



Impact of a Knowledge Management Program for Youths on the Preservation of the Kolae Boat Model Craft

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Abstract

This study investigates the impact of a knowledge management (KM) program on the preservation of the Kolae boat model craft among youths in Narathiwat Province, Thailand. Specifically, it evaluates changes in participants' knowledge, perceptions, attitudes, and behaviors before and after the program's implementation. A total of 15 youths from Ban Thon, a coastal village in Narathiwat, were selected through an application process coordinated by the community youth council. The study employed a mixed-methods approach, incorporating: (1) a KM program tailored to the preservation of Kolae boat craftsmanship, (2) pre- and post-program questionnaires using a five-point Likert scale to assess changes in perceptions, attitudes, and behaviors, and (3) semi-structured interviews conducted before and after the intervention. Quantitative data were analyzed using means, standard deviations, and paired t-tests, while qualitative data were examined through content analysis. The findings reveal a statistically significant improvement ($p<.01$) in participants' perceptions, attitudes, and behaviors toward KM and cultural preservation following the program. Furthermore, participants demonstrated increased knowledge and a heightened appreciation of cultural heritage, as well as greater behavioral engagement in preserving the Kolae boat model craft within their community.

Introduction

The Kolae boat is a significant cultural artifact representing the artistic and craft traditions of fishing communities in the Malay Peninsula and southern Thailand. In particular, the village of Ban Thon, located in Khok Khian Subdistrict, Mueang District, Narathiwat Province, has maintained a deep-rooted connection with this tradition. Historically, the Kolae boat has served as

an essential tool for local fishermen, enabling their livelihood from past to present. Recognizing its cultural and economic value, Her Majesty Queen Sirikit, The Queen Mother, has actively supported and promoted the preservation of Kolae boat craftsmanship since 1973. This initiative led to the establishment of the Kolae Boat Model Group, which encourages the production of model Kolae boats as souvenirs. These models serve to

conserve the distinctive shapes and intricate patterns that symbolize the cultural identity of Narathiwat Province (Office of the Special Committee for the Coordination of Royal Initiatives, n.d.; Chelong, 2023).

In recent years, however, the production of Kolae boat models has become a niche activity, generating income for only a select group within the community. This has resulted in a decline in the transmission and preservation of this traditional craft. Furthermore, the region faces multiple socio-economic challenges, including historical conflicts, a designation as a special poverty zone, low educational attainment, and widespread drug-related issues in many communities. These factors contribute to a diminishing interest among youth in their cultural heritage. Additionally, the community lacks structured guidelines for the systematic inheritance and preservation of Kolae boat craftsmanship, as well as a comprehensive knowledge management (KM) framework for organizing and disseminating relevant cultural information. Addressing this gap requires the development of an effective cultural knowledge management (CKM) strategy to systematically document and transfer the embedded and fragmented knowledge within the community. Such an approach would enhance the sustainability of Kolae boat craftsmanship and create additional cultural and economic value for the local population (Chelong & Jeawkok, 2020; Wiriyapinit, 2022; Ngamwittayaphong, 2006; Equitable Education Fund (EEF), 2023; Tuansiri & Sirisakdamkoeng, 2023). To ensure the validity of this study, three experts specializing in knowledge management, learning management, and cultural studies evaluated the content scope and analytical framework.

The development of a KM program aimed at preserving and passing down the artistic craftsmanship of Kolae boat models to Narathiwat's youth represents an innovative initiative that integrates community collaboration. This program is designed to serve as a strategic guideline for safeguarding the tradition while empowering younger generations to leverage cultural capital for both personal and communal benefit. The study seeks to address the following research questions: (1) What is the current status of knowledge related to Kolae boat model craftsmanship? (2) How is this knowledge acquired and documented? (3) How should this knowledge be utilized? (4) What are the effective methods for transmitting this knowledge? and (5) How can new knowledge be generated, and what are its potential benefits? Answering these questions will

facilitate a deeper understanding of how youth engagement with community culture can support the preservation and inheritance of this traditional craft (Chelong, 2022).

This research examines the impact of a KM program on the transmission and preservation of Kolae boat craftsmanship by assessing changes in youth perceptions, attitudes, and behaviors before and after program implementation. Using a mixed-methods approach, incorporating both qualitative and quantitative methodologies, this study aims to provide insights that will contribute to the sustainable promotion and development of community culture in response to contemporary global changes.

Objective

To evaluate the effectiveness of a KM development program in preserving and transmitting the craftsmanship of Kolae boat models among youth in Narathiwat by comparing their perceptions, attitudes, and behaviors before and after program implementation.

