

Knowledge Management and Web Application Development of Ethnic Clothing in Sisaket, Thailand

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Abstract

This research aimed to manage knowledge and develop a web application of traditional woven garments of four ethnic groups in Sisaket province that have the most outstanding clothing identity. They are the Lao, Khmer, Suay (also known as Kui), and Yoe. The process was divided into two phases. Phase 1 involved knowledge management and used in-depth interviews with representatives of these ethnic groups. Phase 2 involved developing a web application of the topic based on development research conducted along with the knowledge management process. The study found both differences and similarities in the traditional woven garments of the four ethnic groups. In all of the groups, techniques of weaving have been passed along from ancestors by teaching through practice, while there are now few inheritors among the young generation. The knowledge acquired through this research was stored in the web application that had been developed and transferred to communities and government agencies. This knowledge can be applied for planning activities related to conservation, inheritance, and development.

Keywords: clothing, textiles, ethnic group, web application, knowledge management

Introduction

The weaving of textiles for use as clothing has been a way of life throughout the world. It has been passed on from generation to generation from the past until now. Each ethnic group has its own distinct

method of weaving, including patterns and colors. Thailand is one of the countries where fabrics for clothing have been woven and wisdom of weaving patterns using natural fibers has been passed on to young generations until now. It is a holistic form of local wisdom, similar to agricultural practices, indigenous industries, handicrafts, philosophy, religion, and traditions (Chompulong, 2005).

In 2001, the Thai government introduced a program known as One Tambon One Product (OTOP) to promote and preserve various forms of local wisdom, including traditional textiles (Thongkaem and Phaengsoi, 2019). Over time, OTOPT products have been upgraded to meet national and international standards. A key theme of OTOPT products is that they are based on local resources and traditional wisdom and, thus, are unique (Rujiprak and Limprasert, 2020).

Sisaket province has various ethnic cultures because of its historical background, as seen in its Khmer archaeological sites, such as Khao Phra Wihan and Lao cultural forms such as the *Fon Klong Tum* dance of Kan Thara Rom district. This evidence indicates that some Sisaket ancestors migrated from other places, such as Cambodia and Laos. However, while the common cultural element of all ethnicities in Sisaket is weaving, the details of the textiles and clothing are unique to each group. Therefore, geography and history affect the cultural groupings as well as the weaving culture of Sisaket people (Pratwet et al., 2019).

At the same time, mutual learning has resulted in some cultural assimilation among the four ethnic groups. Thus, the clothing styles of the groups are similar in some ways with some differences in details (Srilapan, 2016). However, among all the groups, inheritance of the traditional weaving and ways of dressing have declined among the new generation and the transfer of knowledge may be lost over time. There are few sources for education and dissemination of culture in Sisaket. Thus, the limited access to these sources may cause the new generation to eventually forget their original identity.

This research introduces the knowledge management process as a means of compiling knowledge of the indigenous clothing of the

four groups in Sisaket province to be stored systematically and to use information technology as a medium for dissemination by developing a web application. The web application's special feature is that people can apply for membership and then add their knowledge to the system. In addition, a discussion forum is provided for members to exchange knowledge.

Objectives

The objectives of this research were: 1) to manage knowledge of the traditional clothing of four prominent ethnic groups in Sisaket, and 2) to develop a web application on this knowledge by using the knowledge management process as a framework along with the system development process.

Literature Review and Conceptual Framework

Clothing Identity of the Ethnic Groups in Sisaket Province

In Sisaket Province, there are four ethnic groups that have similar and different patterns in details of clothing. Duangmanee et al. (2018) studied the identity of the four ethnic groups in Sisaket, i.e. Lao, Yoe, Khmer, and Suay (also known as Kui) and described the traditional clothing of each group. Lao women and men wear the *luk kaew* (ลูกแก้ว) pattern made of silk. Srilapan (2016) reported that the top part of the woven style was up line pattern and the bottom of the woven style was standing line pattern. Women wear *mii khan* (หมี่คั่น) wrap-around skirts, or *ken khan to tin* (เข็นคั่นต่อตีน) wrap-around skirts and use the *sai plalai* (ใส่ปลาลไหล) loincloth as a breast cloth. Men wear sarongs with a loincloth tied around the waist.

