on linguistic influence, as these strategies are widespread yet often covert and difficult to detect.

## **LITERATURE REVIEW**

After conducting research and shedding light on the topic of marketing tricks— especially the backbone of these which are persuasive linguistic techniques— it becomes evident that consumers do not always benefit when marketers use them. Cristina-Maria in her article called “Advertising And Language Manipulation” highlights the overall picture of our topic of research by stating that “Much of what happens in our minds as a result of language use is still hidden from our conscious awareness”. Advertisers know this phenomenon better. They use the manipulation of language to suggest something about their products without directly claiming it to be true. Although the advertisers use colours, symbols, and imagery in advertisements, “the most direct way to study ads is through an analysis of the language employed” as all the other aspects are meant to reinforce the language message” (Prelipceanu, 2018).

The effectiveness of persuasion through emotive and manipulative rhetoric is still present since the ancient days when this effect was widely spreaded by Aristotle. According to Aristotle, "rhetoric observes the available means of persuasive argumentation based on three main principles: logos pertaining to rational appeal; pathos, or emotional argumentation, used to involve the audience; and ethos, or moral argumentation, presenting the speaker as a trustworthy person". (Aristotle, ca. 4th century BCE/2007). Irina D. Romanova and Irina V. Smirnova in their article "Persuasive techniques in advertising" point out that while it might seem easy to separate the three Aristotelian principles; however, most of the time, when used for persuasive purposes, they tend to overlap (Romanova & Smirnova, 2021).

But after progression of time and means of marketing, it has become obvious to some of us that foxy marketers do not see Aristotle's ethical persuasion methods as a single option but they rather tend to lean on manipulative persuasion when their interests are far beyond greater than those of the consumer's, which basically renders consumers with no choice after all.

As we know, when something unwanted or unpleasant needs to be tackled or prevented, it should be identified. The same goes for identifying what manipulation is for the sake of not becoming the victim of it. Consumers ignore the role of unconscious perception of subliminal knowledge that manipulates, directs and controls the human behavior. The advertisers are aware of this and they use it to their advantage. They manipulate the consumer's decision by using techniques that interfere with subliminal knowledge and alter it toward the advertiser's objective. Victor Danciu defines manipulation as "the use of any persuasive methods to influence the consumer's thought process may be called manipulation which is the time when the advertiser has the intention to win and the consumer to lose". (Danciu, 2014). This sort of action is also facilitated by the strong belief of many consumers that they are immune to advertising and they are prepared not to be fooled into buying the products from the ads.

The ultimate goal of all types of advertising is to persuade the consumer to purchase a product or service. Manipulative advertising intends to do that by using facts, arguments and playing with consumers emotions in a misleading and deceptive manner. The most common techniques used in manipulation through advertising are the exaggeration of the quality of product, fallacious arguments and emotional appeals. The most important and effective linguistic manipulation is that of subliminal advertising which aims at the subliminal seduction of the

consumer. The basic concept of subliminal seduction in advertising makes it pos for consumers to receive information on an emotional level without even being aware of it.

## **RESEARCH METHODOLOGY**

This section of the research outlines the primary methods used to analyze how certain forms of cognitive manipulation are employed to sway consumer behavior. First and foremost, it is imperative for this study to employ content analysis, as it is one of the most suitable methods for examining discursive information.

Another method used in this research is the case study approach. It focuses on choosing one company and breaking down what persuasive language techniques it uses. This provides a realistic and well-rounded example of how linguistic choices in marketing affect consumers' decisions.

The combination of these two methods allows for a comprehensive analysis of the influence marketing language tools can have on consumer choices. Content analysis helps identify general patterns of lingua-pragmatic means in advertisements, while a specific case study provides an opportunity to examine how these linguistic techniques are implemented in real-life scenarios. Meanwhile, the case study illustrates the effect that the blend of the identified lingua-pragmatic means used by one company for marketing purposes has on its target audience.

While both methods provide necessary insight into how language techniques are used in marketing, it is important to note that data interpretation can be subjective. Additionally, examining the marketing practices of only one company limits the research, as we only have a small sample size rather than a broad view of industry trends.

As an example, this paper analyzes the world-renowned sports company Nike. In most of its commercials, Nike portrays famous athletes who have achieved great heights, while not even focusing on the product being promoted. Instead, they use storytelling, describing the path each athlete has taken to get where they are.

The text for Nike commercials is also structured similarly. The first noticeable feature is repetition. Many Nike commercials include a catchphrase specific to the video that is repeated several times. There are instances where the whole video verbally consists of only that one phrase. In addition, those phrases are not random—they carry strong emotional underpinning. It is also common for Nike to repeat not only certain words but also sentence structures.

Another linguistic tool Nike employs is rhetorical questions. These are effective for persuasion, as viewers may perceive the question as being directed at them and feel compelled to respond. This process is meant to lead consumers to affiliate themselves with the brand by making a purchase.

## RESEARCH RESULTS

The first online commercial we analyzed was a Nike advertisement featuring world-renowned NBA player Ja Morant of the Memphis Grizzlies. The commercial opens with Ja saying lines like, “When I’m hit, I always get up,” and “When no one is watching, I get up.” It is clear that Nike employs the linguistic technique of repetition—the phrase “I get up” is repeated six times throughout the ad, carrying an emotional and implicit appeal designed to elevate the viewer’s motivation and, potentially, even dopamine levels. Another key persuasive element in the commercial is the way the phrase “I get up” is consistently paired with visuals of the Nike logo.

This strategy creates a subliminal emotional bond between the viewer’s unconscious mind and Nike products (Nike, 2024).

In a Jordan Brand commercial for Air Jordan shoes, we observed that the language used is bold, targeted, and powerful. At the beginning of the commercial, they use a striking sentence: “In 1984, Nike created the revolutionary Air Jordan 1. But one month later, they were BANNED from the game.” The commercial then ends with a short, logically connected, and impactful line: “You can’t BAN the greatness” (Nike, 2025).

Another commercial that, in our opinion, effectively uses persuasive rhetoric features the incredible and highly athletic NBA player Ja Morant once again. The central rhetorical device in this ad is the phrase “Says who?”—used as a direct response to critics who doubt or dislike aspects of Ja Morant’s game. The phrase is repeated seven times throughout the commercial, making it hard to ignore and subconsciously encouraging viewers to respond with a sense of empowerment—essentially saying to themselves, “Yes, I CAN.” The ad closes with Ja’s explosive highlights and a final, impactful “Says who?”—a line that ignites the viewer’s inner desire to prove doubters wrong. Nike skillfully uses this type of rhetorical strategy to influence and persuade us, creating an emotional connection that makes choosing Nike products feel like a personal and empowering decision (Nike, 2021).



The next commercial begins with a shot of Michael Jordan's iconic statue. From there, it takes us through key moments of his basketball journey—from the backyard of his childhood home to the Chicago Bulls Hall of Fame. As the visuals unfold, we hear Michael Jordan's voice saying "Maybe"—as in, "Maybe people think my success came overnight" or "Maybe people are making excuses." While showing images of basketball gyms, target boards, and jerseys from MJ's college basketball days, the commercial uses this rhetorical approach to deliver a strong message: that success demands sacrifice, and too often, people hide behind excuses. One of the most effective rhetorical strategies used here is repetition. The word "maybe" is repeated 9 times throughout the ad, and it unconsciously plants a thought in the viewer's mind—"Maybe I've been making excuses, but it's time to change." This repetition not only inspires a shift in mindset but also subtly encourages viewers to associate their own pursuit of greatness with the Jordan Brand. The commercial ends with the powerful phrase "Become Legendary," embedding a deep emotional desire to be connected to the legacy of Michael Jordan—and one way to do that, of course, is by purchasing Jordan Brand products (Nike, 2008).

## **DISCUSSION & CONCLUSION**

After meticulously breaking down several online commercials that effectively incorporate all the persuasive methods mentioned above—especially those targeting our subliminal emotional consciousness—we noticed a consistent use of short, simple, and even cliché phrases that nonetheless prove to be highly effective. These phrases, when combined with striking visuals, symbolic imagery, vibrant colors, and immersive shooting styles, leave a lasting positive impression on the viewer.

The excessive use of lingua-pragmatic means in Nike's commercials is not accidental. Each one of them serves a specific purpose that general audience is not aware of. For instance, repetition is quite predominant throughout many of Nike's advertisements. The reason for that is that reiterated words are more likely to be solidified in the viewers' minds and, hopefully, will prompt them to make a purchase from this company. Additionally, those words tend to be emotionally charged. Nike does not just use any vocabulary or phrases, they opt for those that evoke emotions and eventually become associated with this brand. Incidentally, researchers from New York University "found evidence that reacting to something emotionally — like watching a sad scene in a film — may also improve how well you remember something you've seen..." (Dodgson, 2017)

Another salient thread that runs through many Nike commercials is what constitutes their centerpiece. Interestingly enough, it is not the product that is emphasized, but the individual representing it. Nike does not shy away from involving famous athletes into their commercials. They do not really focus on the product being promoted, but rather on the success story of the person who is promoting it. Thus, it makes sense for Nike to emphasize words that help the target audience resonate with the brand through the story of their spokesperson, rather than the plain—albeit superior—characteristics of their product.

Rhetorical questions are another way Nike can plant the seed of making a purchase from them into the consumers' minds. Clearly, marketers of the company do not directly ask their viewers if they want to buy from them in their commercials. They ask questions like if they want to be successful or give up, in which case the former would imply wearing Nike, while the latter suggests having no association with Nike whatsoever. All of these inferences are, of course, implicit, as they should be, since their consumers are not supposed to realize that they are being influenced through a simple commercial.

While analyzing the Nike commercials, a few things stood out. In the commercial about Ja Morant, Nike employs a powerful and authentic storytelling technique, presenting the story of a well-known underdog—a narrative that resonates with millions of viewers, regardless of age or cultural background. The message in the commercial can be considered truly universal. As we follow Ja Morant's cinematic journey, enriched with brief but soul-stirring rhetoric, we are subtly and emotionally nudged toward choosing Nike—believing that wearing their products connects us to something greater: the unique and inspiring Nike family. Nike leverages Ja Morant's influential popularity to appeal not only to basketball fans but also to those who may not follow the sport closely but have at least heard of him. His presence adds credibility, relatability, and a powerful emotional pull.

Nike and Jordan Brand online commercials selected by us share homogeneous rhetorical maneuvers that can be described as emotional, articulate, precise, repetitive, and persuasive. The Jordan Brand commercial for Air Jordan shoes shows that by applying a certain sentence structure—combined with humorous rhetoric and the repeated use of the phrase “Air Jordan”—the marketers aim to deliver a strong message: that this brand has faced serious challenges, but has overcome them. This, in turn, subtly implies that wearing Air Jordan shoes empowers the wearer to rise above obstacles, sparking a compelling desire in viewers to own the shoes themselves.

After analyzing the Nike commercial titled “Winning isn't for everyone; Am I a bad person”, we can say that throughout the commercial Nike’s witty marketers effectively use a negative style of rhetoric with a clever aim—to create an opposite and controversial effect on viewers. For example, by boldly stating in the title that “Winning isn't for everyone,” Nike’s brilliant marketers subtly evoke a powerful subliminal message: that winning is for those who belong to the Nike brand (Nike, 2024).

After conducting content analysis based on these selected Nike and Jordan Brand commercials presented above, we can conclude that these advertisements are brilliantly constructed using a combination of key elements: endorsements from popular athletes, exceptional cinematic videography, carefully chosen music, and—most importantly—the rhetorical manipulation strategies upon which all of these elements are built.

These rhetorical strategies often bypass our conscious awareness, but strongly impact our unconscious mind. By integrating these techniques, Nike and Jordan Brand marketers effectively execute subliminal marketing tactics that successfully attract not only sports enthusiasts but also individuals outside the sports world.

Their use of rhetoric is masterful: while we are captivated by celebrity appearances, cinematic visuals, emotionally charged music, and motivational, repetitive messaging we are subtly and unconsciously guided toward choosing Nike and Jordan. As a result, we begin to form a deep emotional bond with their products—one that feels personal, empowering, and lasting.

## **HUMAN RESEARCH ETHICS APPROVAL**

This research does not require human research ethics approval.

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# **Undergraduate Business Presentations: Enhancing Skills Through Case Study Approach**

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## **ABSTRACT**

Presentation skills are not merely an adjunct to business education but a cornerstone for success in the contemporary business world. The ability to articulate ideas, convey intricate information with clarity and engagement, and persuade stakeholders are fundamental competencies for business graduates (Vuković et al., 2022). These skills necessitate a robust combination of analytical, synthesizing, and communication capabilities, forming the bedrock of effective professional interaction (Hadjikoteva, 2017). In an increasingly competitive job market, proficiency in presentation is often a key differentiator, with employers actively seeking candidates who can confidently and effectively communicate their insights and recommendations (Pitch Avatar, 2022). More importantly, in preparing undergraduate students for their target career, business presentation plays a vital role for them in their work place. Recent studies, thus, underscore the enduring and growing importance of the business presentation skills, highlighting their relevance across diverse business roles and scenarios (Vuković et al., 2022).

For this study, case study learning stands out as a particularly effective pedagogical method for nurturing these vital presentation skills (Brown, 2018; Davis, 2019). By immersing students in real-world business dilemmas, case studies provide a practical platform for them to hone their abilities to analyze complex situations, identify critical issues, evaluate diverse options, and propose well-reasoned problem-solving strategies. This article, thus, delves into the significant advantages of employing case studies as a means to foster business presentation skills among undergraduate students, while also addressing the inherent obstacles and challenges that educators must navigate to ensure effective implementation. Furthermore, it presents comprehensive guidelines and actionable recommendations for seamlessly integrating case studies into teaching practices, aiming to equip educators with the tools necessary to cultivate highly competent and confident business presenters (Chen, 2022).

**Keywords:** Business presentation skills, Case study learning, Communication skills, Problem-solving strategies, Undergraduate education

## INTRODUCTION

Presentation abilities are not simply supplementary to business education but are fundamental to success in the modern business environment. Effective articulation of ideas, clear and engaging communication of complex information, and the capacity to persuade stakeholders are essential skills for business graduates (Vuković et al., 2022). These talents require a strong amalgamation of analytical, synthesizing, and communicative abilities, constituting the foundation of efficient professional engagement (Hadjikoteva, 2017). In a highly competitive employment market, presenting skills are frequently a crucial distinction, as employers want applicants who can articulate their thoughts and recommendations with confidence and effectiveness (Pitch Avatar, 2022). Significantly, business presentations are crucial in equipping undergraduate students for their prospective careers in the workplace. Recent studies emphasize the persistent and increasing significance of corporate presenting abilities, underscoring its applicability across various company positions and contexts (Vuković et al., 2022).

This study identifies case study learning as an exceptionally effective educational approach for developing essential presentation abilities (Brown, 2018; Davis, 2019). Case studies immerse students in authentic business difficulties, offering a practical platform to refine their skills in analyzing complicated circumstances, identifying significant issues, evaluating various possibilities, and proposing well-reasoned solutions. This paper examines the substantial benefits of utilizing case studies to enhance business presenting abilities in undergraduate students, while also addressing the inherent difficulties and problems educators face to ensure its implementation. Additionally, it offers detailed guidelines and practical recommendations for effectively incorporating case studies into teaching methodologies, with the objective of providing educators with the resources required to develop proficient and self-assured business presenters (Chen, 2022).

### The Imperative of Presentation Skills in Today's Business Landscape

The significance of presentation skills for business graduates cannot be overstated. These skills are not merely desirable; they are essential for navigating the multifaceted demands of a professional career in business (Jones, 2019). A 2022 study published in the *Journal of Economics*,

Management and Informatics confirms that presentation skills are more critical than ever for individuals pursuing a business career. Whether it involves briefing supervisors on crucial research findings, clearly articulating thought processes within a team setting, guiding clients through intricate project proposals and timelines, or effectively showcasing strengths and achievements during performance evaluations, the ability to present information persuasively and concisely is paramount.<sup>1</sup> Effective presentation skills empower business graduates to convey their ideas with greater impact, convince or persuade colleagues and stakeholders, and ultimately achieve enhanced success in their professional endeavors (Vuković et al., 2022). The development of these skills further enriches written and verbal communication abilities, bolsters self-confidence, enhances critical thinking capacities, improves motivational techniques, cultivates leadership qualities, and expands capabilities in time management and negotiation. Furthermore, business presentations in English pose a significant challenge, particularly for students who are non-native speakers of the language. One main challenge is the complexity of the task itself, which requires proficiency across multiple dimensions of communication of both linguistic accuracy and ability to structure a coherent and compelling narrative and enhance the message with visually appealing aids (Aksoy-Pekacar et al., 2020).

In workplace communication, employer expectations consistently highlight communication skills, encompassing presentation abilities, as a top priority for recent business graduates (Smith, 2020). However, the survey also reveals a significant disparity, with employers rating graduates' proficiency in communication considerably lower than its importance, thereby indicating a persistent skills gap (Chan, 2024). This gap highlights the pressing need for business education to place a strong emphasis on developing presentation skills to better align with the expectations of the professional world (Chan, 2024).

Collins (2004) discussed the significance of intentional communication, which included the supportive function of visual aids alongside the spoken portions of a presentation. Alongside the supportive function of visual aids, delivery skills represent an important element to the success of a successful presentation (Collins, 2004). Recent research further reveals a broader communication skills gap among recent graduates, extending beyond presentation abilities to encompass various facets of professional interaction (Chan, 2024). For non-native students in particular, additional challenges often include a lack of opportunity to use English in everyday life,

a lack of learning motivation, and the pervasiveness of curricular and pedagogical principles which concentrate on teacher-led classroom instruction at the expense of interaction and communication (Ulla, 2018). This broader context underscores that presentation skills are a vital component of a comprehensive communication skillset, making their cultivation essential for bridging the employability gap and ensuring graduates are well-prepared for the professional challenges they will encounter (Chan, 2024).

Effective presentations rely on a synergy of both verbal and non-verbal communication skills. This includes clarity in spoken language, a confident and engaging physical presence conveyed through body language, proper voice projection to ensure audibility, and the art of storytelling to captivate and connect with the audience (Coursera, 2025). These combined elements contribute significantly to a presenter's ability to not only transmit information but also to resonate with and influence their audience, ultimately determining the success and impact of their message (Vuković et al., 2022).

### **Deep Dive into the Benefits of Case Study Learning for Presentation Skills Development**

Case study learning offers a multitude of benefits that directly contribute to the development of robust business presentation skills among undergraduate students. These advantages span the cultivation of critical analytical abilities to the refinement of communication proficiencies, the fostering of essential teamwork dynamics, and the practical application of theoretical knowledge to real-world scenarios (Kim, 2020). At universities level, an English academic presentation course is often a required part of case study learning mode. When designing such instructional methods, it is important to integrate content knowledge and skills targeting four main elements of a successful presentation: story messages, verbal messages, visual messages, and physical messages (Powell, 2010).

### **Enhancing Analytical Skills**

The analysis of business case studies is a powerful catalyst for enhancing students' analytical skills. Case studies present intricate business scenarios that necessitate a thorough dissection of available information, the identification of core issues, the meticulous evaluation of pertinent data, and the subsequent development of logical and well-supported solutions. This process directly mirrors the analytical demands inherent in developing a compelling business



presentation, where complex information must be synthesized, structured logically, and presented with clarity. By engaging with case studies, students learn to discern the central message and identify the crucial supporting evidence required to construct a persuasive and impactful presentation (Dhamija, 2028). When designing this analytical skill in presentation course, instructors should create favorable learning environments through appropriate teaching methods. In particular, instructors are encouraged to motivate learners, ensuring they find English language classes interesting (Bernaus et al., 2009).

### **Improving Communication Skills**

The process of preparing and delivering presentations based on case study analyses offers students invaluable practical experience in communicating complex information in a clear, concise, and compelling manner (Coursera, 2025). These presentations provide a platform for students to develop poise and confidence in public speaking, refine both their verbal and non-verbal communication techniques, and learn effective strategies for engaging their audience (Coursera, 2025). Structuring a case study presentation effectively involves a logical flow, encompassing a clear introduction, comprehensive background information, a well-defined problem statement, a description of the analytical methodology, a presentation of key findings, a proposed solution or action plan, an analysis of potential results and outcomes, a reflection on lessons learned, and a concise conclusion (Bothra, n.d.). The act of organizing and delivering this structured narrative directly enhances students' oral communication abilities, providing them with crucial practice in articulating their analysis, supporting their arguments, and responding thoughtfully to questions from their peers and instructors (Khabirova, 2025).

In specialized fields like English for Specific Purposes (ESP), case studies play a particularly significant role in enhancing communication skills by immersing students in authentic, real-life scenarios that necessitate the practical application of language within a specific professional context (Khabirova, 2025). Through the analysis and presentation of these scenarios, students develop crucial professional communication skills, master the technical vocabulary relevant to their chosen fields, and significantly improve their overall oral presentation abilities (Khabirova, 2025). This highlights the adaptability and effectiveness of case studies in fostering communication skills across a diverse range of academic disciplines and professional domains,

preparing students to communicate effectively in the specific contexts they will encounter in their future careers (Khabirova, 2025).

### **Fostering Teamwork Skills**

Collaborative case study analyses provide an excellent avenue for students to cultivate essential teamwork skills, including effective idea sharing, mutual learning, and the ability to reach collective decisions (Cote, 2023). Collaborative learning, particularly through case studies, fosters meaningful student interaction, facilitates the co-creation of knowledge, and promotes cooperative problem-solving (UNT, n.d.). Engaging in group discussions centered around case studies encourages students to share their diverse perspectives, learn from one another's insights, and work together to develop a comprehensive understanding of the issues at hand (Dhamija, 2028). Team-based case study presentations further necessitate effective collaboration, mirroring the teamwork demands that are prevalent in the professional business environment (Wilson, 2016). Students learn to effectively divide responsibilities among team members, synthesize a variety of perspectives into a cohesive analysis, and present their findings as a unified group, developing critical skills in coordination and shared accountability (Lau et al., 2013).

Furthermore, group work on case studies helps students develop a range of skills crucial for effective collaboration, such as the ability to break down complex tasks into manageable components, plan and manage their time effectively as a team, refine their understanding of concepts through discussion and explanation, and provide and receive constructive feedback from their peers (Carnegie Mellon University, n.d.). Collaborative projects, including case study analyses, have consistently proven to be a highly motivating and effective learning strategy, significantly enhancing students' teamwork and communication skills within a group setting (Bass Connections, 2025). These skills are directly transferable to the collaborative nature of many business presentations, where individuals must work together seamlessly to deliver a coherent and impactful message.