Conceptual Framework

The conceptual framework is summarized and shown in Figure 1.

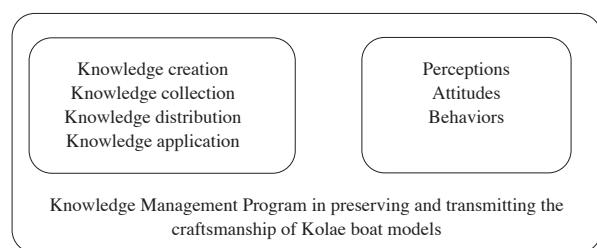


Figure 1 Conceptual Framework

Research Methodology

This action research used a KM development program to inherit and preserve the arts and crafts of the Kolae boat model for youths in Narathiwat. The program was developed by researchers and validated by three experts. The questionnaire was piloted with Narathiwat's youth, as detailed below.

Population and Samples

The participants were 15 youths from Ban Thon, Khok Khian, Muang, Narathiwat Province, selected through an application that was coordinated by the community youth council. The participants voluntarily applied, were selected via an interview, and were required

to meet the program specifications such as a youth who was currently in high school and residing in Ban Thon, Narathiwat, and who was interested in community culture and ready to be a model volunteer in their community

Research Instrument

The instrument used to operate and collect data consisted of:

1) A KM development program to inherit and preserve the arts and crafts of the Kolae boat model among youth in Narathiwat was validated by three experts who were chosen based on their expertise in the fields of learning management, Southern Thai culture, and behavioral science. These experts assessed the program's content validity in terms of design, accuracy, activity content, feasibility, applicability, and appropriateness. The program, known as the K-O-L-A-E Model, consists of five key components:

- K (Knowledge): Activities designed to create and develop knowledge.
- O (Obtainment): Data collection activities within the community.
- L (Liberation): Community activities aimed at effectively disseminating and sharing knowledge.
- A (Application): Utilization of cultural capital and the development of a creative economy.
- E (Engagement): Sustainable activities initiated through community empowerment.

To validate the KM development program, a pilot study was conducted with youth participants in two separate phases, each lasting five days.

2) Semi-Structured Interviews and Questionnaires

A semi-structured interview protocol was developed to assess participants' perceptions, attitudes, and behaviors across four dimensions:

- Knowledge Creation
- Knowledge Collection
- Knowledge Distribution
- Knowledge Application

Additionally, a five-point Likert scale questionnaire was designed to evaluate participants' perceptions of knowledge management in relation to the inheritance and preservation of Kolae boat craftsmanship. The questionnaire's content validity was assessed using the Index of Item-Objective Congruence (IOC), with validation performed by three experts specializing in cultural knowledge management, learning management, and cultural studies. Each item was evaluated with an assessment value of 0.05, ensuring alignment with the research objectives.

Data Collection

The study followed a structured data collection process:

1. Pre-Implementation Assessment:

- The semi-structured interviews and questionnaires were administered to participants before the implementation of the KM development program.

- The collected data were analyzed using an analytic induction method to establish baseline perceptions, attitudes, and behaviors.

2. Implementation of the KM Development Program:

- The KM program was conducted following the structured K-O-L-A-E Model, engaging youth participants in various activities aimed at knowledge creation, dissemination, and application within the community.

3. Post-Implementation Assessment:

- The same semi-structured interviews and questionnaires were administered again after the program's implementation to measure changes in participants' perceptions, attitudes, and behaviors.

Data Analysis

The data collected were analyzed using both qualitative and quantitative methods:

1. Qualitative Data Analysis:

- Interview data were analyzed using content analysis and presented in tabular format.

- Data triangulation was employed to ensure validity, with comparisons made between pre- and post-implementation data.

- Verbatim transcriptions were created, and the content was classified based on data patterns.

- Informant validation was conducted during the interviews to confirm data accuracy and consistency. If discrepancies were found, a follow-up interview was conducted for verification.

- Theoretical triangulation was applied to compare findings with established knowledge management theories.

2. Quantitative Data Analysis:

- Data from the Likert-scale questionnaire were analyzed using mean, standard deviation, and paired sample t-tests to determine statistical significance in changes before and after program implementation.

This study was conducted in accordance with ethical standards and was approved by the Human Research Ethics Committee for Social and Behavioral Sciences (PSU IRB), approval number 2023-LL-Libarts-026.

Results

This study exhibited the effect of using KM development program in preserving and transmitting craftsmanship of the Kolae boat model among Narathiwat's youth. The results are presented as follows:

Table 1 A comparison of youths' perceptions, attitudes, and behaviors in preserving and transmitting craftsmanship of the Kolae boat model in Narathiwat Province.