For the Yoe, Duangmanee et al. (2018) found that men wear collarless indigo-dyed shirts and trousers, and a loincloth tied around the waist. Women wear dark gray blouses button down the front, usually the silver buttons (Srilapan, 2016), silk wrap-around skirts, of indigo, green, or brown with a silk breast cloth draped from the left shoulder to the right side of the waist.

Khmer men wear round-necked shirts and sarongs of various colors with a loincloth tied around the waist or shoulders. The pattern of the black-and-white loincloth is smaller than that of the Lao people. The women wear wrap-around skirts with vertical patterns with two horizontal hems, the upper one of which is wider than the lower, separated by a red band. The blouses have ebony-dyed tight cylinder sleeves embroidered in various colors, with a six-inch wide hem split at the sides, silver buttons, breast cloths of assorted colors, and a front slack loincloth scarf (Duangmanee et al., 2018).

As for the Suay, men wear round-necked shirts with a front slit, sarongs or shorts of various colors with a loincloth tied around the waist or shoulders. Women wear wrap-around skirts with or without a hem, cylinder-sleeve blouses of various colors with silver buttons, and a beige and black loincloth or *luk kaew* breast cloth which is made from silk. The Suay's used standing line pattern on the top, but used up line pattern at the bottom (Srilapan, 2016). Older women wear patterned wrap-around skirts, round-necked sleeveless collared blouses, silver bead necklaces, and fragrant flowers on the earlobes. The weaving pattern is called *kachik noi* (ผ้ากะจิกน้อย), a squirrel tail-like pattern silk in a single color. Men wear silk on important ceremonies. The wearing style is to fold pleats in the front like a sarong. The pattern of the women's wrap-around skirts is *mii khan*. It is a vertical line with a brown pattern. The upper part of the skirt is red with a *khit* pattern (ลายขีด). The hem of the skirt is black with white, yellow, and red streaks similar to the *anlusum* (อันลู่ซิม) long stripes of the Khmer. The women wear these skirts for important ceremonies (Duangmanee et al., 2018). Thus, it can be seen that there are some similarities and differences in the dress of these four ethnic groups (Dechgoolong, 2017).

Knowledge Management Process

Knowledge management is the process by which organizations apply knowledge from one person (Valacich and Schneider, 2016) to manage, organize, and transfer it to others to access and benefit themselves and their organizations (Laudon and Laudon, 2012). Knowledge management

is a concept that is used by many organizations to extract knowledge and expertise from personnel to manage systemically or categorize and store it in a source that can be disseminated and accessed by other personnel. It allows other personnel to learn from the existing expertise.

There are six stages in the knowledge management process. The first is creating knowledge, which is similar to the accumulation of experience. The created knowledge may come from an internal or external organization; for instance, a community can create knowledge based on the experience of the members or people in the community, and other groups' examples. Moreover, the external learning is offsite (Wathanachanobon, Sakda, and Pengtong, 2015). The second stage is capturing knowledge, by which the benefits of knowledge are classified and presented in an appropriate format. The third is refining knowledge, which is defined as the merging of structural knowledge with explicit knowledge to transform it into several media formats, such as books, texts, and manuals that users access.

The fourth is the storing of knowledge in the knowledge bank for further use. The fifth, managing knowledge, is the process of reviewing and examining the relations and validity of the knowledge. Finally, the sixth, disseminating knowledge, is making it accessible whenever and wherever the users need it (Turban, Sharda, and Delen, 2014), as shown in Figure 1.

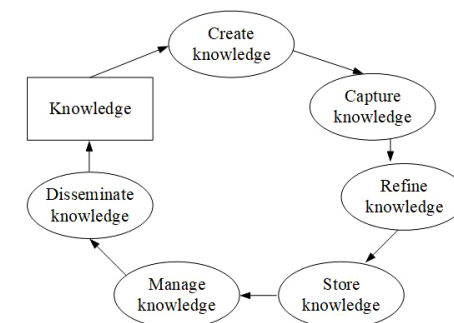


Figure 1 Knowledge management process
(Source: Turban, Sharda, and Delen, 2014: 458)

System Development Process

The system development process can occur when any information system needs to be developed, including the web application development in this research. The team workers carry out the entire processes of the activities. Those activities are defined by breaking down the main task into sub-tasks and dividing it into stages or phases according to the nature of the work. The simulated system development process presents the work phases from the beginning to the end as a “system development life cycle (SDLC).” Valacich and Schneider (2016) defined four phases as planning and selection, analysis, design, and implementation and operations, as shown in Figure 2.