### **Applying Theoretical Knowledge**

Case studies serve as a crucial bridge connecting abstract business theory with the practical realities of the business world. They offer students a valuable opportunity to apply the theoretical

concepts and frameworks learned in the classroom to the analysis and resolution of real-world business challenges (Dhamija, 2028). By engaging with case studies, students move beyond the passive reception of knowledge to actively apply theoretical principles in the context of specific organizational dilemmas and strategic decision-making (Dhamija, 2028). These narrative exercises, rooted in actual business situations, help students grasp complex business concepts and theories by providing tangible, real-world examples of their application (TWC Publishing, 2023). The case method, as a primary teaching approach in many business schools, is specifically designed to connect theory with practice through the in-depth analysis of real-world scenarios (IESE Business School, n.d.).

Moreover, participation in case competitions, which often stem from the case study approach, further stimulates the application of theoretical knowledge by requiring students to engage in near-direct learning experiences that closely mirror real-world business challenges (Williams et al., 2010). This active application of learned concepts not only reinforces students' understanding of business principles but also prepares them for the practical demands of their future careers by fostering critical thinking and problem-solving skills within a realistic context (Williams et al., 2010). By seeing how theoretical frameworks play out in actual organizational settings, students develop a deeper appreciation for their relevance and gain the confidence to apply them effectively in their own professional endeavors (Universal CPA Review, n.d.).

### **Addressing the Challenges of Integrating Case Studies**

While the benefits of using case studies in undergraduate business education are substantial, educators must also be cognizant of the inherent challenges associated with their effective integration into the curriculum (Nguyen, 2021). These challenges primarily revolve around the careful selection of appropriate case studies and the effective management of the significant time demands placed on both students and instructors.<sup>1</sup>

### **Selecting Appropriate Case Studies**

Choosing case studies that are well-suited to the specific learning objectives of a course, align with students' current knowledge levels and interests, and are engaging enough to stimulate meaningful analysis and discussion can be a complex task (Mendonca, 2023). The selection process is a critical aspect of case study research and teaching, as the chosen cases can significantly

influence the quality of the learning experience and the extent to which course objectives are met (Fletcher & Plakoyiannaki, 2008). Educators need a robust framework to guide their selection process, ensuring that the chosen cases are not only academically sound but also practically relevant and accessible to undergraduate students (Seawright & Gerring, 2008). Cases that are overly complex, too abstract, or disconnected from students' experiences may lead to disengagement and hinder the development of the intended skills (Mendonca, 2023).

Effective case study selection involves considering several key criteria. Cases should clearly illustrate the application of core course concepts in a real-world context and provide sufficient contextual information to allow students to explore multiple perspectives on the issues at hand (Harvard University, n.d.). Furthermore, educators should strive to select cases that present realistic constraints, challenges, and potential outcomes, encouraging students to critically analyze the situation, propose viable solutions, and justify their decisions based on the available evidence (Harvard University, n.d.). The focus of the case should align with the strategic dimensions of the business arena, enabling students to identify, analyze, diagnose, and ultimately resolve the major issues presented (Harper et al., 2016). By carefully considering these factors, educators can select case studies that effectively stimulate critical thinking, encourage diverse viewpoints, and provide a valuable platform for students to apply their theoretical knowledge in a practical setting (Harvard University, n.d.).

### **Managing Time Demands**

Analyzing case studies and preparing comprehensive presentations demand a significant investment of time and effort from undergraduate students. Encouraging students to have effective skills for time managing and to work backward from deadlines can also be beneficial in managing the time commitment associated with case study-based assignments (IRIS Center, 2018). Instructors, too, face considerable time demands when integrating case studies into their teaching. These demands include the time required for selecting appropriate cases, developing supplementary materials or discussion questions, facilitating in-class discussions, and providing meaningful feedback on student presentations (Shi et al., 2006). To manage their workload effectively, instructors can prioritize the most impactful learning activities, delegate smaller administrative tasks where appropriate, and adapt existing course materials to incorporate case studies efficiently (ViewSonic, 2021). In online learning environments, writing concisely and

organizing course information in a clear and easy-to-follow manner can also help to minimize student confusion and reduce the time instructors spend on clarifications (Shi et al., 2006). By implementing effective course design and time management strategies, both students and instructors can navigate the time demands of case study learning more successfully, ensuring that the focus remains on achieving meaningful learning outcomes (Shi et al., 2006).

### **Strategies and Best Practices for Effective Case Study Integration**

To maximize the pedagogical benefits of case study learning in developing undergraduate business presentation skills, educators should adopt a range of strategies and best practices that address the challenges and leverage the inherent strengths of this method. These practices include employing diverse case studies, strategically leveraging technology, and ensuring effective evaluation and feedback mechanisms are in place.

#### **Employing Diverse Case Studies Across Industries and Business Disciplines**

The selection of case studies should encompass a broad spectrum of industries and business disciplines to provide students with a comprehensive understanding of the diverse challenges and opportunities that exist in the business world (The New School Libraries, 2025). Exposure to case studies from various sectors, such as technology, retail, finance, and manufacturing, allows students to apply their knowledge across different organizational contexts and to appreciate the nuances of strategic decision-making in diverse environments (Walden University, n.d.). Numerous case study collections are available from academic institutions and publishers, covering a wide array of business topics and industries (Martinez, 2018). Furthermore, it is crucial to select case studies that feature diverse protagonists from a variety of racial, ethnic, and gender backgrounds. This practice promotes inclusivity in the learning environment and exposes students to a wider range of leadership styles and experiences, fostering a more nuanced understanding of the complexities of leadership in today's diverse workforce. Many case study resources are increasingly focusing on featuring protagonists of color and addressing issues related to diversity, equity, and inclusion, providing educators with ample opportunities to select cases that reflect the diverse world in which their students will work.

## **Leveraging Technology to Enhance Analysis and Presentation Delivery**

Analysis and delivery aspects of case study learning in business education (Yale School of Management, 2020). Integrating technology into case study assignments can reinforce student involvement, break the monotony of traditional learning methods, and facilitate the development of a more systemic and holistic approach to analyzing complex business problems (Goudey, 2019).

Online collaboration platforms, such as Slack, Zoom, Trello, and Google Drive, provide valuable infrastructure for students working on case studies in teams (Penn LPS Online, 2023). These tools enable seamless communication, efficient file sharing, and effective organization of project-related materials, regardless of the physical location of team members (Penn LPS Online, 2023). This is particularly relevant in today's educational landscape, where remote and hybrid learning models are increasingly common.

For case studies that involve quantitative data, the integration of data analysis software can empower students to develop crucial analytical skills and to support their recommendations with data-driven insights. Business analytics tools can transform raw data into strategic intelligence, aiding in areas such as inventory management, fraud detection, and supply chain optimization, providing students with practical experience in data interpretation and decision-making. Beyond basic presentation software like PowerPoint, a variety of interactive presentation tools can be leveraged to create more engaging and dynamic case study presentations (Waugh, 2024). Tools such as Vevox, Kahoot!, Prezi, Canva, and Mentimeter offer features like real-time polling, quizzes, interactive word clouds, and non-linear presentation formats, which can significantly enhance audience engagement and participation (Waugh, 2024). Additionally, the emergence of AI-powered presentation makers can assist students in efficiently generating and editing their slides, allowing them to focus more on the content and delivery of their presentations (Dan, 2025). Furthermore, incorporating business simulations into case study learning can provide students with an immersive and experiential learning environment. Simulations allow students to step into realistic business scenarios, make critical decisions under pressure, and observe the immediate consequences of their choices in a risk-free setting. This hands-on approach can deepen their understanding of complex business systems and develop essential skills such as resilience, teamwork, and leadership.

**Table 1: Comparison of Traditional vs. Interactive Presentation Tools**

<b>Tool Name</b>	<b>Key Features</b>	<b>Ease of Use</b>	<b>Cost</b>	<b>Potential Benefits for Case Study Presentations</b>
PowerPoint	Basic slide creation, templates, animations, transitions	High	Paid	Familiar interface, widely used, good for structured presentations.
Google Slides	Cloud-based, collaborative, similar features to PowerPoint	High	Free	Easy collaboration, accessibility from any device.
Vevox	Real-time polling, Q&A, quizzes, word clouds	Medium	Free/Paid	Enhances audience engagement, gathers real-time feedback, facilitates interactive discussions.
Kahoot!	Game-based learning,	High	Free/Paid	Makes learning fun and competitive, good for

Tool Name	Key Features	Ease of Use	Cost	Potential Benefits for Case Study Presentations
	quizzes, live interaction			knowledge checks and quick polls.
Prezi	Non-linear presentations, zoomable interface	Medium	Free/Paid	Offers a dynamic and visually engaging alternative to slide-based presentations, can highlight connections between concepts.
Canva	Drag-and-drop design, wide variety of templates, collaborative functionality, interactive elements	High	Free/Paid	User-friendly interface, excellent design options, allows for the creation of visually appealing and interactive presentations.



Tool Name	Key Features	Ease of Use	Cost	Potential Benefits for Case Study Presentations
Multimeter	Interactive polls, quizzes, word clouds, Q&A	Medium	Free/Paid	Great for audience engagement, gathering opinions, and making presentations more interactive.
Gamma	AI-powered presentation generation, non-traditional format	Medium	Free/Paid	Quickly creates presentations from prompts or text, offers a different approach to slide design.
Slides AI	AI-powered presentation generation within Google Slides	High	Free/Paid	Conveniently generates presentations from text or prompts directly within a familiar platform.

Tool Name	Key Features	Ease of Use	Cost	Potential Benefits for Case Study Presentations
Plus AI	AI-powered presentation generation and editing for PowerPoint and Google Slides, professional designs, data integration	Medium	Paid	Creates professional-looking presentations quickly, integrates with existing platforms, offers AI-powered editing features.

## Evaluating Presentation Performance: Methods and Rubrics

A crucial aspect of integrating case studies into teaching is the implementation of fair and effective methods for evaluating students' presentation performance (Huckle, 2024). Educators can employ a combination of evaluation methods, including their own assessment, peer evaluations conducted by fellow students, and self-evaluations where students reflect on their own performance (Mayo, 2018). Peer evaluation can provide valuable insights from the perspective of the audience, while self-evaluation encourages students to develop metacognitive skills and to take ownership of their learning (Chen, 2022; Martinez, 2018)

To ensure transparency and consistency in grading, the use of well-designed rubrics is highly recommended (Roanoke College, 2020). Rubrics provide a structured framework for assessing presentations based on clearly defined criteria and performance levels.<sup>121</sup> Common evaluation criteria for business presentations often include the quality and accuracy of the content, the logical organization of information, the clarity and effectiveness of the delivery, the appropriate

and impactful use of visual aids, and the presenter's ability to thoughtfully and accurately respond to questions from the audience (Roanoke College, 2020). Rubrics typically outline different levels of achievement for each criterion, ranging from excellent to poor, providing specific descriptions of what constitutes each level of performance (Barnard College, 2015) By using rubrics, educators can communicate their expectations clearly to students, provide targeted feedback, and ensure a more objective and consistent grading process.

**Table 2: Example Rubric for Evaluating Undergraduate Business Presentations**

<b>Criterion</b>	<b>Excellent (4 points)</b>	<b>Good (3 points)</b>	<b>Fair (2 points)</b>	<b>Poor (1 point)</b>
<b>Content</b>	Information is accurate, relevant, well-researched, and directly addresses the case study. Key arguments are clearly articulated and supported by evidence.	Information is mostly accurate and relevant, with key arguments generally supported. Minor gaps in research or clarity may be present.	Some inaccuracies or irrelevant information is present. Key arguments may lack sufficient support or clarity.	Information is inaccurate, irrelevant, or missing. Key arguments are unclear or unsupported.
<b>Organization</b>	Presentation flows logically with a clear introduction, well-developed	Presentation is generally well-organized with a discernible introduction, body,	Organization is inconsistent or difficult to follow. Introduction or	Presentation lacks clear organization and is difficult to

<b>Criterion</b>	<b>Excellent (4 points)</b>	<b>Good (3 points)</b>	<b>Fair (2 points)</b>	<b>Poor (1 point)</b>
	body, and concise conclusion. Transitions between points are smooth and effective. Time is managed effectively.	and conclusion. Transitions may be somewhat abrupt. Time management is mostly effective.	conclusion may be weak or missing. Transitions are unclear. Time management may be problematic.	follow. Introduction and conclusion are missing or ineffective. Time management is poor.
<b>Delivery</b>	Presenter speaks clearly and confidently with appropriate volume, pace, and tone. Maintains consistent eye contact and uses engaging body language. Demonstrates enthusiasm	Presenter speaks clearly with adequate volume and pace. Eye contact is present but may not be consistent. Body language is generally appropriate. Shows good understanding of the material.	Presenter's speech may be unclear, too fast or slow, or monotone. Eye contact is limited or distracting. Body language may be distracting or lacking. Understanding of the material may be superficial.	Presenter's speech is difficult to understand. Eye contact is minimal or absent. Body language is inappropriate or distracting. Demonstrates a lack of understandin g of the material.

<b>Criterion</b>	<b>Excellent (4 points)</b>	<b>Good (3 points)</b>	<b>Fair (2 points)</b>	<b>Poor (1 point)</b>
	and mastery of the material.			
<b>Visual Aids</b>	Visual aids are professional, visually appealing, easy to read, and directly enhance the presentation content. Used effectively to illustrate key points and engage the audience.	Visual aids are generally clear, readable, and relevant to the content. May have minor design flaws or could be used more effectively.	Visual aids may be cluttered, difficult to read, or not directly relevant to the content. May distract from the presentation.	Visual aids are absent, ineffective, or detract significantly from the presentation.
<b>Responses to Questions</b>	Answers questions accurately, thoughtfully, and concisely, demonstrating a thorough understanding of the case	Answers most questions accurately and demonstrates a good understanding of the case study. May struggle with more complex or	Answers some questions accurately but may struggle with others, revealing gaps in understanding. Responses may	Unable to answer questions accurately or demonstrates a significant lack of understandin

Criterion	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)
	study and related concepts. Handles challenging questions with poise and confidence.	challenging questions.	be unclear or incomplete.	g of the case study.

### The Art of Providing Constructive Feedback

Providing specific, constructive, and actionable feedback is essential for helping undergraduate students develop their business presentation skills based on case study analyses. Effective feedback is characterized by being timely, kind, positive in its framing, honest in its assessment, practically useful, concise in its delivery, and highly specific in its content. The goal of feedback should be to guide students towards improvement, highlighting what they did well and offering concrete suggestions for future development, rather than simply pointing out flaws (Chen, 2022; Martinez, 2018).

Instructors can employ various techniques for delivering constructive feedback. One effective method is the "Keep, Improve, Ask" approach, which involves identifying aspects of the presentation the student should continue, suggesting specific areas for improvement, and inviting the student to ask clarifying questions. Another commonly used technique is the "Feedback Sandwich," where constructive criticism is framed between positive comments, making it more palatable and encouraging for the student. It is crucial to focus feedback on observable behaviors and specific elements of the presentation, rather than making general statements or judgments about the student's personality. Offering actionable recommendations that the student can implement in future presentations is also key to fostering skill development (Jahin, 2024).

The SMART framework (Specific, Measurable, Achievable, Realistic, Timely) provides a valuable structure for crafting effective feedback (Cavallo, 2019). Feedback should be specific, clearly identifying the area for improvement; measurable, suggesting quantifiable objectives where possible; achievable, focusing on changes that are within the student's capabilities; realistic, relating to the specific goals of the presentation; and timely, provided as soon as possible after the presentation to maximize its impact (Cavallo, 2019). By adhering to these guidelines, educators can provide feedback that is not only constructive but also empowering, enabling undergraduate business students to continuously refine their presentation skills and become more effective communicators.

## **CONCLUSION**

Case study learning stands as a highly effective pedagogical approach for cultivating essential business presentation skills among undergraduate students. Its capacity to hone analytical abilities, enhance communication proficiencies, foster teamwork dynamics, and facilitate the practical application of theoretical knowledge makes it an invaluable tool in business education (Brown, 2018; Davis, 2019). However, the successful integration of case studies into teaching practices demands meticulous planning and thoughtful execution. Educators must carefully select appropriate and diverse case studies, implement effective strategies for managing the time demands associated with case analysis and presentation preparation, and strategically leverage technology to enhance both the learning and presentation processes. Furthermore, the use of clear and comprehensive evaluation methods, coupled with the provision of specific, constructive, and actionable feedback, is paramount to guiding students' development as confident and competent business presenters. By embracing these principles and practices, business educators can equip their undergraduate students with the critical presentation skills necessary to thrive in the dynamic and competitive landscape of the modern business world. The ability to present ideas effectively remains a cornerstone of professional success, and the thoughtful integration of case study learning offers a powerful pathway to ensuring that business graduates are well-prepared to meet the communication challenges and opportunities of their future careers.

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# Fostering Thaksin Identity through Active Learning in General Education: Pedagogical Strategies for First-Year Student Development

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## ABSTRACT

In the era of rapid technological disruption and national education reform, higher education institutions must reconsider how they develop socially responsible, future-ready graduates. This paper examines how General Education (GE) at Thaksin University (TSU) serves as a strategic platform for cultivating the “TSU Student Identity,” which emphasizes four key attributes: *Responsibility*, *Knowledgeability*, *Industriousness*, and *Practical Experience*. Drawing on Thailand’s national “Reinventing University” policy and TSU’s Strategic Plan (2023–2027), the study explores how active learning methodologies integrated into first-year GE courses can enhance TSU Student Identity. Specifically, the paper reviews the application of five active learning strategies—problem-based learning (PBL), project-based learning (PjBL), research-based learning (RBL), activity-based learning (ABL), and case-based learning (CBL) as pedagogical tools for shaping student competencies in alignment with TSU’s institutional values. Findings from recent literature and Thai higher education practices suggest that these strategies not only improve academic performance and skill acquisition but also significantly enhance student engagement, ethical reasoning, and self-directed learning. In particular, GE courses that plant real-world problem solving, inquiry-based tasks, team collaboration, and reflective learning contribute to holistic student development and better prepare learners to thrive in a dynamic global society. Moreover, the structured integration of TSU Student Identity into course design fosters a sense of civic responsibility, innovation, and resilience among first-year students. The paper concludes by offering evidence-based recommendations for the design and implementation of active learning in GE to support both institutional identity and national development goals.

**Keywords:** Active Learning, General Education, Thaksin University, TSU Student Identity



## INTRODUCTION

The accelerating pace of technological advancement—especially in digital technology and artificial intelligence (AI)—has fundamentally reshaped how societies function, businesses operate, and individuals interact. As a result, all sectors must adapt rapidly to remain competitive in this dynamic global context. Education, in particular, has a pivotal role in preparing human capital for an uncertain future. Higher education institutions have thus changed beyond their traditional roles, transitioning into innovation hubs that reconfigure teaching, learning, administrative systems, and their societal mandates (Becker et al., 2018).

Recognizing this imperative, Thailand’s Ministry of Higher Education, Science, Research and Innovation (MHESI) launched the “Reinventing University” initiative to reorient universities as key drivers of national development. Anchored in the 2023–2027 Science, Research, and Innovation Strategic Plan, the policy aims to advance Thailand’s competitiveness by fostering innovation, sustainability, and a high-skill workforce capable of driving economic transformation (National Higher Education, Science, Research and Innovation Policy Council, 2022).

Thaksin University (TSU), in alignment with this national reform agenda, has outlined a strategic vision (2023–2027) to become a leading social innovation university by 2030. As part of the “Technology and Innovation” university cluster (Group 2), TSU integrates social sciences, technology, and health disciplines to promote community-based development. Its six strategic pillars include reforming the curriculum toward competency-based learning, introducing interdisciplinary and transdisciplinary models, expanding lifelong learning ecosystems, and establishing the “TSU Social Innovation Polis” as a catalyst for regional development (Thaksin University, 2023). Central to this institutional transformation is TSU’s educational philosophy, which prioritizes student outcomes rooted in ethics, wisdom, and a commitment to social innovation and entrepreneurship. These ideals are formalized in the “Thaksin Student Identity”, which defines the university’s graduate attributes as being: *Responsible, Knowledgeable, Industrious, and Practically Experienced*.

In response, TSU has restructured its General Education (GE) curriculum to reflect these identity values and better prepare students to meet contemporary challenges. The revised GE curriculum, effective from 2024, inserts active learning, interdisciplinary integration, and community engagement as its core pedagogical principles. It aims to nurture graduates who are

not only academically proficient but also ethical, adaptable, and socially engaged—capable of contributing to local innovation and global change.

The importance of GE is particularly noticeable in today's higher education landscape. GE serves as a foundational framework that equips students across all disciplines with critical 21st-century competencies such as critical thinking, communication, digital and data literacy, ethical reasoning, global awareness, and collaboration (Chan, 2020; Trilling & Fadel, 2009; UNESCO, 2021). These skills are essential for building a future-ready workforce, fostering innovation, and promoting civic responsibility. In the Thai context, GE plays a key role in advancing national education goals, supporting not only workforce development but also sustainability, equity, and community empowerment (OECD, 2020; Yildirim et al., 2023).

The first year of university is especially critical. This transitional phase marks the shift from teacher-centered to student-centered learning, requiring learners to develop new competencies in autonomy, digital fluency, and metacognition (Knowles, 1980; Merriam & Bierema, 2014). As higher education institutions adapt to technological disruption, first-year GE courses provide a vital platform for cultivating these abilities. When designed effectively, they help students build the resilience, curiosity, and responsibility necessary for lifelong learning and meaningful participation in society.

To achieve these outcomes, active learning has emerged as a core strategy within TSU's GE reform. Unlike traditional lecture-based models, active learning engages students through inquiry-based tasks, collaborative projects, real-world simulations, and reflective practices. It empowers students to become co-constructors of knowledge, aligning with constructivist learning theories that emphasize learning through experience and interaction (Bonwell & Eison, 1991). Furthermore, active learning fosters a learning environment that supports creativity, critical thinking, and personal accountability—qualities that directly reinforce TSU Student Identity.

In alignment with both global pedagogical shifts and national education reform, this study investigates how GE, particularly in the first year of study, can be strategically utilized to promote TSU Student Identity. It explores the conceptual foundations and implementation of TSU Student Identity, the pedagogical role of GE, and proposes instructional strategies—particularly active learning methodologies—that support holistic student development. By embedding TSU Student

Identity within GE course design, the university aims to nurture a new generation of graduates who embody both academic excellence and a strong sense of civic and ethical responsibility.

## **GENERAL EDUCATION AT THAKSIN UNIVERSITY:**

### **PHILOSOPHY AND PRACTICE**

TSU has developed a comprehensive educational philosophy that aligns with Thailand's national higher education reforms and the demands of a rapidly changing society. Central to this philosophy is the emphasis on student learning outcomes that build competencies in social innovation and entrepreneurship, guided by wisdom, ethics, and active learning. The university aims to produce graduates who are ethical, innovative problem-solvers and community leaders, embodying what is known as the "TSU Student Identity." This identity fosters awareness of students' roles as Thai citizens, global citizens, and digital citizens, promoting values such as social responsibility, adaptability, and civic engagement in a globally interconnected world (Thaksin University, 2022).