(N=15)

Aspects	Pre-study		Post-study		t-value	Sig. (2-tailed)		
	Mean	SD	Level	Mean	SD			
Perception	1.62	0.150	Low	4.35	0.156	High	-43.385	0.00*
Attitude	1.68	0.131	Low	4.56	0.107	Very High	-53.585	0.00*
Behavior	1.92	0.131	Low	4.18	0.108	High	-80.915	0.00*
Total	1.68	0.092	Low	4.17	0.084	High	-65.385	0.00*

* $P<.01$

Table 1 presents the overall levels of youth perceptions, attitudes, and behaviors regarding the Knowledge Management (KM) program for the inheritance and preservation of Kolae boat craftsmanship in Narathiwat Province. Prior to the implementation of the KM program, the overall mean score was 1.68, indicating a low level of awareness and engagement. Following the program's implementation, the overall mean score increased significantly to 4.17, reflecting a high level of improvement in perceptions, attitudes, and behaviors.

Table 2 Results of the comparison of youths' perceptions, attitudes, and behaviors in preserving and transmitting the craftsmanship of the Kolae boat model in Narathiwat Province.

Perceptions	Pre-study	Post-study
1. KM methods	Youth's perceived that KM is about knowledge transfer from adults to children only	Youth's perceived that KM must be done in steps, which focus on 4 steps: 1) knowledge creation, 2) knowledge storage, 3) knowledge dissemination, 4) knowledge application.
2. KM helps with preserving and transmitting	Perceived that a group of people who have been conveyed from the family can be inherited.	Perceived that KM is not about any specific group, but knowledge is for everyone to learn.
3. Determining target group to convey and preserve	Perceived that target group is descendants of local culture scholars only.	Perceived that target group to inherit and preserve can be individuals, groups and communities.
4. Data collection	Perceived that collecting data is difficult, time consuming, and unsure how develop it further	Perceived that collecting data can be done with various techniques, such as brainstorming, interview, and must be done clearly
5. Transferring knowledge	Perceived that knowledge transfer in forms of preaching from community elderly is the best technique	Perceived that knowledge transfer has processes, namely the transmitter, the receiver, the information, and the channel for transmitting the information.
6. Information about Kolae boat model in the community	Perceived that Kolae boat model products are showcased in glass cabinet, and lack of in-depth information	Perceived that they need to understand about 1) cultural landscape, 2) technical knowledge, 3) history.
7. Knowledge transmitter and receiver in community	Perceived that the communication is still not clear, especially language use and access to local scholars	Perceived that knowledge can be transferred and received from individual, group activities, and community forum.
8. History of Kolae boat in the community	Perceived from online media such as YouTube more than from people in the community as the community lacks process of learning promotion	Perceived that there must be 1) up-to-date information on inheritance and preservation; 2) showcase achievements and future visions in inheritance and preservation.

A detailed analysis of each dimension reveals the following:

- Perceptions: Before the implementation of the KM program, the mean score for youth perceptions regarding the inheritance and preservation of Kolae boat craftsmanship was 1.62, categorized as low. After the program, this score rose to 4.35, indicating a high level of perception and awareness.

- Attitudes: Youth attitudes towards the KM program showed substantial improvement. The mean score before implementation was 1.68 (low), while post-implementation, the score increased to 4.56, categorized as very high. This indicates a strong positive shift in youth attitudes toward the KM program.

- Behaviors: The mean score for youth behaviors related to the inheritance and preservation of Kolae boat craftsmanship was 1.92 (low) before the KM program. After its implementation, the score increased to 4.18, representing a high level of behavioral engagement.

These findings demonstrate a statistically significant improvement in youth perceptions, attitudes, and behaviors following the implementation of the KM program. Furthermore, to provide deeper insights into these changes, the qualitative findings of the study are presented in the following section.

Table 2 (Continue)