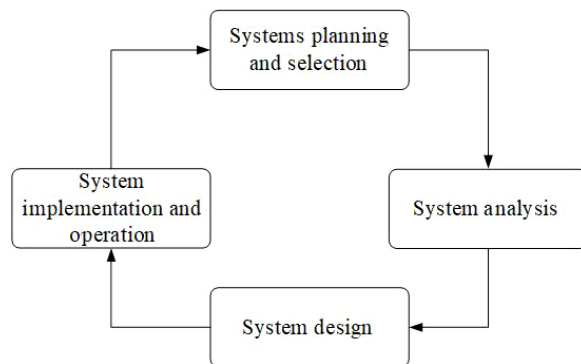


Figure 2 System Development Life Cycle (SDLC)
(Source: Valacich and Schneider, 2016: 362)

Earlier, Timakum, Na Lamphun, and Prangwatanakun (2010) investigated the patterns and processes of weaving known as *Pha Yok Lamphun* in the northern province of Lamphun through the knowledge management process. They developed a knowledge management system for this type of weaving and integrated the concept of rapid application development (Valacich, George and Hoffer, 2015) with the knowledge management process of SECI Model (Nonaka and Takeuchi, 2000) and operated them simultaneously, as shown in Figure 3.

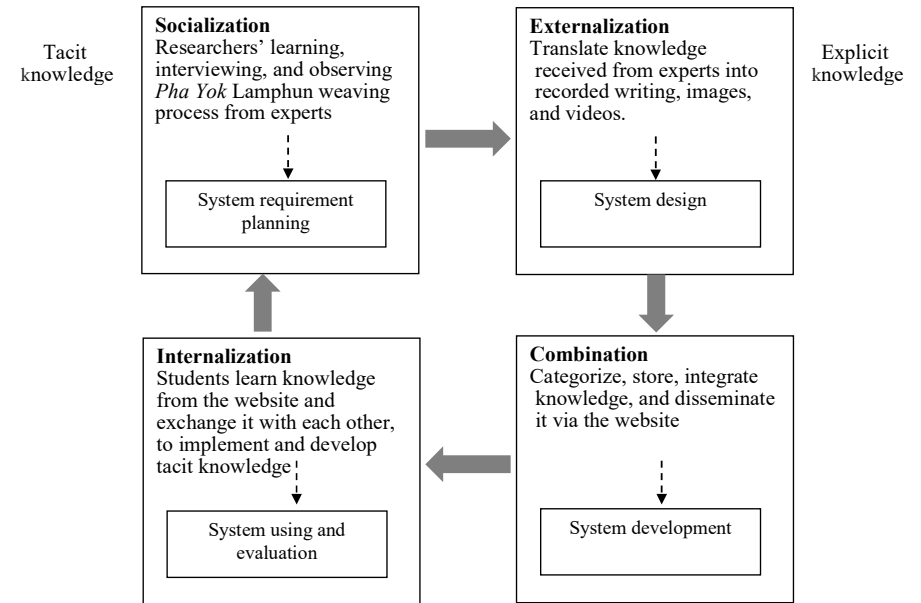


Figure 3 Knowledge management of Lanna local wisdom of Pha Yok Lamphun weaving
(Source: Timakum, Na Lamphun, and Prangwatanakun, 2010: 21)

Research Conceptual Framework

Hence, the conceptual framework of Timakum, Na Lamphun, and Prangwatanakun (2010) was applied in the present research regarding the integration of the knowledge management process with the rapid application development process to enable simultaneous operation. In addition, this research integrated the conceptual knowledge management process of Turban, Sharda, and Delen (2014) with the conceptual system development process of Valacich and Schneider (2016) to operate knowledge management and system development simultaneously, as shown in Figure 4.