GE plays a key role in achieving this mission. It serves as a foundational platform for first-year students, providing broad-based learning experiences that support intellectual growth, moral development, and civic responsibility. Through interactive activities and real-world problem-solving, GE courses at TSU are designed to instill personal accountability and community awareness from the outset of university life (Thaksin University, 2023).

TSU defines GE as an essential part of undergraduate education that prepares learners to thrive in the 21st century. GE helps students integrate knowledge across disciplines, solve complex problems, and adapt to social and global changes. In practice, TSU mandates a minimum of 24 GE credits, delivered through either standalone or interdisciplinary courses. These are structured within an outcome-based, competency-driven framework that prioritizes active learning through projects, teamwork, and critical reflection.

The GE curriculum specifically targets five key 21st-century competencies: Critical thinking and problem-solving, Communication, Collaboration, Creativity, and Digital Literacy.

These competencies are embedded across all GE courses to ensure students continuously develop and apply them. By integrating active learning approaches into the first-year experience, TSU equips students with the skills and mindset required for academic success, career readiness, and responsible global citizenship.

## **THAKSIN UNIVERSITY STUDENT IDENTITY**

According to TSU Student Identity (2023), TSU frames a distinctive student identity framework that reflects its commitment to cultivating socially responsible, adaptable, and practically skilled graduates. Rooted in the institutional motto of producing students who are "Responsible (Rap-phit-chop), Knowledgeable (Rop-ru), Industrious (Su-ngan), and Practically Experienced (Mee Pra-sop-garn Cherng Pa-dti-bat)," TSU Student Identity is composed of thirteen interrelated competencies designed to support students' holistic development from the first year of study onwards. These competencies form the foundation of Thaksin's GE strategy, particularly in first-year learning, and are divided into four core clusters:

### **1. Responsibility**

This cluster encompasses students' moral accountability and civic awareness:

*Responsibility:* The willingness to own one's duties and actions, fulfill promises, and uphold ethical behavior in academic and social contexts.

*Self-Management:* The ability to manage emotions, behavior, and time effectively. It includes self-discipline, stress management, and continuous self-improvement.

*Consciousness and Global Citizen Awareness:* Cultivating a sense of identity that bridges Thai cultural values with global citizenship. Students are encouraged to understand social and environmental responsibilities and to contribute meaningfully at both local and global levels.

### **2. Knowledgeability**

This cluster develops intellectual capacity and digital fluency:

*Knowledge, Skill, and Ability:* A focus on acquiring broad-based knowledge and the ability to apply what is learned within various contexts and professional fields.

*ICT Literacy:* Proficiency in digital tools and platforms, including the critical use of information technologies for learning, communication, and innovation.

*International Communication Literacy:* The capability to communicate effectively across cultures and languages, especially through English and regional languages, promoting global competence.

*Life-Long Learning Skills:* Instilling the mindset and habits of continuous learning. This includes curiosity, adaptability, and the ability to update skills in response to new challenges and technologies.

### **3. Industriousness**

This cluster emphasizes perseverance, leadership, and adaptability:

*Determination and Grit:* Resilience in pursuing goals and overcoming obstacles without giving up. Students are expected to show initiative and commitment, even when success is not immediate.

*Flexibility and Adaptability:* The capacity to respond to change, adjust plans, and work effectively in dynamic environments. This skill is especially important in the context of rapid technological and social transformation.

*Teamwork, Collaboration, and Leadership:* The ability to work in groups, communicate clearly, take on roles of leadership or support, and contribute to shared goals. These qualities are essential for both academic group work and real-world problem-solving.

*Resilience:* The mental toughness to cope with setbacks, learn from failures, and maintain motivation and optimism in the face of adversity.

### **4. Practical Experience**

This cluster integrates experiential learning and problem-solving:

*Expertise Development Based on Practice:* Applying knowledge in real-world contexts through internships, service learning, and project-based experiences. Students are encouraged to develop competencies through hands-on engagement.

*Systematic Problem Solving:* Using logical reasoning and structured approaches to analyze, interpret, and address complex challenges. Students learn to identify root causes and develop viable solutions.

*Social Innovation:* Designing and implementing creative, community-centered solutions to societal problems. This involves applying interdisciplinary knowledge to generate positive social change, aligning with the university's broader mission of community engagement and sustainability.

## **ACTIVE LEARNING STRATEGIES IN GENERAL EDUCATION**

To achieve learning outcomes and TSU Student Identity, according to Thaksin University (2022), TSU's philosophy calls for an active learning approach in all educational activities. Instructors are encouraged to shift from passive lecture models to active learning pedagogy, wherein students engage directly in the learning process. Teachers are tasked with creating learning experiences that encourage student self-awareness and reinforce their civic roles. According to the TSU philosophy, "*active learning*" is defined as a learning process that actively involves students in thinking and hands-on practice, using learning media or activities that stimulate the brain. This approach emphasizes the learning process over memorization content, encouraging learners to connect knowledge and construct understanding on their own. In practice, active learning at TSU may involve pedagogical methods such as problem-based learning, project-based learning, research-based learning, activity-based learning, and case studies.

### **Problem-Based Learning (PBL) in GE Courses**

PBL is an instructional method in which students learn by working through complex, real-world problems without a predetermined solution. In a GE context, PBL typically involves small teams of students tackling interdisciplinary problems (e.g. a community health issue or an environmental challenge), guided by the instructor as a facilitator. Students must identify what they need to learn, research information, propose and evaluate solutions, and present their conclusions. This process shifts the learning focus from memorization to inquiry and application, aligning with the constructivist idea that knowledge is built through solving meaningful problems (Hmelo-Silver, 2004).

Recent Thai research highlights that effective PBL requires careful structuring and support. Klaharn et al. (2025) developed a PBL model with six clear steps – problem statement, problem analysis, research, synthesis, solution presentation, and reflection – to scaffold student inquiry. In practice, instructors should: (1) present an authentic problem relevant to students’ lives or society (e.g., a case of local pollution or a social dilemma), (2) allow students to brainstorm and define what they need to learn, (3) provide resources and guidance for research (e.g., readings, datasets, expert consultation), and (4) include checkpoints for feedback and reflection. Ensuring problems are ill-structured (open-ended) yet appropriate to students’ level is important so that learners are challenged but not overwhelmed. Collaboration is central – students learn to solve problems in teams, mirroring real workplace dynamics (Klaharn et al., 2025).

Thus, in undergraduate GE, PBL similarly yields deeper learning. Learners not only grasp content more firmly but also gain confidence in applying knowledge. Importantly, PBL aligns with holistic development: it engages cognitive skills, requires social interaction (teamwork), and often poses ethical or civic questions that spur personal growth. By grappling with real problems, Thai students become more responsible learners who take ownership of their learning tasks

### **Project-Based Learning (PjBL) in GE Courses**

PjBL is closely related to PBL but centers on students creating a project or product over an extended period, integrating knowledge and skills along the way. In GE courses, projects can take many forms – a group research project, a service-learning project in the community, a creative portfolio, or a presentation that synthesizes course topics. The key element is that students drive the process from defining a project question to producing a tangible outcome. Unlike a single problem scenario, PjBL usually spans multiple weeks with iterative work. This approach resonates with Thai educators’ goal to move beyond passive learning; as Bell (2010) describes, PjBL is a “student-driven approach in which students take part in a genuine project”, requiring them to actively apply what they learn.

To integrate PjBL effectively, instructors should design projects that are authentic, collaborative, and well-scaffolded. For example, a GE science course might have students develop a sustainability proposal for the campus, or an ethics course could involve a case investigation project. It’s important to break the project into manageable milestones (proposal, research phase, prototype or report, final presentation) to guide students through the process. Providing scaffolding

– such as project guidelines, periodic check-ins, and mini-lessons on needed skills – is a best practice to ensure students don't get lost. Collaborative project work is consistently emphasized: for example, a study in Thai vocational institutes found that both teachers and students valued idea-sharing, teamwork, and structured inquiry (e.g., following a scientific process) as crucial components of successful PjBL, alongside maintaining student motivation (Tongsakul et al., 2011). Moreover, empirical evidence from Thai university classrooms indicates that providing explicit training in skills like time management and self-directed learning helps students thrive in PjBL, and ongoing professional development and peer support for instructors further strengthen PjBL implementation (Wuttphan & Klinhom, 2023). Finally, clear assessment rubrics that value both the process (research, teamwork, etc.) and the final product can align student efforts with learning objectives. By following these practices, GE instructors can manage the complexity of projects even in large classes – for instance, by utilizing online learning platforms for group coordination or having students exhibit their projects in a poster fair for peer feedback.

### **Research-Based Learning (RBL) in GE Courses**

RBL integrates the processes of scholarly research into student learning experiences. In RBL, students learn through research—by asking questions, gathering and analyzing data, and drawing evidence-based conclusions. At the GE level, RBL often takes the form of inquiry-based assignments or course-based research projects. The idea is to treat students as “junior researchers,” engaging them in the same methodologies scholars use. This approach is seen to develop critical thinking and independent learning. A recent synthesis describes RBL as “a learning approach that enables students to conduct their own research following the research process,” thereby helping them build creative and analytical thinking abilities (Spronken-Smith & Walker, 2010). In practice, RBL overlaps with PBL and PjBL but is distinguished by its strong focus on the inquiry process and generation of new findings.

Implementing RBL in GE requires thoughtful design to align with students' skill levels. Educators recommend beginning with guided inquiry, for instance, providing a broad research question or dataset and then having students formulate specific hypotheses or analyses. As students gain confidence, more open-ended research tasks can be introduced. Key best practices include: (1) teaching research skills explicitly (how to formulate questions, how to find and cite sources, basic data analysis methods), (2) breaking the research task into stages (proposal, data collection,



analysis, report) with feedback at each stage, and (3) emphasizing reflection on the research process so students learn from any challenges encountered. Using undergraduate research projects in GE is increasingly common in Thai universities to promote inquiry skills. For example, instructors might assign a mini research project where students investigate a community issue and report results in a research-poster format. Technology can support RBL—students can use online surveys, libraries, and statistical tools, with instructors monitoring progress via learning management systems. Collaboration can also be part of RBL; students might work in research teams, mirroring professional research groups.

### **Activity-Based Learning (ABL) in GE Courses**

ABL emphasizes learning through active engagement, involving students in tasks such as discussions, simulations, experiments, and collaborative games, rather than passive listening. Especially within GE contexts, ABL accommodates diverse learning styles and sustains student interest by transforming lessons into dynamic experiences (Fink, 2003).

Effective ABL requires clear alignment with learning objectives, explicit instructions, and time for reflection to deepen understanding (Fink, 2003). Educators recommend varying activities—such as think-pair-share, real-time quizzes, or role-plays—to engage different skill sets (Leksuwanakun et al., 2022). Digital platforms like Kahoot or ClassPoint also enhance ABL by facilitating real-time feedback and participation, especially in large lecture settings (Leksuwanakun et al., 2022). Ultimately, the success of ABL depends on thoughtful design and a supportive classroom environment that encourages student participation and self-expression.

### **Case-Based Learning (CBL) in GE Courses**

CBL involves students analyzing real-world or simulated situations to apply theoretical knowledge to practical problems. This active learning strategy typically uses narrative cases—based on authentic events or issues—to provoke analytical thinking, collaboration, and decision-making (Thistlethwaite et al., 2012). In GE contexts, case studies may span multiple disciplines: a law course might explore a high-profile legal case, a business GE class might examine a successful Thai startup, or an environmental studies course might investigate climate-related policy dilemmas. The method, historically rooted in business and medical education, is increasingly integrated into interdisciplinary GE programs to develop critical thinking and

problem-solving skills (Herreid & Schiller, 2013). A typical case activity includes a narrative, supporting data, and guided prompts. Students engage in diagnosing issues, considering alternatives, and suggesting solutions, often in small groups. Instructors facilitate the process, encouraging discussion, probing questions, and linking the analysis to broader course themes. While closely related to PBL, CBL tends to focus on realistic, context-rich examples that enable learners to apply conceptual knowledge to real-world applications (Davis & Wilcock, 2003).

Effective implementation of CBL in GE requires selecting relevant, relatable cases and designing structured inquiry around them. Instructors should select scenarios tied to students' personal experiences or societal issues (e.g., social media privacy or digital ethics) to enhance engagement (Herreid, 2011). Guided questions should promote deeper thinking—from understanding to evaluating the situation and proposing solutions. Encouraging respectful debate and role-playing different perspectives (e.g., business owner vs. customer) enhances empathy and cognitive flexibility. It's equally important to debrief the case and extract generalizable lessons—such as ethical reasoning, leadership, or civic responsibility. Thai educators often recommend using both local and international case materials and allowing students to bring their own cases from media or personal experiences. Language accessibility is also a key factor—particularly in public universities—where providing translated materials or Thai-language cases ensures inclusive participation. Finally, assigning follow-up activities such as reflection essays or policy briefs helps reinforce learning outcomes and communication skills (Loyens et al., 2015).

## ACTIVE LEARNING AND THE DEVELOPMENT OF TSU STUDENT IDENTITY

Active learning in GE extends beyond academic content, supporting cognitive, social, and practical development. Research in Thailand highlights its impact on 21st-century skills, self-efficacy, and positive learning attitudes (Leksuwankun et al., 2022; Seemanath & Watanapokakul, 2024). At TSU, active learning aligns closely with TSU Student Identity: developing graduates who are *responsible, knowledgeable, Industrious, and practically experienced*.

*Responsibility:* Strategies like PBL and CBL require students to take ownership of their learning. Through roles such as team leader or researcher, students develop accountability, ethical judgment, and initiative.

*Knowledgeability:* Active learning enhances understanding by applying knowledge in real contexts. PjBL and RBL improve academic achievement and interdisciplinary thinking, fostering deeper learning and communication skills.

*Industriousness:* Sustained engagement in active tasks builds perseverance and time management. Activities like PBL and reflection journals promote self-discipline and a strong work ethic.

*Practical Experience:* Real-world tasks, such as site visits, fieldwork, and PjBL, provide hands-on experiences. These opportunities prepare students for work-readiness and practical problem-solving, reinforcing TSU's experiential learning goals.

In sum, active learning not only enriches academic outcomes but also nurtures holistic growth in alignment with TSU Student Identity.

## CONCLUSION

This study highlights the transformative potential of GE in fostering TSU Student Identity in alignment with Thaksin University's vision. By embedding active learning methodologies into first-year GE courses, TSU not only cultivates essential 21st-century competencies—such as critical thinking, collaboration, and digital literacy—but also promotes TSU Student Identity through experiential and reflective learning. The strategic use of PBL, PjBL, RBL, ABL, and CBL provides students with authentic opportunities to apply knowledge, engage with real-world challenges, and develop a sense of purpose and responsibility. These learning experiences directly support the TSU Student Identity, preparing graduates to be not only academically competent but also socially conscious, adaptable, and ready to contribute meaningfully to society. The findings affirm that active learning in GE is not merely a pedagogical trend but a critical driver for institutional mission fulfillment and national development. As Thailand advances toward a knowledge-based economy, higher education institutions like TSU must continue to innovate in their GE curriculum to produce graduates who are not just employable, but also ethical leaders and lifelong learners.

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## Session 4

# Sustainable Multidisciplinary World

### Committee:

- 1) Assoc. Prof. Miguna Astuti, PhD, S.Si., MM., MOS., CPM., CIRR.
- 2) Dr. Wasin Praditsilp

### Moderator:

- 1) Lect. Supatida Dumchoo
- 2) Ms. Pimchanok Kaewudom



# **Guidelines in Monitoring and Evaluating by Community on Impact Assessment: A Case Study of the Trans Thailand Malaysia**

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## **ABSTRACT**

This paper aimed to develop community-based monitoring and evaluation (M&E) guidelines for impact assessment, using the Thai-Malaysia Natural Gas Separation Plant project as a case study. The research employs Participatory Action Research (PAR) methodology. Data were collected through focus group discussions and semi-structured interviews with five key informant groups, supplemented by Documentary Research. Qualitative data analysis methods, including Content Analysis and Triangulation, were utilized to analyse the findings.

The results found that the community-based monitoring and evaluation approach for impact assessment, using the Thailand-Malaysia Natural Gas Separation Plant project as a case study. It can be divided into six steps: 1) Building knowledge and understanding to establish objectives and direction for community M&E and forming a working committee; 2) Developing the capacity of the community M&E working committee to analyse M&E reports; 3) Selecting issues for community M&E implementation and developing action plans; 4) Conducting M&E activities and drafting reports; 5) Organizing community review processes for the M&E draft reports; and 6) Presenting reports to decision-makers and developing policy recommendations along with community M&E action plans. Key factors for the practical application of this approach include: 1) Supportive laws or policies; 2) Establishment of community M&E funds managed by local authorities; 3) Development of curricula aligned with the approach; and 4) Creation of communication mechanisms and information management systems for community M&E results.

**Keywords:** Monitoring and Evaluating, Community, Impact Assessment, Trans Thailand Malaysia

## INTRODUCTION

This article aims to present project monitoring and evaluation approaches for community health impact assessment that have been developed to enhance evaluation efficiency, reduce inequality and conflicts, and promote sustainability based on the contextual foundation of the Thailand-Malaysia Natural Gas Separation Plant project area.

The research problem addressed in this study canters on the significant deficiencies in current monitoring and evaluation systems for large-scale development projects in Thailand. Despite legal frameworks supporting monitoring and evaluation processes, these processes fail to adequately capture community concerns and experiences, leading to persistent conflicts between projects and local communities. Specifically, the disconnect between official monitoring reports and actual community problems occurs because: 1) consulting firms selected by projects conduct monitoring with limited community input; 2) monitoring scopes exclude many community concerns; and 3) monitoring results are not effectively communicated to affected communities. This research aims to address these gaps by developing a community-based monitoring and evaluation approach that positions communities as primary agents rather than passive recipients of information, thereby creating more comprehensive, relevant, and locally accepted evaluation processes.

Current impact assessment methodologies have significant limitations. For instance, Environmental Impact Assessment (EIA) or Environmental Health Impact Assessment (EHIA) processes and reports are primarily designed to secure project approval or permission rather than comprehensive evaluation. The assessors typically come from consulting firms or are academics selected by the projects being evaluated. Consequently, these assessors may not be local residents and may lack understanding of the area's in-depth contextual information, particularly regarding sensitive matters such as spiritual, belief, and faith-related impacts. This disconnect often leads to conflict or violence once projects are implemented.

Monitoring and evaluation represent a significant weakness in various assessment frameworks including EIA, EHIA, Health Impact Assessment (HIA) and Community Health Impact Assessment (CHIA). This is primarily because projects select consulting firms or

academics to collect surveillance data, conduct monitoring and evaluation, and write reports. Consequently, the scope of monitoring fails to address all concerns experienced by affected communities. This results in a disconnect between project monitoring and evaluation reports and the actual problems occurring on the ground. Some issues may remain unmonitored, unobserved, or unaddressed.

From the survey, despite agencies' efforts to implement various participatory evaluation processes, the actual implementation in affected areas continues to face participation challenges, resulting in ongoing complaints against projects. Significantly, these monitoring and evaluation reports are not effectively communicated to relevant stakeholders, particularly local residents in project areas or those directly affected. This lack of communication prevents verification of the reports' accuracy.

The Thailand-Malaysia Gas Separation Project is an international joint venture aimed at utilizing natural gas from the Thailand-Malaysia Joint Development Area (JDA) for the benefit of five southern border provinces of Thailand and northern states of Malaysia.

The Thailand-Malaysia Natural Gas Separation Plant Project submits reports on compliance with environmental impact prevention and mitigation measures, as well as environmental impact monitoring (during operational phase) biannually. Songkhla Province established a "Tripartite Committee" for the gas separation plant and the Thailand-Malaysia natural gas pipeline project to serve as a mechanism for supervising and controlling project operations in accordance with environmental mitigation measures approved by the Office of Natural Resources and Environmental Policy and Planning. During the Tripartite Committee meeting on December 23, 2008, a resolution was passed to engage a neutral agency, or "Third Party," to monitor compliance with the environmental action plan during the operational phase (SGS Thailand Co., Ltd., 2016).

In practice, however, the current monitoring and evaluation processes lack comprehensiveness and continuity due to the absence of appropriate and correct implementation guidelines. Consequently, developing community-based monitoring and evaluation approaches is essential to ensure that local projects can operate efficiently, reduce conflicts, and mitigate potential violence. Therefore, the approach to developing health impact assessment in Thailand should employ evaluation processes that emphasize community importance or position communities as the primary monitoring and evaluation agents. Communities must participate in

every step to ensure that impact assessments address the concerns of community members who are directly affected. The most appropriate impact assessment process should be CHIA, as this process can truly and comprehensively reflect impacts on communities.

## **LITERATURE REVIEW**

Monitoring and evaluation represent the final stage of impact assessment that must be conducted continuously throughout the project implementation period. In Environmental Health Impact Assessment (EHIA), there are proposals for environmental impact prevention and mitigation measures and environmental impact monitoring measures for project implementation, along with requirements to submit reports to relevant agencies as stipulated by law biannually. Three pertinent legal frameworks govern this process: 1) The Constitution of the Kingdom of Thailand B.E. 2560 (2017), 2) The Enhancement and Conservation of National Environmental Quality Act (No. 2) B.E. 2561 (2018), and 3) The Notification of the Ministry of Natural Resources and Environment regarding criteria and procedures for preparing reports on compliance with measures specified in environmental impact assessment reports, which project operators or permit applicants must prepare after receiving authorization to proceed with projects or activities (No. 2) B.E. 2561 (2018).

Despite the existence of three legal frameworks supporting monitoring and evaluation to control, regulate, and oversee these processes, numerous problems and limitations persist that hinder the effectiveness of monitoring and evaluation efforts. In some areas, these shortcomings have fostered distrust toward projects, subsequently leading to conflicts and violence.

Participation represents a critical factor in the lack of community acceptance of current monitoring and evaluation processes, as these processes are conducted by third-party agencies selected and financially supported by the projects themselves. This arrangement creates conflicts of interest, potentially compromising the neutrality of data collection methods and results, and failing to establish genuine preventive and mitigative measures for public impacts. Furthermore, in the impact assessment process, health impacts encompass physical, mental, social, and spiritual (intellectual) well-being dimensions. Therefore, assessment necessitates diverse knowledge systems (Mindell et al., 2003), including scientific disciplines, arts, and local wisdom. Impact predictions made by academics or consulting firms, which predominantly employ technical and quantitative assessment approaches, may not comprehensively address all community impacts or

concerns (Chadderton et al., 2013), particularly sensitive issues such as social and spiritual dimensions. Only community members themselves thoroughly understand their contextual background and possess optimal knowledge of environmental resources in their localities (Kemmm, 2007).