Perceptions	Pre-study	Post-study
9. Local scholars and teacher for Kolae boat model in the community	Perceived that these people are those with knowledge transferred directly from their ancestor. The transmitting process required patient, love, and continuous learning.	Perceived that these people are those with knowledge transferred directly from their ancestor. These people could improve work quality if properly supported.
10. Communication process in preserving and transmitting	Perceived that one-way communication is important because it involves listening to adults, without having to analyze	Perceived that two-way communication creates new ideas.
11. Innovation in preserving and transmitting	Perceived that innovation is hard to access and utilize	Perceived that innovation is systematic, having constant communication helps create a good inheritance.
12. KM skills in preserving and transmitting	Perceived that technical skills are more important than content	Perceived that they must know how to 1) provide recommendation at work, 2) analyze, 3) assess to reflect creativity
13. Participation of the community for preserving and transmitting	Perceived the participation in a specific group only	Perceived that organization in the community must have 1) roles in consultation and support activities, 2) facilitating the activities, 3) enhancing activities related to cultural preservation
Attitudes	Pre-study	Post-study
1. Perspectives on KM is important to preserving and transmitting Kolae boat model	Perceived that KM is important to descendent of Kolae boat makers directly	Recognized that KM is important to everyone in the community, and can classify qualitative and quantitative information
2. Desire to gather knowledge about Kolae boat models in the community.	Lacked desire to gather written knowledge, including history, and were not sure of the suitable method to use	Comprehended that gathering knowledge is required to 1) determine a clear recording format and easy to use. The record either be written or using technology, 2) Interpreting and analyzing the knowledge gained must rely on the experience or advice of scholars in the community.
3. Desire to explore and develop patterns of Kolae boat model	They had no desire to invent new things to preserve and do not see how this significant to them	They know how to make suggestions for working in the community to demonstrate creativity in conveying and preservation, including using ideas to analyze and assess to reflect creativity in inheriting and preserving Kolae boat.
3. Desire to explore and develop patterns of Kolae boat model	They had no desire to invent new things to preserve and do not see how this significant to them	They know how to make suggestions for working in the community to demonstrate creativity in conveying and preservation, including using ideas to analyze and assess to reflect creativity in inheriting and preserving Kolae boat.
4. Community group Initiative to explore knowledge about Kolae boat model	If they gathered in group to create knowledge distinctively, it will be beneficial. But they did not have suitable methods and were not sure of the participation in the community	Communicating the image and building the power of persuasive communication plays a role in teaching and creating understanding of local culture for youth, with the aim of creating a network group
5. Enhancement for preserving and transmitting the Kolae boat model	They understood that enhancing for preservation must be a process with an appropriation, but they did not know how to start and who would take part.	They recognized that it was required to develop KM ecology for preserving and transmitting the craftsmanship constantly. It also should focus on interdisciplinary development to create new perspectives.
6. The belief of the Kolae boat model able to continue to exist	They believed that Kolae boat is still valuable in the form of community income. KM should go the same direction.	They recognized that it must lead to 1) understanding the life cycle community and 2) being able to create new business ideas to increase cultural-based community income.
7. Value of preserving and transmitting Kolae boat model in the community	They perceived that it would make the community unique and community identity	They recognized that Kolae boat is a cultural capital that should be preserved and sustained.
8. Creativity Reflection preserving and transmitting	Lack of discussion about opportunities, obstacles, and problems to develop	They recognized that it should 1) organize a community forum on the issue of inheritance and preservation, 2) award awards to the inheritor and preserver in the community and spread to the outside community.
9. Respect the differences in opinions and beliefs of people in the community	They perceived that everyone has their own opinions, but since Kolae boat is a monoculture, it is hard to change and suggest.	They discovered cultural knowledge from talking, along with understanding the essence of the differences and respecting cultural differences and how people behave.

Table 2 (Continue)

Attitudes	Pre-study	Post-study
10. Confidence that the existence of Kolae boat model depends on important characteristics or skills in KM.	They perceived that leadership skills are very important, but they could not explain what their characteristics are.	The recognized knowledge transfer methods systematically: 1) clearly determine who is the transmitter; 2) determine the scope or size of knowledge before sharing; 3) determine the channel of communication through the individual, activity, community, or alternative media; 4) clearly determine who is the receiver; and 5) monitor or assess the knowledge gained.
Behaviors	Pre-study	Post-study
1. Dealing with the adoption of other cultures to change the culture of Kolae boat	There has never been a plan or discussion regarding how to deal with other cultures.	It resulted in image communication and communication power is created to convince people in the community to be aware of its importance on an ongoing basis.
2. Invention and knowledge integration of Kolae boat model	Applying and extending the pattern of Kolae boats to make other products. But it did not give many noticeable results, or it may be due to a lack of good planning.	There is an opportunity to support and expand economic opportunities for the community and create networks to develop the cultural economy and community tourism.
3. Knowledge collection about experiences of creating the Kolae boat model into written form	Nobody has ever collected information in writing, even though it is beneficial and a lesson for future generations.	They realized that one indicator that helps the community participate in local cultural preservation is that the community leader must be a facilitator for the learning.
4. Recommendations for development	It is hard for the younger generation since negation or communication is still weak.	They comprehended that determining the target group, defining knowledge, and collecting information for transfer led to the creation of a new organization in the community.
5. Participation and joining preservation network	There was no direct network, most of them focus on generating income for specific groups only.	They recognized that anyone who is a member of the community is the cultural owner of the community. This personality type is therefore not limited to the elderly or youth only; all ages of life can be a cultural owner.
6. Field visit to collect data about Kolae boat model	They had no knowledge on how to collect the data and were not sure where to start.	They recognized that basic computer programs are necessary, and modern technology can be used for the design of inheriting and preserving activities.
7. Disseminating Kolae boat model knowledge to the outside community	Disseminating knowledge is difficult because they must have knowledge first before sharing	Disseminating knowledge must rely on constant communication, which is a vital strategy in inheritance and preservation of the Kolae boat model craft.