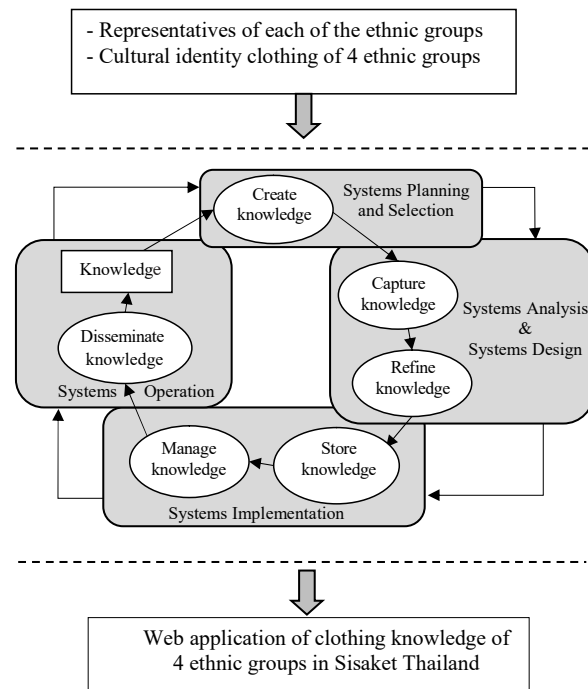


Figure 4 Conceptual framework

Research Methods

The researchers divided the work into two phases: knowledge management and web application development. In knowledge management, qualitative research methods were used, consisting of the following stages.

- Creating knowledge was the process of acquiring knowledge from learning by doing and sharing experiences with others. The created knowledge might come from internal or external organizations.
- Capturing knowledge was the stage of selecting new knowledge based on the benefits of knowledge and presented in an appropriate format.
- Refining knowledge was the stage of improving defined knowledge by adjusting the content to become more structural or meaningful knowledge (explicit knowledge) that could be used.

After these knowledge management stages, the researchers conducted the system development process, as described below.

- System planning was the process of specifying the scope of operations. It was web application system development planning which would be used to store and disseminate knowledge. At this stage, the researcher and the target groups worked together on knowledge presentation for dissemination.
- System analysis was the stage of determining the requirements and scope of the web application.
- System design included designing the database and display screen (Input/output screen).

Key informants in the phase of qualitative research were representatives of village leaders from the four ethnic groups selected by using purposive selection from the outstanding clothing based on the criteria used in the OTOP Nawat Withi Tourism Community. They were selected by the Sisaket Provincial Community Development Office and the Sisaket Provincial Cultural Office. These villages were: 1) Ban Wan, Mueang district, 2) Ban Prasat Yoe, Prai Bueng district, 3) Ban Ku, Prang Ku district, and 4) Ban Kudnakaew, Khun Han district. The researchers used in-depth interviews with the representatives of village leaders from the four ethnic groups to obtain information about the village contexts and clothing details. Subsequently, in the capturing and refining knowledge stages, a focus group discussion was held for village leaders and local wisdom experts who together selected a topic and considered the knowledge to present. The researchers used these stages to analyze and design a web application system and invited the informants to be involved in the system design.

In Phase 1, the researchers used structured interviews and focus group discussions as research instruments. Audio recordings, photos, and video recordings were used as important instruments for knowledge management while conducting the interviews and focus group discussions. The researchers examined the cognitive data using the triangulation method (Getsung, 2016) along with the representatives from the Sisaket Provincial Community Development Office, Sisaket

Provincial Cultural Office, and the communities in order to obtain accurate knowledge.

In Phase 2, web application development, the researchers used knowledge gained from Phase 1 to apply in the web application development phase, consisting of the following stages:

- The storing and managing knowledge stage was carried out along with the system implementation of web application development, followed by the computer experts' evaluation. The web application was improved according to the evaluation results.

- The knowledge dissemination stage was conducted along with the system operation of web application development. It involved storing web applications on web hosting to be ready for knowledge dissemination. The satisfaction of system users was evaluated by using a questionnaire, which was examined by experts for item object congruence (IOC). The samples evaluating the satisfaction of system users' survey were divided into two groups. The first consisted of 20 representatives, five from each of the villages, mentioned above. The second group consisted of 10 officers from the Sisaket Provincial Cultural Office, using purposive sampling.

Results and Discussion

Results Regarding Knowledge Management

Knowledge management of the woven textile clothing of the four ethnic groups in Sisaket province began with a knowledge-creation process together with system development planning. It was found that the knowledge creation of the fabric of each group was derived from the ancestors. Nowadays, some of this knowledge (such as colors, styles, and patterns) has changed according to adaptive learning new trends of inheritors which results in fashionable fabric patterns. Hence, the traditional knowledge of ethnic textiles is gradually fading away as grandparents pass away. Consequently, it was considered necessary for this knowledge to be managed and disseminated on a web application. This research project has put the following topics on websites: village histories, ethnic traditions, and clothing.