Significantly, participatory monitoring and evaluation differs from traditional monitoring and evaluation in that it involves all stakeholders in every aspect, not merely in problem identification, but also in data collection, compilation, and project implementation analysis. Furthermore, community-based participatory monitoring and evaluation can incorporate local wisdom in the monitoring and evaluation process, while simultaneously developing capacities and analytical capabilities among stakeholder groups, and assessing needs and prioritizing various issues to inform decision-making (McKenziea et al., 2006).

CHIA thus represents a process capable of truly and comprehensively reflecting community impacts. In this approach, community members conduct the entire process themselves through every stage, from screening, determining assessment scope, conducting assessment, preparing reports, decision-making, and jointly monitoring and evaluating various measures (Yaowakhan, 2012). Additionally, CHIA serves as a channel that encourages community members to participate in public health policy development processes, leading to the development of public policies that genuinely align with community ideologies and needs (Sutheravut, 2010). This approach constitutes community future-planning by community members themselves, comparable to collaboratively establishing community development goals or guidelines regarding what forms or directions are appropriate when any project or policy is implemented in the area. The objectives or goals of such initiatives should correspondingly align with community plans and directions.

## **RESEARCH METHODOLOGY**

This research employed PAR in conjunction with Documentary Research. The development of guidelines utilized the CIPP (Context, Input, Process, Product) conceptual framework and the CHIA process.

The CIPP evaluation model, developed by Daniel Stufflebeam, was strategically applied throughout this research to provide a comprehensive framework for data collection and analysis (McKenziea et al., 2006). This framework was selected because it aligns with the participatory nature of CHIA and facilitates evaluation of complex health impact assessment processes (Kemmm,

2007). Table 1 illustrates how each component of the CIPP model guided specific aspects of the research.

**Table 1.** Application of CIPP Framework in Research Design and Implementation

<b>Component</b>	<b>Focus Areas</b>	<b>Data Collection Methods</b>	<b>Analysis Approach</b>
<b>Context</b>	<ul style="list-style-type: none"> <li>• Existing monitoring and evaluation practices at the Thailand-Malaysia Gas Separation Plant</li> <li>• Legal and policy frameworks governing M&amp;E</li> <li>• Community concerns and needs regarding project impacts</li> <li>• Local socio-cultural context of Chana District</li> </ul>	<ul style="list-style-type: none"> <li>• Document review of EIA, EHIA, HIA reports</li> <li>• Focus groups with community members</li> <li>• Semi-structured interviews with policy makers</li> </ul>	<ul style="list-style-type: none"> <li>• Content analysis of regulatory frameworks</li> <li>• Thematic analysis of community perspectives on current M&amp;E limitations</li> <li>• Contextual mapping of power relationships between stakeholders</li> </ul>
<b>Input</b>	<ul style="list-style-type: none"> <li>• Available resources for community-based M&amp;E</li> <li>• Stakeholder capacities and knowledge</li> <li>• Existing community networks and strengths</li> <li>• Potential channels for information exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Asset mapping with community groups</li> <li>• Semi-structured interviews with academics and government agencies</li> <li>• Focus groups with civil society representatives</li> </ul>	<ul style="list-style-type: none"> <li>• Resource assessment for community-based M&amp;E implementation</li> <li>• Gap analysis between current capacities and requirements</li> <li>• Identification of potential support mechanisms</li> </ul>
<b>Process</b>	<ul style="list-style-type: none"> <li>• Design of community-based M&amp;E mechanisms</li> <li>• Procedural steps for implementation</li> <li>• Communication channels between stakeholders</li> <li>• Systems for data verification and validation</li> </ul>	<ul style="list-style-type: none"> <li>• Participatory workshops with community representatives</li> <li>• Interviews with project staff and consultants</li> <li>• Focus groups with all stakeholder categories</li> </ul>	<ul style="list-style-type: none"> <li>• Process mapping of proposed M&amp;E approach</li> <li>• Development of step-by-step implementation guidelines</li> <li>• Identification of potential implementation challenges</li> </ul>



Component	Focus Areas	Data Collection Methods	Analysis Approach
<b>Product</b>	<ul style="list-style-type: none"> <li>• Expected outcomes of the community-based M&amp;E approach</li> <li>• Success indicators for the approach</li> <li>• Sustainability mechanisms</li> <li>• Policy recommendations</li> </ul>	<ul style="list-style-type: none"> <li>• Synthesis of findings from all data sources</li> <li>• Validation meetings with key informants</li> <li>• Final focus group discussions</li> </ul>	<ul style="list-style-type: none"> <li>• Development of the six-step M&amp;E approach</li> <li>• Formulation of recommendations for sustainability</li> <li>• Criteria development for approach evaluation</li> </ul>

The CIPP framework enabled a systematic and comprehensive approach to data collection and analysis. For example, during the Context evaluation phase, researchers identified that while the Thailand-Malaysia Gas Separation Plant had established monitoring procedures through its Tripartite Committee (SGS Thailand, 2016), community perspectives were largely absent from these processes. This finding aligns with Mindell et al.'s (2003) assertion that impact assessment requires diverse knowledge systems. During the Input phase, the research recognized existing community networks like the "Chana Conservation Network" as valuable assets for implementing community-based monitoring, supporting Cohen and Uphoff's (1980) emphasis on specific forms of participation in rural development. The Process component guided the development of the six operational steps of the M&E approach, ensuring that each step was practical and implementable, which reflects Chadderton et al.'s (2013) discussion of the possibilities and limits of community engagement in health impact assessment. Finally, the Product component helped formulate concrete recommendations for establishing sustainable community-based monitoring systems, consistent with Yaowakhan's (2012) vision of community-driven impact assessment.

The selection of key informants employed purposive sampling methodology, focusing on groups involved with the project for participation in focus group discussions and semi-structured interviews. The informants were categorized into five groups as follows:

1. Public and Civil Society Sector: 12 Representatives of residents living in communities surrounding the project, representatives of occupational groups affected both positively and negatively, and groups associated with various movements related to the Thailand-Malaysia Natural Gas Separation Plant project.
2. Entrepreneurs and Report Preparers: Executives, officers, Tripartite Committee members, decision-makers of the Thailand-Malaysia Natural Gas Separation Plant project, and 2 people involved in preparing environmental impact prevention and mitigation measures reports and environmental quality monitoring reports for the Thailand-Malaysia Gas Separation Plant project.
3. Government Agencies: 8 participants include officials and academics from local public health agencies and organizations related to science, health, and environment in the area.
4. Policy Makers from Relevant Agencies: 15 participants include experts, department heads in agencies related to monitoring and evaluation policies, specialists in environmental impact assessment, health impact assessment, and community health impact assessment.
5. Academics: 12 scholars who conducted Strategic Environmental Assessment for the master plan of spatial development in Songkhla and Pattani provinces

Data collection was conducted through a combination of focus group discussions and semi-structured interviews held between November 2023 and April 2024. Focus group sessions lasted approximately 3 hours each and were conducted in community venues accessible to participants. The semi-structured interviews ranged from 45-60 minutes in duration. Selection criteria for participants emphasized individuals with at least 3 years of involvement with or knowledge about the project, direct experience with monitoring and evaluation processes, and willingness to share their perspectives openly.

Focus group discussions followed a structured protocol that included: (1) introduction and overview of research objectives (15 minutes); (2) guided discussion on current monitoring and evaluation practices and their limitations (45 minutes); (3) collaborative exploration of potential community-based monitoring approaches (60 minutes); and (4) reflection on implementation challenges and potential solutions (30 minutes). The discussions were facilitated by two trained

moderators who encouraged balanced participation from all attendees. All sessions were audio-recorded with participant consent and later transcribed verbatim for analysis.

Semi-structured interviews utilized an interview guide containing 15 open-ended questions covering four main themes: experiences with current monitoring processes, perceived gaps in monitoring and evaluation, suggestions for community participation mechanisms, and implementation considerations. The interview protocol was pilot-tested with two individuals representing different stakeholder groups and subsequently refined before full implementation.

One of the challenges in data collection is scheduling data gathering sessions with personnel from the gas separation plant project and consultancy firm staff to prepare monitoring and surveillance reports. Due to the fact that information disclosure may involve sensitive corporate constraints, the gas separation plant project has authorized only two representatives: one staff member from the project and one from the consultancy firm to conduct the interviews.

The researchers verified data reliability through triangulation analysis, including data triangulation, methodological triangulation, and theory triangulation. This process examined whether data obtained from different sources—including focus group discussions, semi-structured interviews, M&E reports, EHIA, HIA, and CHIA reports, books, and related research—provided similar or different information. Subsequently, typological analysis was conducted by categorizing data into groups or types according to data characteristics.

## **RESEARCH RESULTS**

### **1) Community-Based Monitoring and Evaluation Approach for Impact Assessment: Thailand-Malaysia Natural Gas Separation Plant Project**

The development of monitoring and evaluation guidelines applied the CHIA process, which represents a collaborative learning process among community members. The M&E approach that was developed through focus group discussions with various stakeholder groups and key informant interviews yielded guidelines encompassing six steps, as detailed below.

**Step 1:** Building knowledge and understanding to establish objectives and direction for community-based M&E that aligns with the local context and establishing a working committee.

**A policy maker emphasized the importance of starting with knowledge development:**

*"For the monitoring and evaluation process to be successful, community members must first understand what they're monitoring and why. This includes basic knowledge of environmental health impacts, monitoring techniques, and the relationship between project activities and potential impacts on their lives."*

**An academic participant further elaborated on the institutional support needed:**

*"Agencies with legally mandated roles like the National Health Commission Office should initiate this process by conducting knowledge-building workshops in affected communities. Without this foundation, communities cannot effectively participate in subsequent steps."*

**Step 2:** Capacity development for the community M&E working committee to enhance knowledge, understanding, and analytical skills for evaluating project M&E reports and producing concise, accessible documents or media that effectively communicate information to the community.

**A civil society representative described the practical needs in this step:** *"Most community members find project monitoring reports incomprehensible due to technical language and complex data presentation. Our working committee needed training in how to analyze these documents and translate them into formats our community members can understand and engage with."*

**A government agency representative added:** *"The capacity development should be hands-on. In our experience, theoretical training alone isn't sufficient. Community representatives need to practice analyzing actual monitoring reports and identifying gaps between reported data and community experiences."*

**Step 3:** Organizing forums that include presenting summarized project M&E reports to the community, presenting both positive and negative impacts, and selecting issues for community-based monitoring and evaluation along with detailed action planning.

**A community representative from the affected area shared their experience:** *"When we organized community forums to discuss the project reports, we discovered many impacts that weren't being monitored at all. Odor problems affecting our fishing activities, for example, weren't included in any official monitoring parameters despite being a major concern for our livelihood."*

**A project representative acknowledged the value of this approach:** *"Through these forums, we gained insights into community priorities that weren't initially apparent to us. This helped us understand which aspects of our monitoring needed strengthening to address real community concerns."*

**Step 4:** Monitoring and evaluation according to the action plan, comprising implementing community-based monitoring, analyzing results, comparing data with project M&E reports, and preparing a draft community-based M&E report.

**An academic supporting the process explained:** *"The community monitoring process doesn't replace official monitoring but complements it with local knowledge. For instance, when community members collected water samples from locations not covered in official monitoring, we found contamination issues that would have otherwise gone undetected."*

**A civil society representative highlighted the collaborative aspect:** *"Our approach wasn't about proving the project wrong but creating a more complete picture. When we compared our findings with official reports, sometimes they matched, sometimes they differed. The comparison itself was valuable for building mutual understanding."*

**Step 5:** Organizing a review process for the community-based M&E draft report, to review the draft, provide recommendations, and develop recommendations for project implementation.

**A government official spoke about the importance of verification:** *"The review process must involve all stakeholders—community members, project representatives, and government agencies. When the Chana community presented their monitoring findings on wastewater issues, having multiple perspectives during the review helped validate the data and develop practical mitigation measures."*

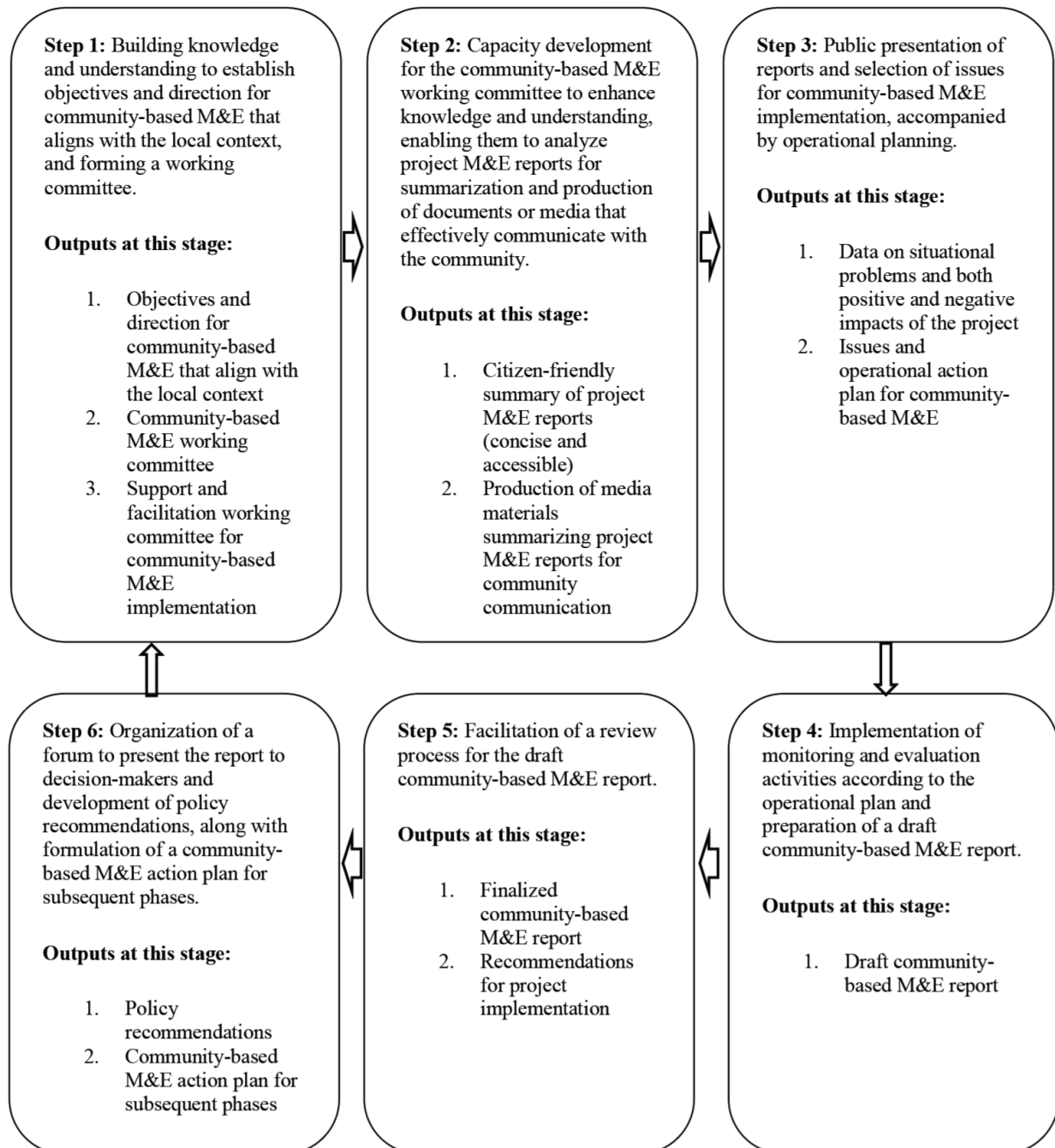
**A community member emphasized transparency:** *"Our experience with previous monitoring reports was that they'd be produced but never properly communicated back to us. In our approach, the review process ensured that findings were openly discussed and verified by multiple parties before finalization."*

**Step 6:** Organizing a forum to present the community-based M&E report, provide recommendations, develop policy recommendations, and establish community-based M&E action guidelines for subsequent phases.

**A policy maker reflected on long-term implications:** *"The final step must address sustainability. In one community forum, participants developed recommendations not just for the immediate issues but for how monitoring should evolve as the project continues operating. This included proposing changes to monitoring parameters and frequency based on community experiences."*

**A project representative acknowledged the value of this approach:** *"The recommendations that emerged from the community process were more practical and context-specific than what external consultants typically provide. For example, suggestions about timing water quality monitoring to coincide with fishing seasons showed an understanding of both project operations and community needs."*

All six steps are illustrated in the flowchart shown in Figure 1.



**Figure 1.** Summary of all six steps

## DISCUSSION

The community-based monitoring and evaluation approach for impact assessment of the Thailand-Malaysia Natural Gas Separation Plant project was developed through the application of the CHIA process. The six-step approach represents a comprehensive framework that positions communities as primary agents in monitoring and evaluation, which aligns with Yaowakhan's (2012) assertion that CHIA is a process that enables communities to assess themselves and determine their future.

Key factors affecting the successful implementation of this approach can be categorized into internal and external factors. Internal factors include the community's role in monitoring and evaluation, community strength through collective organization, and knowledge and information exchange. The distinctive characteristic of strong communities in the Chana area is their ability to create cohesive solidarity, with residents from multiple villages collaborating to analyze problems and collect data. This finding supports Rattanadilok Na Phuket's (2021) research on community strength, which emphasizes that powerful communities exhibit strong mutual attachment and a sense of belonging.

The developed approach addresses significant weaknesses in traditional monitoring and evaluation processes, particularly the disconnect between project monitoring reports and actual community concerns. Cohen and Uphoff (1980) emphasize that genuine participation must occur at every stage of development projects. Similarly, McKenzie et al. (2006) note that participatory monitoring and evaluation differs from traditional approaches by involving stakeholders in all aspects, from problem identification to data collection and analysis.

The emphasis on community knowledge aligns with Kemm's (2007) assertion that only community members themselves thoroughly understand their contextual background and possess optimal knowledge of environmental resources in their localities. This is particularly important when assessing sensitive issues such as social and spiritual dimensions, which Chadderton et al. (2013) argue may not be comprehensively addressed through technical and quantitative assessment approaches typically employed by academics or consulting firms.

External factors encompass supporting networks, stakeholder participation, budget support, and communication mechanisms. Academics play a crucial role as connecting points between projects, third-party agencies, and communities, working on the basis of data and facts to



earn acceptance from all parties. This collaborative approach reflects Mindell et al.'s (2003) argument that diverse knowledge systems are necessary for comprehensive impact assessment, including scientific disciplines, arts, and local wisdom.

The six-step approach developed in this study builds upon Sutheravut's (2010) observation that CHIA serves as a channel encouraging community members to participate in public health policy development processes, leading to policies that genuinely align with community ideologies and needs. The approach also addresses challenges identified by SGS Thailand (2016) regarding compliance with environmental impact prevention and mitigation measures by incorporating community-led verification processes.

Budget allocation should be directed through local administrative organizations or established as a third-party fund to ensure independence from project interests. By emphasizing genuine community participation throughout all steps, this approach enables comprehensive assessment across all dimensions—social, economic, health, natural resources, and environmental—while facilitating collaborative learning among all stakeholders, consistent with Colleen's (2009) concept of community-driven health impact assessment for safeguarding community well-being.

## CONCLUSION

This research has developed a community-based monitoring and evaluation approach for impact assessment of the Thailand-Malaysia Natural Gas Separation Plant through the application of the Community Health Impact Assessment (CHIA) process. Key findings emphasize that community strength and partnership networks are critical internal factors for the success of this process, particularly in the context of Chana District, Songkhla Province, which demonstrates robust community cohesion through collective organization and networks that drive development and resource conservation initiatives.

Essential external factors contributing to the sustainability of this approach include: 1) Supportive laws or policies; 2) Establishment of community monitoring and evaluation funds managed by local administrative organizations; 3) Development of curricula aligned with community-based monitoring and evaluation approaches; and 4) Creation of communication mechanisms and information management systems for community monitoring and evaluation results.

This study demonstrates that the community-based monitoring and evaluation approach can effectively address existing gaps in traditional impact assessment processes, particularly regarding social and spiritual dimensions that are often not comprehensively assessed by external experts. This process not only enables communities to design appropriate processes and develop suitable tools for impact assessment but also promotes genuine participation and collaborative learning among communities, projects, and relevant agencies, which forms an essential foundation for sustainable development and conflict reduction in the area.

## ACKNOWLEDGEMENTS

We would like to thank the National Health Commission Office (NHCO) for the research funding support.

## HUMAN RESEARCH ETHICS

This research has received ethical approval from the Ethics Committee of the Public Policy Institute, Prince of Songkla University.

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# Designing Impactful Biology Exhibitions: A Synthesis of Best Practices, Narrative Strategies, and Evaluation Frameworks

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## ABSTRACT

Biology exhibitions in museums serve as vital platforms for advancing science education and fostering public engagement with complex biological concepts. This literature review synthesizes current research, institutional best practices, and illustrative case studies to develop comprehensive guidelines for organizing effective biology exhibitions. Drawing on recommendations from leading institutions such as the American Alliance of Museums, the Smithsonian Institution, and Museums Victoria, the review explores ethical standards, exhibition planning frameworks, and audience-centered engagement strategies. Key considerations addressed include articulating clear educational objectives, understanding the needs and expectations of target audiences, constructing coherent and compelling narratives, selecting diverse interpretive tools, ensuring the ethical preservation and presentation of biological specimens, and promoting accessibility and inclusivity for all visitors. The academic literature emphasizes the importance of museum-audience interaction, the pedagogical effectiveness of exhibition design, and the role of interdisciplinary collaboration in curatorial practices. Case studies from renowned institutions such as the American Museum of Natural History and the Science Museum in London provide practical insights into innovative exhibition methodologies. In addition, the report outlines evaluation techniques for assessing exhibition impact and offers guidance on scholarly documentation and referencing. By integrating these evidence-based strategies, museums can develop biology exhibitions that not only inspire curiosity and deepen understanding but also contribute to a more scientifically literate and engaged public.

**Keywords:** Biology, Exhibition, Museum organizations

## INTRODUCTION

Biology exhibitions in museums represent a significant intersection between scientific communication and public engagement, offering visitors opportunities to interact with biological concepts beyond traditional classroom settings. As dynamic interfaces between knowledge dissemination and

experiential learning, these exhibitions have emerged as vital platforms for promoting scientific literacy and fostering curiosity about the living world (Allen, 2004; Block et al., 2012). By translating complex and often abstract biological principles into accessible, tangible encounters, exhibitions facilitate informal learning processes that operate across cognitive, affective, and experiential dimensions (Falk & Storksdieck, 2005; Mortensen, 2011).