Discussion

The findings of this study indicate a substantial transformation in youth perceptions, attitudes, and behaviors regarding the Knowledge Management (KM) program for the inheritance and preservation of Kolae boat craftsmanship. Prior to the program's implementation, youth engagement with KM was minimal. However, post-implementation results demonstrate a significant improvement, as participants developed a deeper understanding of KM, adopted more positive attitudes, and exhibited behaviors that actively contributed to the transmission and preservation of this cultural heritage within their community.

The application of KM in preserving community culture serves as a structured approach to managing and leveraging cultural capital. Chelong & Laeheem (2020) emphasize that effective community-based Cultural Knowledge Management (CKM) must foster the

development of perceptions, attitudes, and behaviors among community members. Without progress in these three dimensions, long-term sustainability is unlikely, and the community may struggle to maintain cultural cohesion and representation. Similarly, Rahman et al. (2020) argue that KM should prioritize these aspects, asserting that local wisdom can foster cooperation, unity, and tolerance when community members are actively engaged in knowledge acquisition and transfer.

This study aligns with Wiriayapinit's (2022, 2013) discussion in Looking at 'Culture' in Knowledge Management, which highlights the complexity of KM and the necessity of addressing fundamental questions: Where is the knowledge to be managed? How should it be collected? How will it be transferred and applied? Addressing these questions facilitates the elevation of cultural knowledge within a community. Moreover, successful KM implementation in community settings

requires strong leadership from local figures who can drive participation and ensure sustainable outcomes.

The results further reinforce the importance of KM programs in fostering youth engagement with cultural heritage. By providing a framework for understanding knowledge acquisition, utilization, and transfer, the program equips participants with essential skills for cultural preservation. Fauzan et al. (2019) suggest that contemporary KM approaches must integrate interdisciplinary perspectives, a notion supported by this study's findings. Unlike traditional KM models, which often focus on centralized knowledge management, this study highlights the effectiveness of community-driven approaches that emphasize participatory planning, design, and implementation.

However, one notable gap in the literature is the limited discussion on parental involvement in KM programs. Jaruchainiwat et al. (2023) stress that effective learning processes require parental engagement to maximize potential outcomes. Future studies should explore the role of family involvement in enhancing the sustainability of CKM initiatives.

Conclusion

The development of a KM program for inheriting and preserving the arts and crafts of the Kolae boat model plays a crucial role in ensuring the continuity of cultural traditions amid rapid societal changes. In an era characterized by volatility and uncertainty, community culture can serve as a valuable form of social capital for local development. Effective CKM requires systematic organization, integration of both tangible and intangible knowledge, and collaboration with community scholars to ensure the accuracy and relevance of the information. Knowledge transfer should employ diverse methods, with ongoing monitoring to assess outcomes.

Attitude development is equally critical, necessitating a genuine commitment to gathering and utilizing cultural knowledge for the community's benefit. Additionally, fostering KM-related behaviors enhances essential life skills, such as critical thinking, data collection, and analytical reasoning. Through hands-on experiences, youth develop the capability to interpret cultural information, propose innovative ideas, and establish knowledge-sharing networks within their community. Ultimately, CKM serves as a powerful tool for preserving cultural identity and ensuring the sustainability of local traditions.

Implications and Recommendations

Practical Implications

Government agencies, NGOs, and other organizations involved in youth development in Narathiwat Province can utilize the findings of this study to identify target groups for future initiatives. By understanding the levels of youth perceptions, attitudes, and behaviors, policymakers can develop more effective interventions for cultural preservation. Furthermore, integrating qualitative research methodologies can provide deeper insights into the social and cultural factors influencing youth engagement in cultural conservation efforts.

Suggestions

Future studies should consider expanding the implementation of this KM program to other communities within southern Thailand that share similar cultural traditions. A comparative analysis across different cultural settings could offer valuable insights into variations in cultural knowledge transmission and preservation. Additionally, further research should investigate the role of parental and community participation in CKM initiatives, as their involvement may significantly enhance program effectiveness and long-term sustainability.

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