The traditional clothing of the four ethnic groups of Sisaket can be summarized and compared in the tables that follow.

Table 1 Comparison of women's clothing of the four ethnic groups in Sisaket province

Item	Lao	Khmer	Suay	Yoe
1. Blouses				
1.1 Body	fit, round-necked	straight, round-necked	straight, round-necked	straight, round-necked
1.2 Fabric	cotton	silk	silk	silk
1.3 Sleeves	long cylinder sleeves	long cylinder sleeves	long cylinder sleeves	long cylinder sleeves
1.4 Color	colorful (at present)	black	black	black
1.5 Buttons	none	none	silver buttons	silver buttons
1.6 Weaving pattern	<i>khit</i> pattern	<i>luk kaew</i> pattern	<i>luk kaew</i> pattern	<i>luk kaew</i> pattern
1.7 Embroidery pattern	none	<i>saew</i> pattern	none	None
1.8 Others	none	none	none	front pockets
2. Breast cloths				
2.1 Fabric	cotton or silk.	silk	silk	silk
2.2 Color	black (in the past) red or blue (present)	white (natural color of silk) and black (ebony dyed).	white (natural color of silk) and black (ebony dyed).	ebony dyed
2.3 Weaving pattern	<i>dok kaew</i> pattern, <i>sam</i> pattern, and standing lines of patterns	<i>luk kaew</i> pattern. Woven into various patterns with striped hem and common use of red breast cloths	<i>luk kaew</i> pattern with striped hem	<i>luk kaew</i> pattern with colorful striped hem

Table 1 Comparison of women's clothing of the four ethnic groups in Sisaket province (cont.)

Item	Lao	Khmer	Suay	Yoe
3. Wrap-around skirts				
3.1 Fabric	silk	silk	silk	native silk
3.2 Color	red (called "thew") green (called "mai khen" (green) or "khan kaew")	dyed green, yellow-green, dark brown, and red by natural dyeing methods	In the past, fabrics were commonly dyed brown by natural methods	-
3.3 Hem	10 cm wide (in the past) 5 cm is added in the present	Squirrel-tail pattern. The red hems of the skirt are sewn together about 5 cm wide and without hemlines	Skirts are woven in squirrel-tail pattern. Both hemlines and hem of the skirts, called "red stripes" are woven in red silk about 1.5 cm wide. The hemlines are woven in <i>dok makhua</i> pattern mixed with <i>fun pla</i> pattern which is larger than the hem of the skirts about 10 cm wide. Hemlines are red, yellow, or green, depending on preference and harmony with the wrap-around skirts	Most are dyed green, red-green, purple. Woven in a squirrel tail pattern. One textile consists of 5 pieces: 2 pieces of hemlines, 1 main piece, and 2 pieces of the hem of the skirt. The hemlines and hem of the skirts are similar. There are 2 pieces sewn together, i.e. a 10 cm piece and a 2 cm piece (called stripes). The 10 cm piece is commonly woven in <i>kho</i> pattern and sewn with stripes.

Table 2 Comparison of men's clothing of the four ethnic groups in Sisaket province

Item	Lao	Khmer	Suay	Yoe
1. Shirts				
1.1 Body	Straight, round-necked	Straight, round-necked	Straight, round-necked or collar	Straight, round-necked
1.2 Fabric	<i>mo hom</i> (ມ່ອໂອມ) indigo-dyed cotton with a round neckline, chest slit, button fastening)	Silk	Silk	Silk
1.3 Sleeves	Short	Long	Long	Long
1.4 Color	Blue	Black	Black	Black
1.5 Buttons	None	Silver buttons	Silver buttons	Silver buttons
1.6 Weaving pattern	<i>Khit</i> pattern	<i>Luk kaew</i> pattern	<i>Luk kaew</i> pattern with brocade	<i>Luk kaew</i> pattern
1.7 Embroidery pattern	-	-	-	-
1.8 Others	Front pockets	-	-	-
2. Sarong				
2.1 Fabric	Cotton/silk (called "prae pla lai")	Silk	Native silk.	Native silk.
2.2 Color	Mixture of orange, brown and red	Yellow-green, red, and brown, etc.	Yellow-green, red, and brown, etc.	Yellow-green, red, and brown, etc.
2.3 Weaving pattern	Woven in one line without cross line like other ethnic groups.	Woven in plain patterns without brocade. Woven in a large grid pattern, separating each row by using different colors. No hemlines or hem of sarongs, for convenience.	Woven in plain patterns without brocade. Woven in a large grid pattern, each row separated by using different colors.	Woven in plain patterns without brocade. Woven in a large grid pattern separating each row by using different colors. No hemlines or hem of sarongs, for convenience.