The educational potential of biology exhibitions is shaped not only by their content but also by their design, which must balance informational accuracy with the ability to intrinsically motivate and sustain visitor engagement (Allen, 2004; Chang, 2006). An effective exhibition must take into account a range of interacting variables, including visitors' prior knowledge, interest levels, opportunities for social interaction, and the layout and interactivity of the exhibits themselves (Falk & Storksdieck, 2005). Furthermore, the physical and sensory qualities of the exhibition environment—captured in the concept of atmospherics—exert a substantial influence on the visitor experience by shaping emotional responses, guiding movement, and encouraging exploration (Forrest, 2013).

Given the increasing urgency of public understanding of science, particularly in relation to pressing global issues such as biodiversity loss and climate change, the role of biology exhibitions in promoting awareness and shaping environmental attitudes has become increasingly prominent (Falk & Dierking, 2018). In response to these imperatives, the present study synthesizes empirical literature, institutional best practices, and illustrative case studies to offer practical guidelines for the development of effective biology exhibitions in museum contexts. The discussion explores key design principles, strategies for optimizing learning outcomes, frameworks for evaluating visitor engagement, and guidance on scholarly communication, thereby contributing to the enhancement of science communication through museum-based exhibitions.

## **LITERATURE REVIEW**

### **1. Communicating the content of the exhibition**

Museum exhibitions have evolved from traditional static object displays into narrative-centered dynamic spaces that promote high levels of cognitive and emotional interaction. The latest studies show that combining physical artifacts with texts for interpretation and multimedia interactive components creates educational experiences with multiple layers of meaning (Blunden, 2020; Stogner, 2011). Exhibitions today function as participatory venues where visitors engage with content through dialogue, which fosters empathic understanding alongside critical examination and active interpretation (du Toit & Dye, 2008; Schorch, 2013). Creating these environments demands a cooperative effort from curators, designers, educators, and technologists, who together build immersive stories that surpass visual presentation to establish memorable experiences (Popoli & Derda, 2021). Museums broaden their

communication capabilities through the strategic application of digital technologies such as augmented reality and mobile applications, which enhance accessibility and interpretive richness for varied audiences (Kim, 2018; Pietroni, 2019).

Well-planned storylines, which segment content thematically to guide visitors through both intellectual and physical exploration, are essential for effective exhibition narratives. The exhibition planning process goes beyond object curation because it requires creating a logical sequence featuring an initial introduction to the main theme followed by detailed exploration of primary ideas and highlighting key focal points before concluding with a summary synthesis. The National Museum Office, Fine Arts Department (2004), states that such structural organization parallels cinematic storytelling techniques because continuity and progression amplify emotional resonance and clarity. The visitor experience of content is determined by both the spatial arrangement of artifacts and multimedia elements and the atmospheric design of the exhibition space. Museum exhibitions should be designed to deliver scientific or historical content while also stimulating curiosity and supporting multisensory learning to invite visitors to interpret the exhibits, which transforms museums into interactive educational spaces that prioritize meaningful communication through experiential learning (ICOM, OECD, 2019).

## **2. Storytelling Canvas**

The expanding role of storytelling within media production and research dissemination demonstrates a rising awareness of its value for cognitive processing, emotional connection, and knowledge creation. Storytelling functions as an effective tool across both academic and professional domains to increase audience participation while enabling better understanding of messages and encouraging decisions based on evidence. Sundin et al. (2018) maintain that narrative methods significantly enhance stakeholder engagement in systematic reviews while also enabling knowledge retention for various audience groups. Research in neuroscience supports the persuasive power of storytelling because personal narratives generate more robust and consistent neural responses in frontal and parietal brain regions than non-narrative formats (Grall et al., 2021). Storytelling within digital and social media spaces generates both cognitive interest and emotional response, while participatory narratives lead to self-reflection and enhanced connection with the narrative world (De Fina, 2016). The evolution of digital platforms has resulted in storytelling within journalism, advertising, and advocacy adopting more interactive, user-focused approaches that fundamentally reshape message creation and reception (Deuze, 2005).

The Storytelling Canvas has become both a functional and conceptual structure to create audience-focused narrative content that aligns strategically. The essence of this approach requires content creators to balance their intended messages with the audiences' needs to understand and take action. Executive Editor Nakarin Wanakitpaiboon from THE STANDARD online news agency introduced his model, “Why

Audience Centricity is the Key to Killer Content,” in 2021, which explains storytelling as a dialogic process that depends on mutual relevance and appropriate timing. He identifies seven essential principles for narrative alignment: Content creators should match their content to their objectives while choosing the right audience and meeting their needs through suitable communication channels to deliver it at appropriate times and locations. The canvas creates stories that touch audiences intellectually and emotionally by making the audience central to the creative process.

Nakarin Wanakitpaiboon (2021), Executive Editor of *THE STANDARD* online news agency, articulates the framework through a comprehensive model titled “*Why Audience Centricity is the Key to Killer Content.*” He outlines 14 interconnected elements that serve as a diagnostic and creative guide for audience-centered storytelling: (1) *Goal*—the rationale for telling the story; (2) *Unique Selling Point*—the distinctive value that differentiates the content from others; (3) *Target Audience*—the demographic or psychographic group and their specific expectations; (4) *Channel*—the communication platform selected based on audience behavior and media compatibility; (5) *Mood and Tone*—the emotional quality and stylistic tone of the narrative; (6) *Key Message*—the core idea encapsulated succinctly; and (7) *Audience-Centric Checkpoint*—a reflection on why the content is relevant to the audience and how it diverges from competing narratives. The model further incorporates analytical prompts such as: (8) *Level of Interest*—the degree to which the content captures attention; (9) *Usefulness*—the practical or intellectual value for the audience; (10) *Before*—the audience’s prior knowledge or perception of the topic; (11) *Introduction*—strategies for laying narrative groundwork; (12) *AHA! Moment*—the pivotal insight or emotional turning point; (13) *Conclusion*—the resonance and direction of the closing segment; and (14) *After*—the post-exposure reflection, linking back to the audience’s initial perspective. This integrated approach enables storytellers to create narratives that effectively persuade audiences and stay memorable while meeting audience expectations, which strengthens the media product's impact and communication effectiveness.

## RESEARCH METHODOLOGY

This study used a literature review approach of books, academic journals, and research reports related to the topic of museum- visitor interaction, as well as exhibition design strategies and interdisciplinary participation in exhibition organization. The study was conducted by selecting published articles in national (TCI) and international (SCOPUS) academic journals and by studying academic documents and certification documents from the American Museum of Natural History and the Science Museum in London. The case studies evaluated demonstrate that combining scientific content with immersive storytelling, along with interactive technologies and audience-focused strategies, results in more impactful and meaningful visitor interactions.



## RESEARCH RESULTS

Prominent museum associations and institutions have developed comprehensive guidelines and ethical frameworks that have informed exhibition organizations for many years. The established standards offer curators and exhibition designers a basic framework that guarantee exhibitions deliver educational value and engagement while maintaining ethical responsibility and accessibility across diverse audiences.

The American Alliance of Museums (AAM) began its operations in 1925 and has significantly impacted the development of museum sector ethical and professional guidelines within the United States and internationally. Museums have a fundamental responsibility to serve the public according to the AAM's Code of Ethics while maintaining their trustworthiness as caretakers of collections. In biology exhibitions, preservation and documentation of biological specimens must be conducted carefully, and access must remain responsible (American Alliance of Museums [AAM], n.d.). The AAM defines a systematic multi-stage method for developing exhibitions that includes planning and content design along with installation and educational integration. The Core Standards for Education and Interpretation require museums to develop explicit educational goals alongside methods that address the audience's needs to effectively teach complex science topics to varied population groups. The AAM offers extensive instructions for the ethical presentation of borrowed artifacts, which protects both intellectual integrity and institutional mission during loan exhibits.

Institutions with diverse resource levels benefit from the Smithsonian Institution's strong exhibition design framework, which matches their multidisciplinary expertise. The institution provides modular exhibition formats such as traveling shows, build-it-yourself setups, and poster exhibitions that work well within different institutional environments (Smithsonian Institution, n.d.). The Smithsonian Institution forms its exhibition design process around the creation of a specific purpose statement and an overarching "big idea," which functions as the core concept directing all design and content choices. Successful exhibit creation demands a deep insight into the target audience by evaluating their demographic data as well as their existing knowledge and motivational drivers to shape effective exhibit narratives and interpretive methods. The institution offers practical guides for exhibit development and interpretive label writing, which serve as essential tools for museum professionals to improve clarity, accessibility, and visitor engagement across different profiles.

The Australian Organization Museums Victoria provides valuable insights that highlight the essential role's visual identity and spatial planning, along with interpretive accessibility, play within exhibition design. The institution suggests that exhibition designers maintain visual unity by incorporating signature visual motifs across title walls and marketing materials (Museums Victoria, n.d.). The institution supports the use of physical and digital pre-visualization methods to refine layout designs for improved visitor flow and the strategic placement of content. The manual includes extensive technical instructions



for building display cases while managing environmental controls to ensure artifact protection and public safety. The institution suggests a layered labeling framework that starts with an engaging exhibition title and opening panel and continues with middle-tier content panels along with succinct labels for specific objects. Accessible language combined with ideal font selection and layered text presentation together improve content understanding. Museums Victoria acknowledges digital media's growing importance by promoting multimedia content integration and curatorial skills development in analog and digital storytelling.

The combined exhibition design frameworks from AAM, the Smithsonian Institution, and Museums Victoria establish an all-encompassing basis for creating visually appealing museum exhibits that maintain educational value while upholding ethical standards to serve diverse audience groups. Museum professionals who follow these recognized international standards have the tools required to develop experiences that are both meaningful and transformative, based on scholarly integrity together with inclusive design principles. Table 1 summarizes the best practices from museum organizations.

**Table 1: Summary of Best Practices from Museum Organizations**

Organization	Key Focus Areas	Summary of Key Guidelines/Recommendations
American Alliance of Museums (AAM)	Ethics and Standards	Adhere to high ethical standards; prioritize DEAI; ensure responsible collection stewardship and accessibility; uphold educational purpose of programs.
AAM	Exhibition Planning Process	Follow a phased process (planning, development, design, installation); utilize resource library and <i>Exhibition</i> journal.
AAM	Audience Engagement	Understand audience characteristics and needs; base interpretation on research; ethically manage borrowed objects.

<b>Organization</b>	<b>Key Focus Areas</b>	<b>Summary of Key Guidelines/Recommendations</b>
Smithsonian Institution	Exhibition Planning Process	Define purpose statement and main message ("big idea"); consider traveling, build-it-yourself, and poster exhibition formats.
Smithsonian Institution	Audience Engagement	Identify target audience and tailor exhibition to their interests and learning styles; consider diverse backgrounds and accessibility needs.
Smithsonian Institution	Physical Design and Layout	Consider impact, tone, and organization (linear, free-flow, thematic); plan visitor flow.
Smithsonian Institution	Labelling and Interpretation	Utilize guides for label writing and exhibit development.
Museums Victoria	Physical Design and Layout	Maintain consistent overall look and feel; mock up exhibition layout; adhere to guidelines for display cases and wall attachments.
Museums Victoria	Labelling and Interpretation	Use layered information; employ concise and conversational text; choose clear font choices.
Museums Victoria	Use of Digital Media	Recognize the need for both curatorial and digital content production skills.

Creating a successful biology exhibition requires careful planning and step-by-step implementation throughout all phases of the exhibition's lifecycle. The exhibition's development process requires focused attention on unique but interrelated factors throughout each stage, including conceptual framing and audience engagement, along with ethical stewardship and accessibility. Multiple interconnected

considerations work together to determine an exhibition's educational effectiveness, ethical integrity, and experiential quality.

### **1. Defining Objectives and Scope**

The first and essential step in exhibition planning involves establishing clear objectives and boundaries. The exhibition planning process requires clear identification of educational and affective goals that focus on improving scientific literacy, changing visitor attitudes, and prompting behavioral change (Dean, 2009). Defining a clear exhibition scope requires selecting fundamental biological subjects like biodiversity and ecosystem dynamics, which must align with the museum's institutional mission and curatorial goals, according to Falk and Dierking (2013). The planning phase requires practical considerations such as space limitations and financial boundaries along with project schedules that determine both the content and its presentation method (Lord & Economou, 2016). Early establishment of clear parameters enables exhibition teams to maintain thematic consistency and logistical practicality in every development stage.

### **2. Understanding the Target Audience**

Creating an exhibition that appeals to different demographic and educational groups requires a profound understanding of the intended audience. To determine which visitor groups will attend—including families, school-age learners, or general audiences, one must evaluate their fundamental biological knowledge alongside their specific thematic interests and learning preferences, as suggested by Falk and Dierking (2013). Museums need to acknowledge their diverse audience makeup through understanding differences in age groups, cultural backgrounds, educational levels, and cognitive or physical abilities. Curators need to plan for audience diversity and incorporate sensitivity and adjustable approaches in their interpretive methods to create inclusive experiences (Smith, 2014). Exhibitions that closely mirror their audience's needs and perspectives naturally enhance visitor engagement and understanding while encouraging repeat visits.

### **3. Crafting a Compelling Narrative**

The ability of a biology exhibition to effectively deliver complex scientific content depends heavily on its narrative structure. A cohesive storyline allows visitors to understand biological connections between various concepts and specimens more meaningfully (Crane, 1994). A narrative structure must plan for content sequencing, which can be chronological, like evolutionary timelines, or thematic, such as habitat type or ecological function, according to Dean (2009). Every exhibition section needs to support the main theme through distinct sub-messages that act as interpretive anchors regardless of how the sections are

organized. By delivering interpretive sub-messages, visitors can maintain their grasp on central concepts while placing their learning within context, which strengthens the main educational objectives of the exhibition, according to Dean (2009). The narrative needs to achieve a delicate balance between science-based precision and approachable content to provide deep intellectual insights as well as widespread public interest.

#### **4. Selecting Interpretive Tools and Techniques**

A biology exhibition's success depends on how interpretive methods deliver scientific information to audiences with differing learning styles. The deliberate choice of interpretive tools, which includes authentic biological specimens and anatomically precise models along with interactive digital technologies and immersive multimedia, allows museums to communicate complex ideas through multisensory experiences (Dean, 2009). Simulation-based hands-on exhibits, which allow visitors to experiment with biological processes and scientific phenomena, greatly improve their cognitive learning while increasing emotional engagement (Perry, 2012). Dynamic systems and microscopic processes become easier to visualize with digital media tools such as videos and augmented reality, which help overcome the limitations of static displays (Tallon & Walker, 2008). To support interpretive clarity, exhibition text must be carefully crafted: Exhibition texts require labels and panels that deliver information concisely and in a structured manner while presenting layered content to accommodate different knowledge backgrounds.

Accessible font styles combined with optimal contrast and reader-friendly formatting make information both easy to read and engaging while avoiding visitor overload.

#### **5. Ethical Preservation and Presentation of Specimens**

Curatorial practice relies heavily on the ethical handling and presentation of biological specimens. Museums have a professional and moral duty to acquire and preserve specimens according to scientific standards while ensuring public trust, especially when handling sensitive items like endangered species artifacts and human remains (Smith, 2014). Established scientific protocols must guide preservation methods to ensure specimens remain physically intact for research and educational purposes over time (Crane, 1994). The exhibition of biological specimens requires a presentation method that respects both their scientific relevance and cultural importance. Museums today face growing demands to implement ethical display methods that reject sensationalism while emphasizing transparency together with accurate context and respectful portrayal (Association of Systematic Collections, 1993). These methods support the museum's dual responsibility for biodiversity stewardship alongside public education efforts.

## 6. Ensuring Accessibility and Inclusivity

Creating inclusive and accessible exhibitions for diverse audiences stands as a fundamental principle of ethical exhibition design. A holistic approach to accessibility must cover physical, intellectual, and emotional dimensions. Physical access requires the creation of spaces that are accessible to all visitors through features like barrier-free pathways and adjustable exhibit heights, which cater to wheelchair users and those with mobility limitations (Smith, 2014). To achieve intellectual access, we must present scientific concepts in simpler terms without losing accuracy while eliminating jargon and providing information through visual, auditory, and tactile formats (Crane, 1994). Emotional access means selecting content that honors cultural values, beliefs, and identities, leading to greater inclusion and belonging (Hooper-Greenhill, 1999). The biology exhibition environment becomes more inclusive by offering multilingual resources along with sensory-friendly settings and specific accommodations for neurodivergent or cognitively diverse visitors. Table 2 shows examples of successful biology exhibitions.

**Table 2: Examples of Successful Biology Exhibitions**

<b>Museum Name</b>	<b>Exhibition Title</b>	<b>Key Themes/Topics</b>	<b>Innovative Features/Strategies</b>
American Museum of Natural History	Invisible Worlds	Biodiversity, interconnectedness of life	Immersive and interactive 360-degree experience
American Museum of Natural History	Hall of Human Origins	Human evolution, fossils, DNA research	Life-sized tableaux, fossil casts, genomic science integration
Science Museum, London	Who Am I?	Human identity, genetics, brain function	Interactive displays, explores scientific techniques
Science Museum, London	Cancer Revolution	Cancer biology, treatment, innovation	Objects, artwork, personal accounts

Museum Name	Exhibition Title	Key Themes/Topics	Innovative Features/Strategies
Natural History Museum of Utah	Nature's Ultimate Machines	Biomimicry, natural engineering, adaptation	Real specimens, interactive displays, scale models
The Tech Museum of Innovation	Bio Design Studio	Biomimicry, bioengineering, sustainable future	Hands-on activities, interactive displays

## DISCUSSION AND CONCLUSION

Analyzing biology exhibitions systematically helps us grasp how they affect visitors' learning and emotional responses. Exhibition evaluation serves to measure how well displays achieve their goals and drives ongoing improvements and creative advancements in exhibition creation. Falk et al. (2007) highlight that museums divide evaluation into three main stages—front-end evaluation, formative evaluation, and summative evaluation— to maintain exhibitions as relevant, engaging, and impactful. In biology exhibitions, these three evaluation phases enable a developmental progression that starts with audience needs assessment and ends with a detailed evaluation of scientific concept communication effectiveness.

This study builds upon established research in museum-based learning by providing new insights that expand current understanding. According to Falk and Storksdieck (2005), museums as informal learning spaces attract visitors by combining cognitive understanding with emotional responses and experiential learning opportunities. Biology exhibitions stand out as exceptional venues for transforming intricate scientific concepts into tangible experiences that stimulate curiosity and build a deeper understanding (Mortensen, 2011). Evaluation frameworks need to measure both immediate indicators like time spent at exhibits and feedback while also tracking long-term learning paths and changes in scientific attitudes alongside the growth of critical thinking abilities. The difficulties of evaluating learning within informal educational settings are substantial when social and emotional factors are taken into account, yet new evaluation approaches are demonstrating potential in documenting visitors' comprehensive experiences (Falk et al., 2007).

Biology exhibitions become more educationally effective through the integration of storytelling methods. As outlined by Sundin et al., research published in 2018 demonstrates that narrative methods enhance information recall and stakeholder involvement when dealing with complicated or abstract subjects. Research in neuroscience demonstrates that personal storytelling generates stronger and more

reliable brain activity compared to conventional teaching methods (Grall et al., 2021). Biology exhibitions now integrate storytelling techniques that reflect modern museum interpretation trends, where curators and educators team up to build compelling emotional narratives that engage visitors to think deeply and form their interpretations (du Toit & Dye, 2008; Schorch, 2013). Exhibitions can generate empathy and scientific understanding while motivating behavioral changes through structured storytelling, which links biological concepts to real-world consequences.

Strategies for designing exhibition narratives become more sophisticated through the use of frameworks like the Storytelling Canvas (Wanakitpaiboon, 2021). The model establishes a systematic approach to match content with audience requirements while focusing on purpose clarity alongside emotional resonance and contextual relevance. This method reflects the curatorial techniques mentioned in scholarly works, which recommend organizing exhibition material to lead visitors from an engaging start through essential themes and ending in a reflective conclusion (National Museum Office, Fine Arts Department, 2004). The structural components ensure content accessibility while delivering an immersive experience, which is especially effective through digital enhancements like augmented reality and multimedia applications (Kim, 2018; Pietroni, 2019).

Evaluating biology exhibition success depends on the careful analysis of exhibition atmospherics alongside how content delivery is spatially arranged. Forrest (2013) demonstrated that an exhibition's physical aspects, which include lighting conditions, color schemes, sound settings, and spatial organization, deeply influence how visitors feel emotionally and move through space. Proper implementation of environmental cues improves understanding of exhibits and strengthens narrative consistency while promoting extended visitor engagement. This study demonstrates how combining atmospheric design with thematic organization and multisensory interpretive elements boosts biology exhibitions' ability to deliver complex scientific information to various audience groups.

The design and delivery of exhibitions become both inclusive and effective through alignment with audience-centered approaches. According to Allen (2004) and Chang (2006), successful exhibitions need to consider multiple levels of visitor knowledge while recognizing diverse learning methods and cultural perspectives. Museums that make intellectual and physical accessibility a priority increase their audience size while meeting their mission to serve as inclusive educational spaces (Smith, 2014; Hooper-Greenhill, 1999). Through storytelling, institutions can deliver content in various formats that address linguistic diversity as well as neurodivergent needs and differing sensory requirements. These narrative-based participatory exhibition models create more profound public engagement while reflecting contemporary museums' democratic principles.

While exhibition theory and evaluation practice have advanced considerably, researchers still face major obstacles to developing standardized and dependable long-term impact metrics. Falk et al. (2007)

observed that existing evaluation models face difficulties when attempting to measure long-lasting changes in knowledge, attitudes, and behaviors within natural history and science museum settings. An urgent requirement exists for both longitudinal evaluation techniques and interdisciplinary methodological advances. Research initiatives moving forward should investigate comprehensive methods that integrate observational data with visitor-created artifacts alongside digital analytics and follow-up studies to determine the lasting influence of biology exhibitions beyond initial visitor responses.

To sum up, the effectiveness of biology exhibitions relies on having accurate scientific content and the application of curatorial methods that ensure meaningful content delivery. Museums can produce educational and inspiring exhibitions by combining narrative structures with multisensory design and audience-responsive frameworks and applying rigorous evaluation practices. The research supports emerging storytelling methods like the Storytelling Canvas as essential tools for exhibition development that help institutions meet visitors' expectations while achieving their goals. Biology exhibitions lead science communication by creating spaces where knowledge meets curiosity and empathy, a response to the increasing public demands for scientific understanding amid global challenges. These spaces will maintain their importance in educational development and societal change through ongoing evidence-based design along with inclusive practice and iterative evaluation.

## **ACKNOWLEDGEMENT**

A successful biology exhibition in a museum needs detailed planning and diverse methods that combine museum best practices with research findings and analysis of exemplary case studies. The exhibition development process must begin with a precise definition of its goals, scope, and intended impact along with detailed research into the target audience's interests as well as their existing knowledge base and preferred learning styles. A thematically unified narrative supported by carefully chosen interpretive tools like physical specimens and digital media creates essential engagement that lasts. Ethical standards for acquiring, preserving, and exhibiting biological materials, along with dedicated inclusivity efforts for different visitor groups, are of equal importance to exhibition success. Research shows that successful exhibition design now focuses heavily on audience engagement alongside collaborative development and evidence-based evaluation methods. Effective biology exhibitions blend immersive technological experiences with interactive elements and use iconic specimens along with essential biological ideas to spark visitor curiosity and enhance comprehension. Mixed-method approaches provide essential evaluation tools to measure educational impact and drive iterative enhancement processes. The utilization of established guiding principles and interdisciplinary knowledge enables museums to create biology exhibitions that enhance scientific literacy and foster an appreciation of nature while promoting reflective inquiry.



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# **The Influence of Total Quality Management and Just in Time on the Operational Performance of the Restaurant "Kedai Kita"**

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## **ABSTRACT**

This study aims to analyze the influence of Total Quality Management and Just In Time on the operational performance at "Kedai Kita" restaurant. The research is based on the significance of operational performance as an indicator of a restaurant's success in meeting customer satisfaction, focusing on improving service quality, product quality, and inventory management. The research method employed is quantitative, using the SEM-PLS approach and the SmartPLS 4.0 application for inferential analysis techniques. Data were collected through a Google Forms questionnaire distributed to 82 employees of "Kedai Kita" restaurant in Bogor. The findings of the study indicate that (1) Total Quality Management has a positive and significant impact on operational performance, particularly through elements such as customer focus, teamwork, continuous process improvement, education and training, as well as employee involvement and empowerment; (2) Just In Time positively and significantly affects operational performance through indicators such as supplier relationships, accurate scheduling, and employee commitment; and (3) Total Quality Management and Just In Time simultaneously influence operational performance. This study provides practical recommendations for the management of "Kedai Kita" restaurant to continuously integrate these two strategies into daily operations.

**Keywords:** Total Quality Management, Just In Time, Operational Performance, Kedai Kita.

## INTRODUCTION

The driving factor of the Indonesian economy is the existence of the food and beverage industry. The Food and Beverages industry is spread very widely in various regions of Indonesia and this has made the industry experience quite rapid growth lately. One of the provinces in Indonesia that has experienced an increase in the Food and Beverages industry is West Java. Restaurants are one form of business in the Food and Beverages industry that operates in permanent buildings. This business offers food and drinks to the general public, with or without providing facilities for making and storing, and has obtained official permits from the authorized agency (Badan Pusat Statistik Indonesia, 2022). "Kedai Kita" is one of the restaurants operating in West Java Province, precisely in the Bogor and Bintaro areas. This restaurant was founded in 2003 by Mr. Resa Randing. The "Kedai Kita" restaurant was first established on Jl. Pangrango No.21, Babakan, Bogor Tengah District, Bogor City, West Java 16128. Since its inception, the "Kedai Kita" restaurant has continued to grow and currently has five outlets, with four branches in Bogor City, namely "Kedai Kita" East Bogor, "Kedai Kita" Cimanggu, "Kedai Kita" Pangrango, and "Kedai Kita" Taman Budaya and 1 other branch in Bintaro. The "Kedai Kita" restaurant offers pizza and pasta as its main products, with Wood-Fired Pizza and Black Pepper Beef Noodles as its mainstay menus.

Customer satisfaction can be influenced by the quality of food or products from a restaurant. In running its business, restaurants are required to continue to maintain the quality of the products they make. By making quality products, the company can achieve its goals, namely to meet customer satisfaction (Ndraha et al., 2022). Customer satisfaction is an effort to ensure that products or services are in accordance with customer preferences or expectations (Olayiwola et al., 2024). In addition, service quality can also affect customer satisfaction. Therefore, the quality of restaurant service must always be maintained properly and continuously improved in order to maintain customer satisfaction.

In maintaining customer satisfaction, restaurants must be able to maintain their raw materials so that they do not run out. Raw material shortages can occur due to supplier constraints, such as late delivery. If this delay continues to occur, the company will experience losses, such as complaints from customers because the goods did not arrive on time (Somadi, 2020). Managing stock purchases properly can greatly help companies manage their inventory better (Mevia & Purnomo, 2023).

The success of a food and beverage company is determined by customer satisfaction as part of operational performance. In reality, the level of operational performance, whether high or low, can have a positive or negative impact on the company (Haris & Tanpubolon, 2022). Operational performance is

something that must always be maintained because it is in line with research by Meyrandi et al. (2023) which states that operational performance is the key to a company's success.

“Kedai Kita” Restaurant always strives to provide the best service and quality to its customers by providing training to all its employees. The training provided is adjusted to the division of each employee and is focused on interns so that they are able to understand the restaurant's Standard Operating Procedure (SOP) well. The impact of the training can be felt by the “Kedai Kita” restaurant very well because employees are able to work according to standards, thus minimizing complaints from customers. The “Kedai Kita” Restaurant also conducts daily, monthly, and annual evaluations to monitor sales performance and improve the quality of its services.

Although the "Kedai Kita" restaurant has implemented good and structured Standard Operating Procedures in its operational activities, and routinely conducts training for employees to improve service quality, this does not rule out the possibility of various obstacles in the restaurant's daily operational activities. One way to identify these problems is through reviews given by customers on the Google Review platform from each branch of the "Kedai Kita" restaurant. Obstacles were found in food presentation that underlie customer disappointment and were caused by the lack of food quality, especially related to taste. In addition, obstacles were also found related to service complained about by customers because the waiters were not friendly and not responsive in serving customers.

Food quality (product) and service quality are related to Total Quality Management, where good Total Quality Management can be used as an effort to improve problems in operational performance. Based on the existing problems, researchers will use customer focus, teamwork, continuous process improvement, education and training, and employee involvement and empowerment as indicators for this study.

Through an initial survey of the research object, it was found that warehouse management constraints occurred when the supplier had problems, such as ship shipments being held up overseas. Poor warehouse management will result in empty restaurant production which can cause complaints from customers. Delays in delivery by suppliers are related to Just In Time. Therefore, the “Kedai Kita” restaurant must optimize its Just In Time system, especially in scheduling raw material orders. Based on the existing problems, researchers will use relationships with suppliers, proper scheduling, and the commitment of all employees as indicators in the study.

Based on the operational problems experienced by the “Kedai Kita” restaurant, this has become the main focus for the “Kedai Kita” restaurant to be improved in order to maintain customer satisfaction and smooth operations, as well as being the main reason for researchers to choose the “Kedai Kita” restaurant as a research object with the aim of seeing the company's operational performance.

## RESEARCH METHODOLOGY

This study uses quantitative data obtained based on the results of Likert-scale measurements as its measurement scale. All data in this study are primary data with data collection techniques using various instruments in the form of questionnaires created using Google Forms and distributed to all employees of the "Kedai Kita" restaurant by visiting the "Kedai Kita" restaurant directly from each branch. The data analysis techniques used in this study include descriptive analysis and inferential analysis with the help of tools in the form of the smartPLS application version 4.1.0.9, with the SEM-PLS method.

### Descriptive Data Analysis

**Table 1.** Operational Performance Variable Index Values

Operational Performance	1		2		3		4		5		Total (%F x Weight)	Index
	F	%	F	%	F	%	F	%	F	%		
OP1	0	0,00 %	0	0,00 %	6	7,32%	42	51,22 %	3	41,46 %	434%	86,83%
OP2	0	0,00 %	0	0,00 %	4	4,88%	41	50,00 %	3	45,12 %	440%	88,05%
OP3	0	0,00 %	0	0,00 %	4	4,88%	34	41,46 %	4	53,66 %	449%	89,76%
OP5	0	0,00 %	0	0,00 %	1	1,22%	30	36,59 %	5	62,20 %	461%	92,20%
OP6	0	0,00 %	0	0,00 %	2	2,44%	29	35,37 %	5	62,20 %	460%	91,95%
Average Total Index											433%	86,50%

Source: Processed data (2024)

The final calculation shows that the index value of respondents' responses to the operational performance variable averages 86.5%. This index value is included in the high category if interpreted according to the three-box method, which indicates that respondents agree with the statements given regarding the operational performance variable.

**Table 2.** Total Quality Management Variable Index Values

TQM	1		2		3		4		5		Total (%F x Weight)	Index
	F	%	F	%	F	%	F	%	F	%		
TQM1	0	0,00%	0	0,00%	5	6,10%	34	41,46%	43	52,44%	446%	89,27%
TQM2	0	0,00%	0	0,00%	10	12,20%	33	40,24%	39	47,56%	435%	87,07%
TQM3	0	0,00%	0	0,00%	3	3,66%	32	39,02%	47	57,32%	454%	90,73%
TQM4	0	0,00%	0	0,00%	6	7,32%	35	42,68%	41	50,00%	443%	88,54%
TQM5	0	0,00%	0	0,00%	3	3,66%	40	48,78%	39	47,56%	444%	88,78%
TQM6	0	0,00%	0	0,00%	6	7,32%	40	48,78%	36	43,90%	437%	87,32%
TQM7	0	0,00%	0	0,00%	6	7,32%	44	53,66%	32	39,02%	432%	86,34%
TQM8	0	0,00%	2	2,44%	9	10,98%	42	51,22%	29	35,37%	420%	83,90%
TQM9	1	1,22%	1	1,22%	36	43,90%	26	31,71%	18	21,95%	372%	74,39%
TQM10	0	0,00%	1	1,22%	24	29,27%	39	47,56%	18	21,95%	390%	78,05%
Average Total Index											427%	85,44%

Source: Processed data (2024)

Overall, the average calculation of the percentage of index values for respondents' responses to the Total Quality Management variable is 85.44%, which when interpreted into the three-box method table, is in the high category. The percentage of index values that fall into the high category illustrates that respondents have a good view of the Total Quality Management variable.



**Table 3.** Just In Time Variable Index Values

JIT	1		2		3		4		5		Total (%F x Weight)	Index
	F	%	F	%	F	%	F	%	F	%		
JIT1	0	0,00%	1	1,22%	28	34,15%	38	46,34%	15	18,29%	382%	76,34%
JIT2	0	0,00%	0	0,00%	19	23,17%	37	45,12%	26	31,71%	409%	81,71%
JIT3	0	0,00%	0	0,00%	15	18,29%	43	52,44%	24	29,27%	411%	82,20%
JIT4	0	0,00%	0	0,00%	7	8,54%	43	52,44%	32	39,02%	430%	86,10%
JIT5	0	0,00%	0	0,00%	1	1,22%	36	43,90%	45	54,88%	454%	90,73%
JIT6	0	0,00%	0	0,00%	5	6,10%	37	45,12%	40	48,78%	443%	88,54%
Rata-Rata Total Indeks											421%	84,27%

Source: Processed data (2024)

The average index value of the respondents' responses to the Just In Time variable when calculated as a whole is 84.27% and when interpreted into the three-box method table, the value is included in the high category. The high percentage of the index value illustrates that the respondents have a good view of the Just In Time variable.

### Inferential Data Analysis

#### Convergent Validity Test

**Table 4.** Outer Loading Factor Values

	Operational Performance (Y)	Total Quality Management (X1)	Just In Time (X2)
OP 1	0.739		
OP 2	0.734		
OP 3	0.891		
TQM 1		0.799	
TQM 2		0.866	
TQM 3		0.801	

<b>Operational Performance (Y)</b>	<b><i>Total Quality Management (X1)</i></b>	<b><i>Just In Time (X2)</i></b>
<b>TQM 4</b>	0.718	
<b>TQM 5</b>	0.540	
<b>JIT 1</b>		0.804
<b>JIT 2</b>		0.898
<b>JIT 3</b>		0.872

Source: SmartPLS 4.0 Output Results (2024)

The value of each indicator loading factor is almost all greater than 0.70 and there is only one loading factor value that is below 0.70, which is 0.540 in the Total Quality Management 5 indicator. It can be concluded that all indicators used in this study are considered valid because they have met the convergent validity test standard, which is 0.5.

**Table 5.** Average Variance Extracted (AVE) Value

<b>Variabel</b>	<b>Average Variance Extracted (AVE)</b>
Operational Performance	0.626
<i>Total Quality Management</i>	0.567
<i>Just In Time</i>	0.738

Source: SmartPLS 4.0 Output Results (2024)

The Average Variance Extracted (AVE) value for each construct is greater than 0.50, as indicated by the AVE value for the operational performance variable of 0.626, the AVE for the Total Quality Management variable of 0.567, and the AVE for the Just In Time variable of 0.738.

## Discriminant Validity Test

**Table 6.** Cross Loading Value

	<i>Just In Time (X2)</i>	<i>Operational Performance (Y)</i>	<i>Total Quality Management (X1)</i>
JIT1	<b>0.804</b>	0.390	0.538
JIT2	<b>0.898</b>	0.532	0.666
JIT3	<b>0.872</b>	0.607	0.666
OP1	0.391	<b>0.739</b>	0.425
OP2	0.434	<b>0.734</b>	0.436
OP3	0.591	<b>0.891</b>	0.620
TQM1	0.603	0.590	<b>0.799</b>
TQM2	0.662	0.613	<b>0.866</b>
TQM3	0.549	0.446	<b>0.801</b>
TQM4	0.443	0.383	<b>0.718</b>
TQM5	0.507	0.201	<b>0.540</b>

Source: SmartPLS 4.0 Output Results (2024)

Based on 17 regarding the cross-loading value above, it can be seen that the JIT1, JIT2, and JIT3 indicators towards Just In Time has a higher correlation value compared to other variables. In addition, the OP1, OP2, and OP3 indicators towards operational performance also have a higher correlation value compared to other variables, and the TQM1, TQM2, TQM3, TQM4, and TQM5 indicators towards Total Quality Management also have a higher correlation value compared to other variables. From these results, it can be concluded that each indicator has a correlation coefficient according to its construct which shows a higher value compared to other constructs, so that all indicators and variables are considered valid because they have good discriminant validity.

**Table 7.** Heterotrait-monotrait ratio (HTMT) Value

	<i>Heterotrait-monotrait ratio (HTMT)</i>
Operational Performance <-> <i>Just In Time</i>	0.765
<i>Total Quality Management</i> <-> <i>Just In Time</i>	0.888
<i>Total Quality Management</i> <-> Operational Performance	0.772

Source: SmartPLS 4.0 Output Results (2024)

The heterotrait-monotrait ratio (HTMT) value, which shows that the correlation value between two different constructs has an HTMT value below 0.90, as shown by the HTMT value for the operational performance and Just In Time variables of 0.765, the HTMT value for the Total Quality Management and Just In Time variables of 0.888, and the HTMT value for the Total Quality Management and Operational Performance variables of 0.772.

### Reliability Test

**Table 8.** Composite Reliability

Variable	Composite reliability (rho_c)
<i>Just In Time</i>	0.894
Operational Performance	0.833
<i>Total Quality Management</i>	0.865

Source: SmartPLS 4.0 Output Results (2024)

Composite Reliability Value, which shows that each construct or variable used in this study has a Composite Reliability value of more than 0.70. The Just In Time variable has a value of 0.894, the operational performance variable has a value of 0.833, and Total Quality Management has a value of 0.865. Thus, all constructs in this research model are declared reliable because they have met the reliability requirements with a composite reliability value greater than 0.70.

**Table 9.** Cronbach’s Alpha Results

Variabel	Cronbach's alpha
<i>Just In Time</i>	0.825
Operational Performance	0.700
<i>Total Quality Management</i>	0.811

Source: SmartPLS 4.0 Output Results (2024)

The cronbach's alpha value of the Total Quality Management and Just In Time variables is above 0.70, where the cronbach's alpha value of Total Quality Management is 0.811 and the cronbach's alpha value of Just In Time is 0.825. The cronbach's alpha value of operational performance is exactly at 0.70, but it is still said to be reliable. Based on the cronbach's alpha table, the values owned by Total Quality Management and Just In Time are included in the very reliable category, while the cronbach's alpha value owned by operational performance is included in the reliable category. Thus, it can be concluded that all of

these constructs or variables have a good level of reliability, so that they can show their ability to predict and their accuracy in analyzing and interpreting data.

## RESEARCH RESULTS

### R-Square Test

Table 10. R-Square Value

	<i>R-square</i>	<i>R-square adjusted</i>
Operational Performance	0.449	0.435

Source: SmartPLS 4.0 Output Results (2024)

The adjusted R-Square value of the operational performance variable is 0.435, or 43.5%. This value indicates that the Total Quality Management (X1) and Just In Time (X2) variables have an influence of 43.5% on the operational performance variable. This percentage value is at a moderate level, indicating that the independent variable is only able to explain its dependent variable by 43.5% and the rest is explained by other factors not used in this study.

### Q-Square Test

Table 11. Q-Square Values

	<i>Q<sup>2</sup>predict</i>
Operational Performance	0.388

Source: SmartPLS 4.0 Output Results (2024)

The Q-Square value of this study is 0.388 on its endogenous variable, namely operational performance. This value indicates that the model used in this study has predictive relevance. The Q-Square value means that the model used in this study is able to explain information in the research data by 38.8%. Thus, it can be concluded that the Q-Square value in this study is greater than 0 (zero), which means that overall, this research model is strong enough because it has good predictive relevance, so it is able to predict the model well.

Path Analysis Coefficient

Table 12. Original Sample Results

Original sample (O)	
Just In Time -> Operational Performance	0.306
Total Quality Management -> Operational Performance	0.412

Source: SmartPLS 4.0 Output Results (2024)

Based on the above, it can be seen that the X variable that has the greatest positive impact on the Y variable is the Total Quality Management variable (X1). The original sample value of this variable is 0.412, which means that the Total Quality Management variable has a positive influence of 41.2% on the variable it influences, namely operational performance at the "Kedai Kita" Bogor restaurant. This indicates that the employees of "Kedai Kita" Bogor feel that restaurant quality management, such as teamwork, training, and good employee empowerment can improve the operational performance of the restaurant itself.

Based on the original sample results table, it can also be seen that the Just In Time (X2) variable still has a positive impact on the variable it influences, namely the operational performance of the "Kedai Kita" Bogor restaurant, although the level of influence is not as large as the Total Quality Management (X1) variable. The original sample value of the Just In Time (X2) variable is 0.306, which means that the variable has a positive impact of 30.6% on the operational performance variable. Through a questionnaire that has been distributed to the employees of the “Kedai Kita” Bogor restaurant, it shows that they feel that a good scheduling system and relationship with suppliers can make restaurant operations run smoothly because they have adequate stock availability.

T Test

Table 13. T-Statistic Test Results

Original sample (O)		T statistics ( O/STDEV )	P values
Just In Time -> Operational Performance	0.306	2.012	0.044
Total Quality Management -> Operational Performance	0.412	2.751	0.006

Source: SmartPLS 4.0 Output Results (2024)

The Total Quality Management variable (X1) has an original sample value of 0.412, which indicates that there is a positive relationship when every 1x addition of Total Quality Management (X1), operational

performance (Y) will increase by 0.412. The results of the T-statistic test of the Total Quality Management variable on operational performance have a T-statistic value of  $2.751 > T\text{-table } 1.990$  with a significance value of  $0.006 < 0.05$ . This indicates that  $H_0$  is rejected and  $H_1$  is accepted, which means that the Total Quality Management variable partially has a significant effect on operational performance.

Reviewed through the T-statistic test results table above, it can also be seen that the Just In Time variable (X2) has an original sample value of 0.306, which means that if there is an increase in Just In Time (X2) by 1 time, then operational performance (Y) will increase by 0.306. Based on the results of the T-statistic test of the Just In Time variable on operational performance, the value of T-statistic is  $2.012 > T\text{-table } 1.990$  with a significance value of  $0.044 < 0.05$ . Through this value,  $H_0$  is rejected and  $H_1$  is accepted. Therefore, it can be concluded that the Just In Time variable has a significant partial effect on operational performance.

## F Test

The calculation of the F-statistic test or simultaneous test in this study was carried out manually with the formula and calculations as below:

$$F_{Count} = \frac{R^2 / k}{(1 - R^2) / (n - k - 1)}$$

$$F_{Count} = \frac{0,449 / 2}{(1 - 0,449) / (82 - 2 - 1)}$$

$$F_{Count} = \frac{0,2245}{(0,551) / (79)}$$

$$F_{Count} = \frac{0,2245}{0,0069746}$$

$$F_{Count} = 32,188$$

Based on the results of the F-statistic test calculations that have been carried out, the results of the  $F_{count}$  are 32.188. Meanwhile, the F-table used in this study is 3.112 with a significance level of 0.05 (5%) with the following formula calculation:

$$Df1 = (\text{number of variables} - 1) = (3 - 1) = 2$$

$$Df2 = (\text{number of respondents} - \text{number of variables}) = (82 - 3) = 79$$

Judging from the F-count and F-table values contained in this study, it can be seen that  $F\text{-count } 32.188 > F\text{-table } 3.112$ . Thus, it can be concluded that all independent variables in the form of Total Quality Management (X1) and Just In Time (X2) have a simultaneous effect on operational performance (Y).

### **The Influence of Total Quality Management on Operational Performance**

Through the testing and analysis that has been done, both descriptive and inferential analysis, the results obtained that hypothesis 1 (H1) is accepted, which means that there is an influence between Total Quality Management on operational performance that is partial and significant. Based on the validity test conducted on various instruments from the Total Quality Management variable, the results obtained that the measurement tool used in this study is valid. This shows that all questions regarding the Total Quality Management indicators that have been distributed to the employees of the "Kedai Kita" Bogor restaurant have been able to be explained well, so it is worthy to be used as a measuring tool for the Total Quality Management variable of this study. Based on the composite reliability and Cronbach's alpha values as the results of the reliability test in this study, it was also found that the instrument used for Total Quality Management has a good level of reliability, so it is worthy to be used as a measuring tool for variables because it is reliable.

### **The Influence of Just In Time on Operational Performance**

Based on descriptive and inferential analysis, as well as hypothesis testing that has been done previously, the results obtained that hypothesis 2 (H2) is accepted. These results indicate that there is an influence between Just In Time on operational performance partially and significantly. The measurement tool used to measure the Just In Time variable in this study was declared valid based on the validity test that had been carried out on all instruments of the Just In Time variable. The valid research measurement tool indicates that all questions related to the Just In Time indicator that have been distributed to the employees of the "Kedai Kita" restaurant can be defined well, so that the questions are worthy of being used as a measuring tool for the Just In Time variable in this study. The results of the reliability test conducted by looking at the values of composite reliability and cronbach's alpha in this study indicate that the instrument used in the study has a good level of reliability, making the instrument worthy of being used as a variable measurement tool.