Table 2 Comparison of men’s clothing of the four ethnic groups in Sisaket province (cont.)

Item	Lao	Khmer	Suay	Yoe
3. Trousers				
3.1 Legs	Wide	Wide	-	-
3.3 Fabric	Cotton	Cotton	-	-
3.3 Others	-	striped waist	-	-
4. Loincloths				
1.1 Fabric	Cotton, silk	Cotton (at present)	Cotton (at present)	Cotton (at present)
1.2 Weaving pattern	Grid pattern	Grid pattern	Grid pattern	Grid pattern



Figure 5 Comparison of the traditional clothing of the four ethnic groups
Source: Author (photo taken in June, 2019)

Furthermore, some interesting issues were found in the first stage. The representatives of the Suay ethnic group in Ban Ku community, Prang Ku district were the only community whose knowledge was stored openly in digital media, making it easy to find, transfer, and store for a long time. The other communities transferred knowledge only by telling stories. In addition, it was also found that leadership was a factor in the community’s decision to focus on knowledge management. The leaders were expected to be able to use communication technology, have a positive attitude towards community potential development, participate in activities with the government agencies, want the community to have a distinctive identity, and join in the teamwork.

Results Regarding Web Application Development

In developing a web application on information concerning ethnic textile designs, the researchers followed the concept of Valacich and Schneider (2016). The four stages were as follows:

- System planning was carried out with knowledge management along with the creation of the knowledge mentioned in Phase 1.
- System analysis began with capturing knowledge about the process of designing presentations of the following three topics: 1) village history through video clips and texts, 2) ethnic group traditions through images and texts, and 3) ethnic clothing through images and texts comparing the ethnic groups. The next step was the process of refining knowledge to define the presentation outline through the web application. The web application was divided into three parts: 1) Users were able to visit and search the website to read all information classified by categories. General users could choose whether or not to register. They could exit immediately if they wished. The system would lead to the registration process if they wanted to register. 2) Members could read and search for knowledge based on the desired category. But if they wanted to ask questions under the topics, they needed to log in first. 3) Administrators could manage (add, delete, and edit) the information of members, knowledge, and topics through the log-in system, as shown in the following activity diagram and data flow diagram.