### **The Influence of Total Quality Management and Just In Time on Operational Performance**

Based on the hypothesis testing using the F test that has been conducted in this study, the results obtained that the variables Total Quality Management (X1) and Just In Time (X2) have an effect on the dependent variable, namely operational performance (Y). Based on the calculations that have been done manually, the value of F-count is greater than the value of F-table that has been determined with a significance value of 0.005 or 5%. This shows that Total Quality Management and Just In Time have a simultaneous effect on the operational performance of the "Kedai Kita" Bogor restaurant. These results answer hypothesis 3 (H3) in this study, namely the simultaneous influence of Total Quality Management



and Just In Time on operational performance. Thus, it can be interpreted that the better the attention to customers, teamwork, training, continuous improvement, and employee empowerment in the context of Total Quality Management, as well as the better the relationship between the restaurant and suppliers, scheduling, and employee commitment in the context of Just In Time applied to the "Kedai Kita" Bogor restaurant, the more positive the influence on its operational performance. With the implementation of good Total Quality Management and Just In Time, it will help the "Kedai Kita" restaurant to compete with its competitors, considering that the number of food and beverage industries in West Java continues to increase every year.

## **CONCLUSION**

1. Total Quality Management variable has a significant effect on operational performance.
2. Just In Time variable has a significant effect on operational performance.
3. Total Quality Management and Just In Time variables have a simultaneous effect on operational performance.

### **Research Limitations**

1. Only a few indicators are used to measure Total Quality Management and Just In Time, so there is a possibility of differences in results with other studies that use different indicators.
2. The study was only conducted at 3 of the 5 branches of the "Kedai Kita" restaurant, namely the East Bogor, Pangrango, and Cimanggu branches, so the results of the study cannot be generalized to the other 2 branches, namely the Taman Budaya and Bintaro branches.
3. The respondents in this study were all employees of the Bogor "Kedai Kita" restaurant, so there is a possibility of bias in questions related to Just In Time.
4. The branch where they work is dominated by respondents who work at the Pangrango branch of the "Kedai Kita" restaurant, which makes the results of the study tend to be more representative of the conditions at that branch.

### **Suggestion**

1. The "Kedai Kita" Bogor Restaurant is expected to continue to maintain or even improve the implementation of Total Quality Management and Just In Time in its operations, especially in the aspect of teamwork in Total Quality Management and proper scheduling in Just In Time because these two aspects have the highest value compared to other indicators of each variable.
2. Because the aspect of employee involvement and empowerment has the lowest value compared to other aspects of Total Quality Management in this study, it indicates that employees are less

involved in decision making and problem solving, so the management of the “Kedai Kita” Bogor restaurant needs to pay more attention to this aspect.

3. It is recommended that further researchers who want to research Total Quality Management and Just In Time on operational performance can use all aspects of each variable or even add other variables outside the variables studied by the researcher and use 2 other branches of the “Kedai Kita” restaurant that were not studied by the researcher to be used as research objects.

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# **Development of App-Based Learning Android: A Case Study for Village Health Volunteers in the Southern Border Provinces for Dementia Prevention of the Elderly–Spiritual Dimension of the Muslim Way**

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## **ABSTRACT**

This research and development (R&D) project aimed to: (1) develop an Android-based learning application titled "App-Based Learning Android: A Case Study for Village Health Volunteers in the Southern Border Provinces for Dementia Prevention of the Elderly through the Spiritual Dimension of the Muslim Way"; (2) compare knowledge and skill levels before and after using the application; and (3) assess satisfaction among village health volunteers, elderly Muslims, and/or family caregivers.

The application was developed using the ADDIE instructional design model, which includes five phases: Analysis, Design, Development, Implementation, and Evaluation. The content emphasized dementia prevention strategies grounded in Islamic spiritual principles and adapted to the sociocultural context of Thailand's southern border provinces.

The application's quality was evaluated by experts across three domains: content, application design, and assessment methodology. The results indicated that the overall quality was rated at a very good level ( $M = 4.79$ ). The application achieved an efficiency score of 80.78/95.11, surpassing the standard benchmark of 80/80. Post-test scores were significantly higher than pre-test scores ( $p < 0.05$ ), indicating improved learning outcomes. User satisfaction was also rated at a very good level ( $M = 4.35$ ).

The content was found to be accurate, concise, and easy to understand. The multimedia design—featuring interactive elements, audio narration, and visual cues—was modern, engaging, and well-suited for adult learners in rural, multicultural settings. The application effectively supports village health volunteers in delivering culturally competent care to elderly Muslims and promotes holistic dementia prevention by integrating religious and spiritual practices into community-based health education.

**Keywords:** Android-Based Learning; Village Health Volunteer; Dementia Prevention; Elderly Care; Spiritual Dimension; Muslim Community

## INTRODUCTION

Thailand is experiencing a rapid demographic transition with an increasing elderly population, particularly in the southern border provinces. Among Muslim communities, dementia remains a growing concern due to limited awareness, culturally tailored educational materials, and accessibility of preventive care. Village health volunteers (VHVs) play a vital role in bridging the gap between healthcare systems and communities, especially in rural areas. However, VHVs often lack adequate training and tools to educate older adults on dementia, particularly within an Islamic framework. Therefore, this study aims to develop an Android-based learning application that supports VHVs in delivering dementia prevention content aligned with the spiritual and cultural beliefs of Muslim elders.

## **LITERATURE REVIEW**

Dementia affects more than 55 million people globally, with numbers expected to rise (WHO, 2022). Preventive education and early detection are key strategies in community health approaches. Studies show that mHealth technologies enhance accessibility and knowledge retention among lay healthcare workers (Mukherjee et al., 2020). In Muslim-majority regions, spiritual dimensions such as prayer, Qur’anic recitation, and community-based worship are deeply integrated into daily life and health practices (Alqahtani et al., 2021). However, few educational tools incorporate these dimensions effectively. Applying the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) has proven successful in app-based learning interventions, offering a systematic framework for tool development (Branch, 2009).

## **RESEARCH METHODOLOGY**

This R&D study followed the ADDIE model:

**Analysis:** Needs assessment among 30 VHV in Narathiwat, Pattani, and Yala was conducted through focus groups.

**Design:** Learning modules on dementia were mapped with Islamic teachings and local cultural beliefs.

**Development:** The app was developed using Android Studio and integrated multimedia components such as audio (Islamic chants), images, and quizzes.

**Implementation:** 30 VHV participated in the pilot implementation.

**Evaluation:** The app was reviewed by 5 experts and used with 30 VHV. Pre- and post-tests were applied to assess learning, and a satisfaction questionnaire (5-point Likert scale) was used.

## **RESEARCH RESULTS**

**Expert Evaluation:** The app scored a mean of 4.79 across three domains: content, usability, and measurement tools.



**Efficiency Testing:** The app demonstrated 80.78/95.11 performance, exceeding the 80/80 criterion.

**Learning Outcomes:** The pre-test average score was 52.4%, while the post-test average score improved to 84.9% ( $p < 0.05$ ).

**Satisfaction:** 90% of VHVs and 70% of caregivers rated the app as very useful. The mean satisfaction score was 4.35, highlighting its user-friendly design and cultural relevance.

**User Feedback:** Users appreciated the incorporation of Islamic prayer reminders, easy-to-navigate modules, and practical caregiving tips.

## **DISCUSSION & CONCLUSION**

The study successfully developed and implemented an Android-based learning tool customized for VHVs working within Muslim communities in Thailand's southern border provinces. The app proved effective in enhancing knowledge, aligning healthcare with religious and cultural values, and increasing satisfaction among users. The spiritual content—including Qur'anic teachings related to elder care—provided a framework of trust and cultural resonance. Findings support the integration of mHealth tools in culturally specific education. Limitations include the need for expansion into other platforms (e.g., iOS) and scaling to other regions. Future studies could examine long-term behavioral outcomes among caregivers and health workers using this app.

## **ACKNOWLEDGMENT**

We thank the village health volunteers, local religious leaders, elderly participants, and development team for their generous support. Special appreciation goes to the National Research Council of Thailand (NRCT) for research funding.

## **HUMAN RESEARCH ETHICS APPROVAL**

This research is approved by the Human Research Ethics Committee of Naradhiwas University

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# The Motivation and Behavior Intention of Chinese female tourists to Thailand (Take Bangkok as an Example)

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## ABSTRACT

**Background:** Chinese has become one of the major tourists traveling outbound to many cities and countries including Bangkok, Thailand. Owing to their significant contribution to tourism industry, which is one of the most important economic drivers in Thailand, it is important to explore the motivation factors among Chinese tourists to better understand their needs and expectations to ultimately be able to not only attract, but secure this tourist group. The fundamental theory of this research is the push and pull motivation theory. The push motivation factors of interest include leisure and relaxation, emotional communication, escape, novelty and difference, and self-actualization while the pull motivation factors were tourism resources and tourism service, and tourism social environment.

**Method:** This study focuses on Bangkok as the destination of interest and focuses only on female Chinese tourists. The researcher adopted a quantitative research approach using questionnaire (n = 400). Statistical analyses were performed using multiple regression and paired t-test.

**Finding:** The findings of this study show that both push and pull motivation have significant influences on behavioural intention ( $p < 0.01$ ) with push motivation having a more prominent effect. Motivation factors that have the most significant influence on satisfaction is escape push motivation while pull motivation like tourism resources and services are the most influential motivation factor for revisit intention and likelihood to spread positive word of mouth. That being said, individual factors significantly influence satisfaction, revisit intention, and word of mouth tendency. This study also evidences the difference between motivation factors and behavioural intention among first-time tourists and revisited tourists where leisure and relaxation, self-actualization, and revisit intention are more dominant in first-time tourists than repeated travellers.

**Keywords:** Chinese Female Tourists, Travel Motivation, Behavioural Intention, Bangkok Tourism, Push-pull Theory

## INTRODUCTION

Motivation is central to human behavior and has been extensively studied in tourism research. It is defined as the internal drive that energizes behavior toward achieving a goal. In tourism, motivation is influenced by both psychological and social factors, including cultural and neurobiological elements. Key theories developed over time include Dann's push-pull model, Iso-Ahola's escape-seeking dichotomy, Mansfeld's intrinsic-extrinsic motivation, and Pearce's travel career pattern.

This study investigates the motivations and behavioral intentions of Chinese female tourists traveling to Bangkok, Thailand. Since the launch of China's Belt and Road Initiative in 2013, outbound tourism has significantly increased, with Thailand becoming one of the top destinations. Factors such as relaxed visa policies, cultural appeal, and increased flight accessibility have contributed to Thailand's popularity, especially Bangkok.

Chinese outbound tourism rose annually from 2013 to 2019, with nearly 15 million travelers in 2019. However, the COVID-19 pandemic drastically curtailed international travel in 2020. Despite the pause, data collected from 2017 to 2020 ranked Thailand consistently among the top destinations for female Chinese tourists. Agoda's booking data also indicated Bangkok as the most visited Thai city by Chinese travelers.

Tourist motivations differ by gender. Studies have shown that female tourists are more drawn to cultural exploration, shopping, and social bonding, while male tourists tend to prefer leisure or adventure activities. This gender-based divergence in travel behavior has been observed globally and within China. Researchers such as Xie Hui, Wang Yanli, and Li Lei have confirmed the existence of significant behavioral and motivational differences between male and female tourists in various Chinese regions.

Female tourism refers to women traveling for leisure, either solo or with companions, including girlfriend getaways. Feminist tourism studies emerged in the 1970s and became prominent in the 1990s, promoting women's rights and equality in tourism experiences. Research has identified that women travel to seek self-empowerment, independence, and emotional healing. Their motivations vary by age group: younger women seek life-changing experiences,

self-discovery, and social connection; middle-aged women often seek rejuvenation, companionship, or escape from traditional roles.

In the Chinese context, female travelers have become an influential market due to increased education, social status, and income. They travel for personal enjoyment, self-growth, and to escape daily obligations. However, cultural expectations, such as caregiving roles, still influence behavior. Some women experience social stigma when traveling without family. Moreover, concerns about safety, particularly regarding sexual harassment, limit the willingness of many Chinese women to travel alone.

Taiwanese women, shaped by similar Confucian traditions, show a contrasting pattern. Studies indicate that Taiwanese solo female travelers feel empowered despite safety concerns. This highlights the need for more comparative research between mainland China and Taiwan to understand how societal structures shape travel behavior.

### **Problem Statement**

Although Chinese outbound tourism to Thailand has been well-documented, little research has focused specifically on Chinese female tourists. As women's socioeconomic status improves, their travel behavior evolves, creating a growing market with untapped potential. This study aims to explore their travel motivations and behavioral intentions, providing insights to enhance Thailand's tourism offerings and promote gender-sensitive travel strategies.

### **Scope of the Study**

This study focuses on Chinese female tourists who visited Bangkok within the past two years. Women make up a growing share of Chinese outbound travelers, especially those aged 20–29. Increased income and educational attainment have allowed more women to engage in leisure travel, making them a key target segment for tourism development.

According to Ctrip and other tourism data, women accounted for 58% of outbound Chinese tourists in 2016, surpassing men by 16%. Their spending is also higher, with 38% of women allocating over 20,000 yuan annually for travel. From 2012 to 2017, the number of Chinese female tourists to Thailand grew from 1.32 million to 5.3 million.

## LITERATURE REVIEW

China's demographic structure continues to evolve, with a population of 1.41 billion as of 2022, and an increasing ageing trend, as 19.8% are aged 60 and above (Huajing Industrial Research Institute, 2022). Rapid economic growth has lifted average monthly income to US\$1,400, second only to Japan in Asia (World Bank, 2022). Concurrently, educational attainment has surged, with a tertiary gross enrolment rate of 57.8% and 218 million people holding university degrees (China's Decade, 2022). These shifts have fueled the growth of tourism, with greater emphasis on leisure and self-expression.

Women's rising educational and economic status has elevated their role in social and consumer behavior. In 2019, 43.2% of China's workforce were women (Zhaopin.com, 2022), and their spending power now influences RMB 10 trillion in annual consumption (CNBDATA, 2023). Women account for 57.6% of China's mobile Internet users, and influence 70–80% of household purchases (China Women's Daily, 2022). Their preferences for safety, wellness, and cultural experiences are reshaping consumption and travel behavior.

China's tourism market is the world's largest outbound segment. In 2018, Chinese tourists made 130 million outbound trips and spent US\$277 billion abroad (UNWTO, 2019). Domestically, 6.006 billion trips were made in 2019, contributing RMB 10.94 trillion to GDP (China Tourism Industry Development Report, 2019). Outbound tourism grew by 9.1% annually pre-pandemic. Thailand emerged as a preferred destination, especially among women, due to its proximity, affordability, and cultural resonance.

Chinese female tourists are increasingly traveling for cultural exploration, self-care, and personal growth (Zhao et al., 2019; Chen & He, 2022). Influenced by social media and empowered by financial independence, these travelers seek personalized experiences in destinations like Bangkok. Their spending leans toward fashion, wellness, and shopping (Zhao & Li, 2020). More are opting for independent travel over packaged tours, prompting shifts in tourism marketing and service offerings (Huang & Chen, 2021).

### Theoretical Foundations

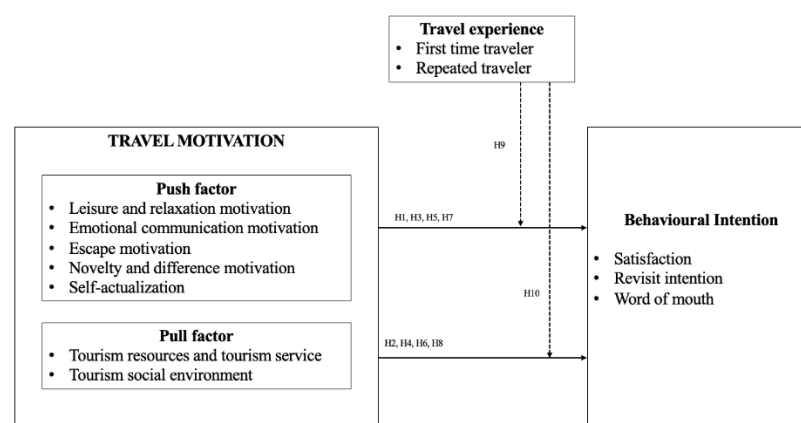
Motivation, as defined by Woodworth (1918), is an internal psychological drive. In tourism, motivation explains the reasons behind destination choices and behavior (Wang &

Fesenmaier, 2004). Maslow's hierarchy of needs (1943) categorizes motivation into five levels: physiological, safety, belonging, esteem, and self-actualization. This model informs tourism theories, including Clayton Alderfer's ERG theory and Pearce's Travel Career Ladder (TCL) and Travel Career Pattern (TCP) models. Push-pull theory (Tolman, 1932; Dann, 1977) integrates intrinsic (push) and extrinsic (pull) motivations. Push factors include escape, relaxation, and self-discovery, while pull factors involve destination attributes like culture, affordability, and service quality (Uysal & Jurowski, 1994; Zhang & Lu, 2005). This theory has been widely applied in studies on Chinese and international tourists. Tourism behavior intention, rooted in psychology, is the likelihood of future behavior (Fishbein & Ajzen, 1997). Scholars have shown strong correlations between travel motivation and behavioral outcomes, such as satisfaction, word-of-mouth, and revisit intention (Liu & Wu, 2010; Zhang Tao, 2012). Gender-specific motivations are critical in tourism research. Women often travel for relaxation, self-development, and freedom (Cockburn-Wootten, 2006; Gibson, 2002; Oliveira, 2013). Asian women in particular seek inspiration and life transformation through travel (TripAdvisor, 2016).

## Conceptual Framework & Hypotheses

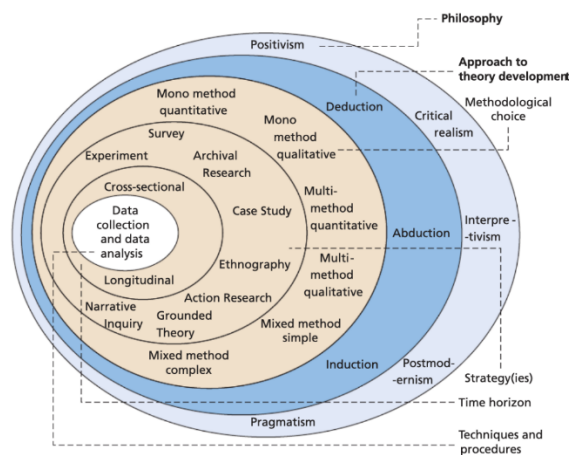
This study examines the travel motivations and behavioral intentions of Chinese female tourists in Bangkok. It differentiates between push motives (leisure, emotional communication, escape, novelty, self-actualization) and pull motives (resources/services, social environment). Behavioral intentions include satisfaction, revisit intention, and word-of-mouth.

The study's conceptual model (Figure 2.4) integrates Maslow's needs, push-pull theory, and behavior intention theory to explore how motivations shape female tourism behavior.



## RESEARCH METHODOLOGY

This study adopts Saunders et al.'s (2009) "research onion" framework, which includes six layers: philosophy, approach, methodological choice, strategy, time horizon, and data collection techniques.



### Research Philosophy

The study is grounded in positivism, assuming that travel behavior is an observable social reality independent of individual perception (Saunders & Lewis, 2009). Ontological assumptions view tourist motivation as tangible and measurable. Axiologically, the research maintains neutrality, with objective, quantifiable data being prioritized (Crotty, 1998; Johnson & Clark, 2006).

### Approach to Theory Development

Using a deductive approach, hypotheses were derived from Maslow's hierarchy of needs and the push-pull motivation theory. This method suits the study's aim of identifying causal relationships and allows for generalization of findings (Zalaghi & Khazaei, 2016; Woiceshyn & Daellenbach, 2018).



## **Methodological Choice**

A quantitative method was chosen, aligning with the positivist perspective (Tobin & Begley, 2004; Bryman & Bell, 2011). This approach ensures objectivity, allows broad sampling, and enables statistical analysis of tourism motivation and behavior.

## **Research Strategy**

Surveys were employed as the main strategy, distributed online using convenience and snowball sampling (Bryman, 1984; Goodman, 1961). Despite the limitations of online surveys (Wright, 2005), measures such as informed consent and clear instructions were used to enhance reliability.

## **Time Horizon**

The research adopted a cross-sectional time frame to capture data at a single point, suitable given the study's constraints and objectives (Melnikovas, 2018).

## **Techniques and Procedures**

Convenience and snowball sampling were used to reach Chinese female tourists traveling to Bangkok. The required sample size was calculated as 400 using the Yamane formula (Yamane, 1967). The questionnaire was based on Maslow's and push-pull theory, including 24 motivational items and behavioral intention indicators such as satisfaction, revisit intention, and word of mouth (Zhang & Lu, 2005; Salsabila & Alversia, 2019).

## **Data Analysis and Pilot Testing**

Data were analyzed using SPSS for descriptive statistics, reliability testing, and hypothesis verification through regression and t-tests. A pilot test was conducted with 10 bilingual participants using test-retest reliability; results showed a high correlation ( $r = 0.947$ ), confirming consistency (Wong et al., 2012; Bolarinwa, 2016).

## RESEARCH RESULTS

### Participant demographics and travel behaviors

This study involves 400 female participants. For marital status, participants that accounted for the majority of the participant pool are those that are separated (26. %). Single respondents and married respondents both accounted for 25.3% of the entire respondents. There were 92 divorced participants, which is equivalent to 23%. In terms of birth year and generation group, participants also have a similar share of distribution with baby boomers being the majority of the participants at 28% (n = 112) followed by Generation X at 27% (n = 108), Millennials at 23.3% (n=93), and Generation Z at 87% (n = 21.8). Regarding the highest education level, the majority of the participants (41.75%) has Bachelor's degree or equivalent followed by high school or equivalent (30.75%), and less than high school (24.25%). Lastly, the table also shows that the majority of the monthly income group of the participant is between 4,001 RMB to 6,000 RMB (19.5%). Majority of the participants are repeated traveller (81.5%) while only 18. % or 74 individuals were first time visitors. The five main purpose of visit include sightseeing and leisure (16.5%), visiting family member/friend (15%), business/work (13.5%), conference/training (13.5%), and education (11.3%). In terms of longest length of stay in Bangkok, 20.3% or 81 participants stated that they only stayed for 1 night. A total of 75 participants or 18.8% and 69 participants or 17.3% spent 3 nights and 4 nights in their latest visit to Bangkok, respectively. Participants majorly travel alone (18%) while large similar proportion also travel with family and children (17.8%), with friends (16.8%), with relatives (16.5%), with spouse (16%), and with business associates (15%). The most common accommodation type among the respondents were home stay (16.5%) followed by low-cost hotel (13.3%), and serviced apartment (13.3%). Upon asking if participants would share their travel experience in Bangkok on social media platforms, 193 individuals or 48.3% stated yes and 207 respondents or 51.8% stated no.

### Statistical analysis and hypotheses testing

According to correlation analysis, behavioural intention has positive correlation with push factor ( $r = 0.716$ ), and pull factor ( $r = 0.353$ ). Push factor, however, has negative correlation with pull factor ( $r = -0.001$ ). Overall, these correlations are significant as the p-values were less than

0.01. The multiple regression model summary illustrates that F-test equal to 350.155, and the p-value is less than 0.01. Bases on these values, the findings shows that there are significant relationships between independent variables namely push and pull motivation factors, and behavioural intention at a 99% confidence level. Moreover, the adjusted R square value of 0.638 also reflects the high accuracy of this model where 63.8% of tourists' behavioural intention can be explained by these two motivational factors. In addition, Table 4-8 further shows that push and pull motivation factor both have significant relationship with behavioural intention among female Chinese tourists. Push motivation has greater impact on behavioural intention than pull motivation as the standardized coefficient ( $\beta$ ) was 1.569 compared to 0.591, respectively (Table 4-1).

**Table 4-1** Multiple Regression Results

Model	Beta	t	Sig
1 (Constant)			
Push motivation	1.569	23.736	0.000
Pull motivation	0.591	11.714	0.000

Dependent Variable: Behavioural Intention

This study also seeks to address the relationship between travel motivation and satisfaction. F-test and p-value of 67.152 and  $<0.001$ , respectively, illustrated the significant relationship between satisfaction and various travel motivation factors. The adjusted R square of 0.537 indicates that 53.7% of satisfaction among Chinese tourists traveling to Bangkok can be explained by this model. The p-value of less than 0.01 shown in Table 4-10 also indicates that individuals' factors of push and pull motivations significantly affects satisfaction. Based on the beta value the factor that poses the most prominent influence on satisfaction is escape motivation ( $\beta = 0.238$ ) followed by tourism resources and service ( $\beta = 0.211$ ), emotional communication ( $\beta = 0.201$ ), novelty and difference ( $\beta = 0.183$ ), self-actualization ( $\beta = 0.150$ ), leisure and relaxation ( $\beta = 0.131$ ), and tourism social environment ( $\beta = 0.211$ ).

In terms of re-visit intention, F-test and p-value of 71.289 and  $<0.001$ , respectively, shows the significant relationship between revisit intention and various travel motivation factors. The adjusted R square of 0.552 indicates that 55.2% of revisit intention among Chinese tourists traveling to Bangkok can be explained by this model. The p-value of less than 0.01 shown in Table 4-12 also indicates that individuals' factors of push and pull motivations significantly affect revisit intention. Table 4-12 shows that the factors that has the highest influence on revisit intention is the pull factor known as tourism resources and service ( $\beta = 0.228$ ) followed by novelty and difference ( $\beta = 0.215$ ), escape ( $\beta = 0.200$ ), emotional communication ( $\beta = 0.176$ ), leisure and relaxation ( $\beta = 0.166$ ), tourism social environment ( $\beta = 0.147$ ), and self-actualization ( $\beta = 0.140$ )

The adjusted R square of 0.563 indicates that 56.3% of word of mouth among Chinese tourists traveling to Bangkok can be explained by this model. The p-value of less than 0.01 shown in Table 4-14 also indicates that individual factors of push and pull motivations significantly affect word of mouth. The most influential factor on word of mouth listed in order is tourism resources and service ( $\beta = 0.263$ ), self-actualization ( $\beta = 0.201$ ), leisure and relaxation ( $\beta = 0.196$ ), escape ( $\beta = 0.176$ ), novelty and difference ( $\beta = 0.175$ ), tourism social environment ( $\beta = 0.166$ ), and emotional communication ( $\beta = 0.125$ ).

T-tests were performed to compare responses of motivational factors and behavioural intentions among first-time Chinese female tourists and repeated Chinese female tourists. The finding shows that there was a significant difference in the collective push motivation factors between first-time Chinese female tourists (mean = 4.4046, SD = 0.40905) and repeated Chinese female tourists (mean = 4.2228, SD = 0.53449) at a significant level of  $p < 0.01$ . That being said, considering the mean value of both group the mean value can still be interpreted as strongly agree. Likewise, the collective behavioural intention also shows a significant difference in the collective push motivation factors between first-time Chinese female tourists (mean = 4.1607, SD = 0.9183) and repeated Chinese female tourists (mean = 3.7399, SD = 1.1648) at a significant level of  $p < 0.01$ . In addition, considering the mean values, both values can still be interpreted as agree. On the other hand, there was no significant difference in the collective pull motivation factors between first-time Chinese female tourists and repeated Chinese female tourists. Considering individual factors, there were significant differences between leisure and relaxation motivation (p-value  $<0.01$ ), self-actualization (p-value  $<0.01$ ), revisit intention (p-value  $<0.01$ ),

and word of mouth ( $p$ -value  $< 0.05$ ), between first-time Chinese female tourists and repeated female Chinese tourists.

Based on all the findings, all of the hypotheses except one hypothesis can be accepted. The hypothesis that was rejected by this study was the one stated that “Pull motivational factor differs between first-time travellers and multiple-time female tourists traveling to Bangkok, Thailand”.

## DISCUSSION & CONCLUSION

This study confirms that both push and pull motivations significantly influence the behavioral intentions of Chinese female tourists visiting Bangkok (Tolman, 1932; Wu & Xu, 2009; Zhang & Peng, 2014). Push factors, such as escape, emotional connection, and self-actualization, showed a stronger influence ( $\beta = 1.569$ ) than pull factors ( $\beta = 0.591$ ), aligning with findings from previous studies in Cairns and Hong Kong (Jiang, 2018; Whitby, 2024). The rising independence and spending power of Chinese women underpin this shift toward self-discovery and empowerment through travel.

Nevertheless, a contrasting study in Southern Thailand indicated stronger pull motivations, especially wellness offerings (Amonhaemanon & Amonhaemanon, 2015; Whitby, 2024). This implies that destination-specific attributes shape motivational dynamics.

All sub-hypotheses related to satisfaction, revisit intention, and word-of-mouth were supported, reinforcing prior findings from studies in Singapore and South Korea (Kau & Lim, 2005; Qiao et al., 2008). The top drivers of satisfaction were escaping motivation, followed by tourism resources/services and emotional communication. Revisit intention was mainly influenced by tourism offerings and novelty, while positive word-of-mouth stemmed from self-actualization and leisure motivations (Jiang, 2018).

The study revealed that first-time tourists were more motivated by leisure and self-actualization than repeat visitors (Jensen & Hjalager, 2019), possibly due to the novelty and perceived challenge of their initial experience. Repeat travelers, having fulfilled certain motivations, displayed less intention to revisit Bangkok, potentially seeking new destinations.

The conceptual framework is grounded in Maslow's hierarchy and the push-pull theory (Zhang & Lu, 2005). Push motivations include leisure, emotion, escape, novelty, and self-actualization; pull motivations comprise tourism resources/services and social environment. Conducted under a positivist paradigm, the study used quantitative surveys with 400 respondents. Statistical analysis confirmed that push factors had the most significant impact on behavioral intention ( $p < 0.01$ ).

Policy suggestions include promoting wellness tourism, offering themed travel packages, and enhancing personalized services for affluent Chinese female travelers. Examples include Mandarin-speaking staff, cultural retreats, and tailored shopping experiences.

Limitations include the lack of demographic segmentation (e.g., age, income) and differentiation of pull factors. Future studies should explore demographic influences, group travel dynamics, and deeper exploration of abstract motivations like self-actualization via qualitative methods (e.g., in-depth interviews).

## ACKNOWLEDGEMENT

**Dr. Panuwat Phakdeekasorn**

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# **The Assessment of Beach Safety Standards from the Perspectives of International Tourists: A Case Study of Cherngtalay Sub-District Phuket**

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## **ABSTRACT**

Cherngtalay Sub-Districts Beaches is one of the attractive tourist destinations in Phuket Province, Thailand. To increase tourism efficiency, beaches in Cherng Talay Subdistrict must demonstrate their efficiency in capacity for tourists towards Beach safety standards, which is critical to ensuring the well-being of beachgoers and reducing the risks associated with coastal activities. This study consists of three objectives: (1) to examine the important levels of international tourists' perceptions of the safety standards of beaches in the Cherngtalay sub-district, Phuket (2) to assess the satisfaction of international tourists while engaging in beach activities towards safety standards of beaches in Cherngtalay sub-district, Phuket and; (3) to analysis of the importance and overall performance of the safety standards of beaches in the Cherngtalay sub-district, Phuket. Quantitative methodology was used in this study by utilizing a self-administered questionnaire. Data was collected from March to April 2024 at four beaches in the Cherngtalay sub-district area: Surin Beach, Bangtao Beach, Lay-Phang Beach, and Layan Beach. Four hundred effective questionnaires of international tourist satisfaction were analysed in the SPSS program; the statistics methods used for data were percentage, mean, standard deviation and importance-performance analysis (IPA).

The results of this study found that the important levels of international tourists' perceptions of the safety standards of beaches in the Cherngtalay sub-district, Phuket, were "cleanliness of the sea" and there were young European tourists who lacked knowledge and awareness of the policy. The satisfaction of international tourists while engaging in beach activities towards safety standards was found on "friendliness of local people" at a very satisfied level on Layan Beach but lack of availability of rubbish bins provided on the beach that could be described as an availability negatively condition. An analysis of the importance and overall performance of the safety standards of beaches should be "concentrated here" on "availability of rubbish bins provided on the beach," "encouraging all to protect beaches," "facilities provided on beaches,"



and “hygiene and cleanliness of the beach,” and the projects have not done these things well and should improve.

**Keywords:** Assessment, Beach Safety Standards, Perspectives, International Tourists

## INTRODUCTION

Phuket is known as the "Pearl of the Andaman Sea." It is a popular destination for tourist attractions, with various attractions scratched around all along the province's coast. Phuket's tourism industry has a worldwide reputation because of the scenery's beauty, the sandy beaches, the clear blue water, and the variety of outstanding tourist attractions. Beaches are a significant driver of tourism in Phuket, with an estimated 7 million visitations in 2023 by both domestic residents and international tourists alike (United Nations Development Programme Thailand, 2023). It generates much income for Phuket Island each year due to its geography, about 232,614 million baht in 2024, which draws people to visit the island, which has many beautiful beaches.

For example, Surin Beach, Patong Beach, Kata Beach, Karon Beach, etc. As a result, many maritime tourism activities have been organized on the beach areas on Phuket Island. For this reason, tourists are at risk of dangers that may arise from activities in various forms in coastal regions. These include hazards from marine animals, the threat of death from drowning, and the channel of the water flowing away from the shore (Rip Current) Iivari and Niemisalo (2013). The management and care of tourist safety involves many sectors that may have different roles.

Therefore, it is necessary to coordinate work together by clearly defining the duties and roles of each sector. In managing tourist safety, there are three levels: the state level, which is responsible for national safety and security (Thailand.go.th.,2023). The parties responsible are the military and police. The group level is responsible for the local community's safety, including environmental safety in the area, which comes from the cooperation of various associations.

Critical components of tourist quality are the success of tourist attractions in making a good experience for tourists, which must have a good foundation for managing the safety of life and property of tourists. Personnel in all sectors must cooperate to prevent insecurity and instability of life and property of their ability. Tourist patterns and behaviours and various elements in tourist attractions are influenced by the perception of safety and protection of life and property in that area. Preventing insecurity is a vital role of tourist attractions, and the problems in this area must be studied to reduce the impact that will result from insecurity in tourist attractions as much as

possible. For this reason, the government sector has also provided various measures to prevent and reduce the number of accidents, and the number of deaths is one of the most critical prevention measures. Therefore, the number one cause of water accidents that occur to tourists and result in injuries or fatalities is drowning, and other causes include boat capsizing, tour boat collisions and many more.

As mentioned above, the beach safety problem for tourists in Phuket is a significant issue that affects the island's image and tourists' travel decisions. However, it also presents an opportunity for positive change. By addressing this issue, we can increase the number of tourists, tourism revenue, and employment in the tourism and linkage business sectors. This could contribute to the expansion of Phuket's Gross Domestic Product (GDP). Therefore, the resolution of beach safety in Phuket is not just essential. However, it also holds the promise of developing the tourism industry, generating income, and maintaining the stability of the country's economy.

#### **Background information on The Cherngtalay Sub-District, Phuket**

The Cherngtalay Sub-district is in Thalang District, Phuket province, Thailand. It is about 22 kilometers from Phuket city hall. An area of Cherngtalay Sub-district consists of two local government agencies: Cherngtalay Sub-districts Administrative Organization, located at 247 Moo 5 Ban Bangtao nork, Sri Soonthorn Road. Cherngtalay Sub-district Municipality is situated at 46 Sri Soonthorn Road. Cherngtalay Sub-district Administrative Organization office in charge of six villages; Moo 1 Ban Cherngtalay (Most areas are handled under Cherngtalay Sub district Municipality and some parts are handled under Cherngtalay Sub district Administrative Organization), Moo 2 Ban Bangtao, Moo 3 Ban Surin beach, Moo 4 Ban Pasak, Moo 5 Ban Bangtao nork, Moo 6 Ban Khok thanod-Layan. These six villages have a total population of around 18,923 people (The Bureau of Registration Administration, 2021). The total area of the Cherngtalay Sub-district is about 42.3 square kilometres or about 26,437.5 rai (4,230 Acre) (Cherngtalay.go.th., 2022) The Cherngtalay Sub-District Administrative Organization office handles four beaches: Surin Beach, Bangtao Beach, Lay-Phang Beach, and Layan Beach. Some areas of Lay-phang Beach are part of Cherngtalay Sub-district Municipality.

The Cherngtalay Sub-district covers the following surrounding areas: 1) North meets Sakhu Sub-district, Thalang District, Phuket; 2) South meets Kamala Sub-districts, Kathu District, Phuket, and 3) East meets Thepkrasatree and Sri Soontorn sub-district, Thalang District, Phuket in West meets the Andaman Sea.

Traditionally, the area's economic generators were agricultural—growing other fruits and fishermen. However, local economic trends in tourism development have changed the local economy to be more services-based.

The objectives of the study are to: 1) examine the important levels of international tourists' perceptions of the safety standards of beaches in the Cherngtalay sub-district, Phuket, 2) assess the satisfaction of international tourists while engaging in beach activities towards safety standards of beaches in Cherngtalay sub-district, Phuket and 3) identify gaps and areas of improvement in the safety standards of beaches in the Cherngtalay sub-district, Phuket.

The research questions are as follows: 1) What are the important levels of international tourists' perceptions of the safety standards of beaches in the Cherngtalay Sub-district, Phuket? 2) What are the satisfaction levels of international tourists while engaging in beach activities towards safety standards of beaches in Cherngtalay Sub-district, Phuket? and 3) What are the gaps and areas for improvement in the safety standards of beaches from the perspective of international tourists in Cherngtalay Sub-district, Phuket?

The significance of the study is: 1) The important levels of international tourists' perception towards safety standards of beaches in Cherngtalay Sub-district, Phuket, 2) The satisfaction levels of international tourists while engaging in activities on beaches towards safety standards of beaches in Cherngtalay Sub-district, Phuket and 3) the gaps and areas for improvement in beach safety standards from the perspective of international tourists in Cherngtalay Sub-district, Phuket.

## **LITERATURE REVIEW**

### **The Safety Standard in Tourism Definition**

It is important to note that safety standards in tourism are not limited to a few aspects but are comprehensive. Destinations and tourism activities must provide stable and orderly conditions, emphasizing protection and freedom from injury or danger, including a stable social order, a balanced environment, the friendliness of locals, public security systems, and the availability of facilities and equipment. Xie, Zhang & Morrison (2021) mentioned that Tourism safety standards emphasize stable and orderly conditions—being protected and free from injury or danger during tourism activities.

### **The Beach Safety Standards in Tourism**

Beach safety standards encompass a range of measures aimed at ensuring the well-being of beachgoers and minimizing the risk associated with Coastal activity. In addition, beach safety education is necessary to raise awareness among beach users to understand signage and hazards, and the community should be educated before they visit the beach and from nursery school if

possible. These standards include process safety management, safety performance management, drowning prevention campaigns and awareness initiatives. protection from natural phenomena like lightning strikes, guidelines for a safe recreational water environment, and adherence to international standards like ISO 13.009:2015 for Beach management (Safe Coastal NPO, 2015).

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## **RESEARCH METHODOLOGY**

A quantitative research method was employed to collect primary data with questionnaire development and the measures, particularly each critical part of the questionnaire, which was briefly described because it was adopted from previous research. The instrument needed to undergo the Item Objective Congruence (IOC) step by three experts in the hospitality and tourism field. The sampling group was considered tourist destinations, particularly all the beaches in the Cherngtalay sub-district area. The target population focused on international tourists who used to travel and experience the Cherngtalay Sub-district Beaches, Phuket. Therefore, the researcher considered four sampling destinations: Surin Beach, Bangtao Beach, Lay-Phang Beach and Layan Beach. Thus, the formula for the unknown population will be used to determine sample size with a 95% confidence level. Data were analyzed using Importance Performance Analysis (IPA).

## **RESEARCH RESULTS**

Based on the mean scores of importance and performance of the safety standards of beaches in the Cherngtalay sub-district, Phuket, with objective 1, the description was importance most on “Cleanliness of the sea” was 4.59 and followed by “Overall safety standards on the beach” respectively. The highest mean for international tourists is significant for “importance cleanliness of sea”, which was 4.59.

Based on the satisfaction aspect safety standards of beaches in Cherngtalay Sub-district, Thalang District, Phuket, about objective 2, the most satisfied of the international tourists was found on “friendliness of local people” at the mean score of 4.50 followed by “cleanliness of sea” respectively. However, the lowest mean score was found to be very dissatisfied with “clear information on local authorities in charge of beach safety” and “activities promoting how to protect the environment” at the same mean score of 4.14. Therefore, the most expectations of international tourists on “Layan Beach” at a mean score of 4.86, followed by “Lay-Phang Beach” and “Bangtao Beach”, which were all categorised in expectations and satisfaction before and after the trip in terms of safety standards.

About objective 3, concerning what international tourists consider necessary when visiting beaches in the Cherngtalay sub-district, Phuket, there should be “concentrated here” on “availability of rubbish bins provided on the beach”, “encouraging all to protect beaches”, “facilities provided on beaches” and “hygiene and cleanliness of the beach”. Surprisingly, international tourists think the projects have not done these things well. So, the Cherngtalay Sub-district Municipality and the Cherngtalay Sub-district Administrative Organization. Should be urgently found ways to improve.

More importantly, they were considered as keeping up the good work on “availability of public space on beaches”, “cleanliness of the sea”, “encouraging all to protect beaches”, “friendliness of local people”, “overall safety standards on the beach”, “signs about how to keep beaches clean”, “signs of evacuation in case of emergency (Tsunami)”, and “the attractiveness of beaches”. Not surprisingly, international tourists think that Phuket is their favourite city to visit or travel to, and they already know about the town or the beaches before they arrive. Only the Cherngtalay Sub-district Municipality and the Cherngtalay Sub-district Administrative Organization should “Keep Up the Good Work.

Concerning “Possible Overkill”, there were found that the “friendliness of lifeguards” and “provision of telephone numbers to report when someone breaks the regulations” should be considered. These should reduce this description and spend more time preparing with other safety which is more priority. Concerning “a sufficient number of lifeguards on the beach” and “activities promoting how to protect the environment” were considered to be “Low Priority”.

## **DISCUSSION & CONCLUSION**

Regarding international tourists’ perception towards beach safety and related attributes related to objective 1, the findings indicated that international tourists specified the cleanliness of the sea as the most important aspect of safety standards of beaches in Cherngtalay Sub-district, Thalang District, Phuket. The possible reason is a lack of knowledge and awareness of emergencies and policies. Consequently, to

prevent, reduce, fight and, as far as possible, eliminate sea pollution and to protect and improve the marine and coastal environment and thus contribute to its sustainable development. So, it is indispensable to have an integrated approach based on knowledge and understanding of the different ecosystems and landscapes of the Mediterranean Sea (Rym et al., 2022).

Overall, international tourist satisfaction with beaches in Cherngtalay Sub-district, Thalang District, Phuket, which related to objective 2, was very satisfactory. Comparing the mean scores among each contributor, international tourists were satisfied most with Layan Beach because of the cleanliness of the sea. Typically, the lack of rubbish bins provided on the beach could be described as a lousy availability condition (Robinson, 2023). The most effective way to enhance waste disposal habits at public beaches might involve setting up multiple trash containers on the central part of the shoreline. Consequently, if the infrastructure and facilities were to be improved, this would automatically be conducive to better environmental conditions. The beach would become well-organized with sufficient underlying facilities and services and free from trash and litter.

The analysis of the importance and overall performance of the safety standards of beaches in the Cherngtalay sub-district, Phuket, is related to objective 1; there should be “concentrated here” on “availability of rubbish bins provided on the beach” and “encouraging all to protect beaches”. The reason was that international tourists think that the projects have not done these things well and should urgently find ways to improve by the Cherngtalay Sub-district Municipality and the Cherngtalay Sub-district Administrative Organization, which is associated with Robbe et al. (2024), the analysis of the importance and overall performance of the safety standards of beaches should be concentrated on. The primary advantage of this stakeholder-based methodology lies in its capacity to foster consensus.

## **HUMAN RESEARCH ETHICS APPROVAL**

This research does not require approval from human research ethics.

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# APPENDIX

# The 1<sup>st</sup> MuSE International Conference 2025

**Multidisciplinary Sciences for Sustainability**

Conference Date: **Friday 2<sup>nd</sup> May, 2025** | Time: **9.00 - 16.00 hrs (GMT+7)**

Platform:  Zoom Online Meeting

## Keynote Speakers



**Professor Dr.  
Therdchai Choibamroong**

Director of Doctor of Philosophy Program,  
Graduate School of Tourism Management (GSTM),  
National Institute of Development Administration (NIDA), Thailand

Multidisciplinary Sciences for Regenerative Tourism



**Asst. Prof. Dr.  
Chawarote Valyamedhi**

Department of Southeast Asian Languages and Cultures,  
National Chengchi University, Taiwan

Multi Cultures and Sustainability: From Taiwan to ASEAN

## Registration and Payment

	Registration	Payment
<b>Presenters</b>	<b>11 Dec 2024</b>	<b>11 Dec 2024</b>
	<b>to</b>	<b>to</b>
<b>Participants</b>	<b>21 Apr 2025</b>	<b>27 Apr 2025</b>

## Conference Fees

Non-TSU student	Non-TSU researcher/lecturer	TSU student & Student of partner university	TSU researcher/lecturer & member of partner university	General participant
<b>2,500</b> Thai Baht	<b>3,000</b> Thai Baht	<b>2,000</b> Thai Baht	<b>2,500</b> Thai Baht	<b>1,000</b> Thai Baht
Oral presentation				No presentation

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Communication & Media Studies  
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Social Innovation  
Strategic Communication  
Social Studies  
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Multidisciplinary Sciences for Sustainability  
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