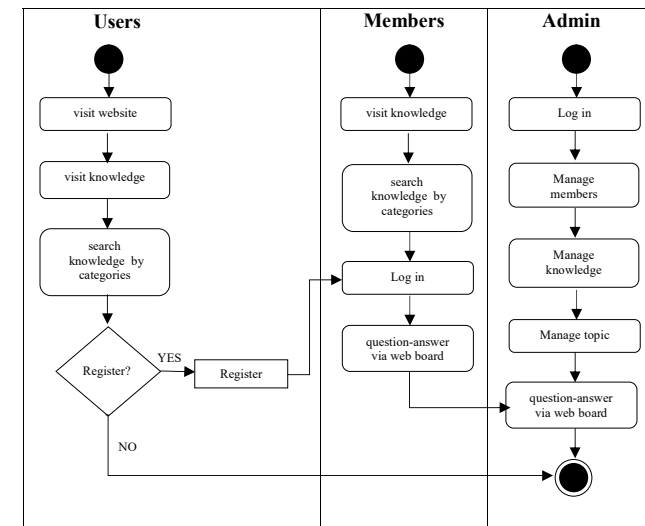


Figure 6 Activity diagram

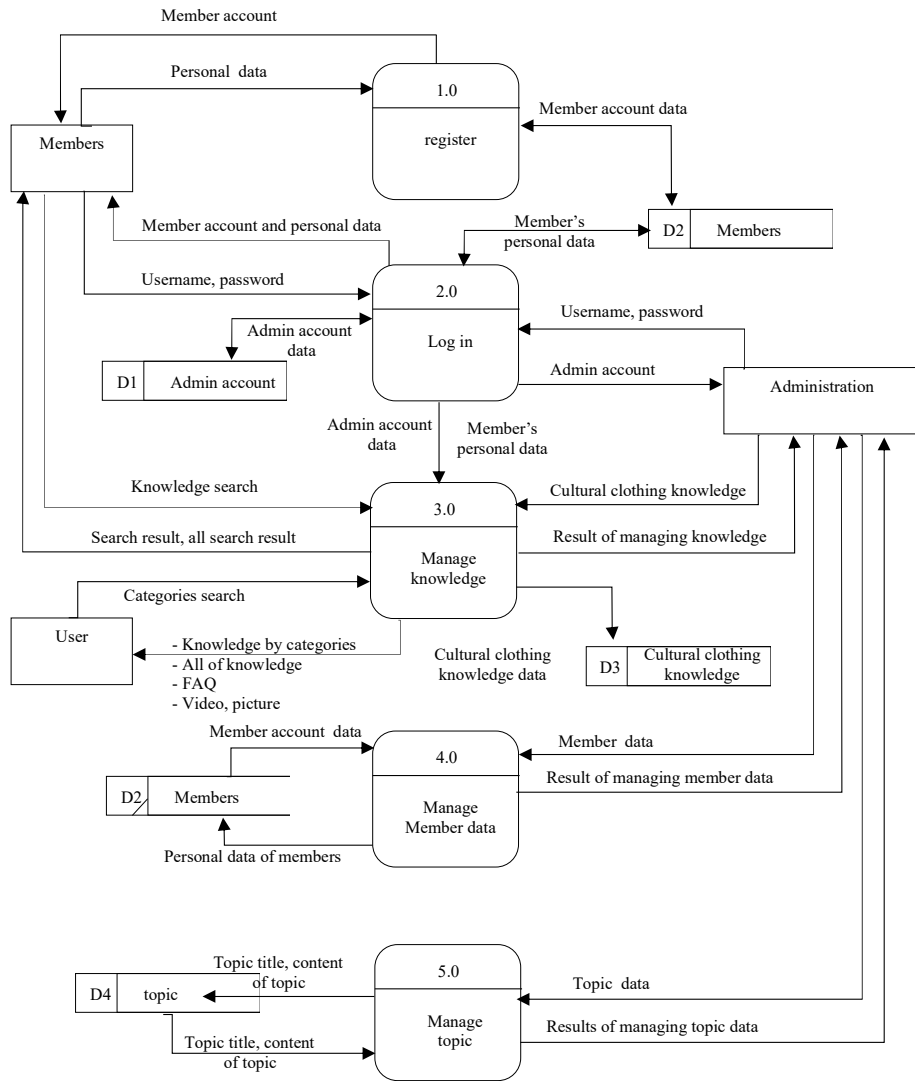


Figure 7 Data flow diagram

- System design, the researchers designed the database as shown in the following entity-relationship diagram.

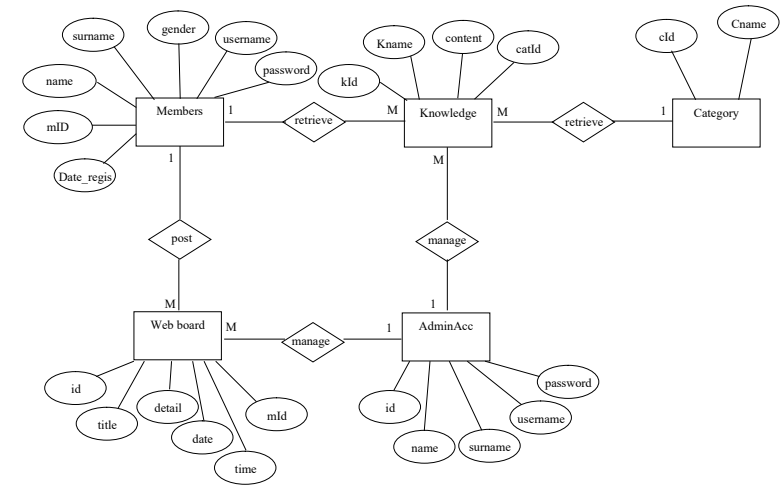


Figure 8 Entity relationship diagram

- System implementation is a process that proceeded with the storing and managing of knowledge. It was found that knowledge was stored and managed in a database on the web application which was developed by creating a set of instructions or programming. The instruments used in system development were Apache as a web server emulation, PHP as a programming language, MySQL as a web-based database management system, and JavaScript for user interaction.
- System operations is the process of disseminating knowledge by uploading a web application to the internet network at <https://km.sisaket4tribes.com/index.php> as shown in the following figures.

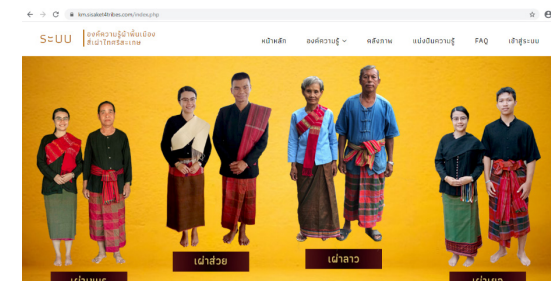


Figure 9 Homepage

(Knowledge regarding four ethnic groups' clothing in Sisaket)

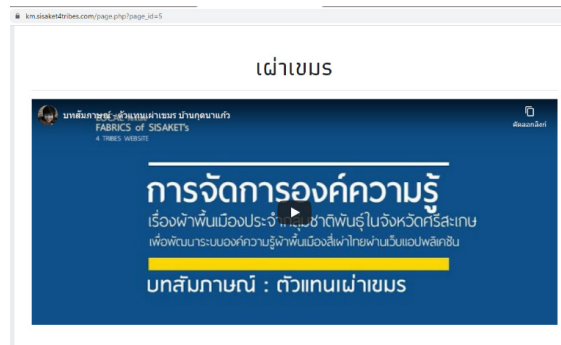


Figure 10 Video presentation of traditional clothing of Khmer ethnic group in Sisaket province.

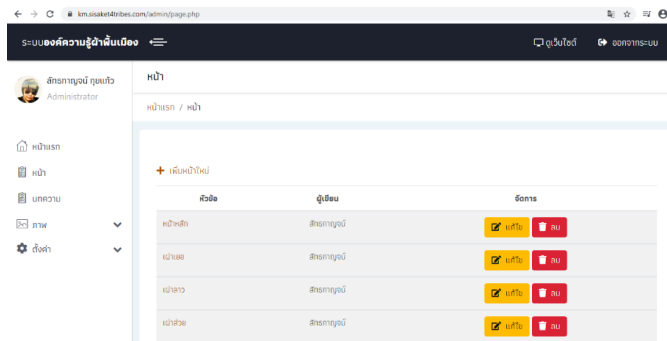


Figure 11 Administrator’s management of knowledge and members

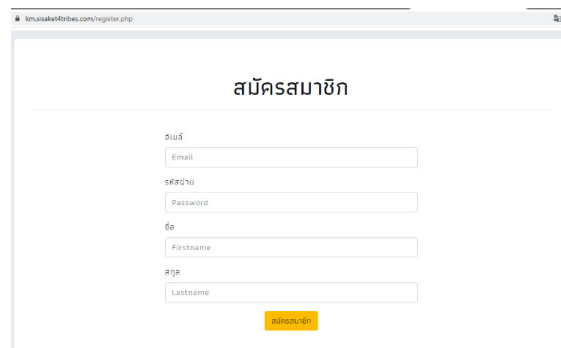


Figure 12 Registration page

As for web application development, the study found that the web application was able to disseminate knowledge about the four ethnic groups in Sisaket province. Moreover, it was a tool for knowledge management allowing web members to add knowledge and exchange opinions leading to the discovery of important new information. The efficiency of the web application was evaluated by three computer experts, who found that the overall average level was high at 4.03. The efficiency of the functional requirement test level was highest at 4.45, followed by the usability test, function test, and security test, respectively.

Regarding the satisfaction survey evaluation of 30 system users, the overall average was at a high level, with an average of 4.00 out of 5.00. When considering each of the three highest items, it was found that the appropriateness of the model used in the system was at a high level (average 4.10), followed by three items. The updated data was at a high level (average 4.07). The reliability of the information was also at a high level (average 4.07) as were the utilization of the system (average 4.07) and convenience of use (average 4.03).

Discussion

There are differences in the cultural identities, traditions, and clothing of the Lao, Khmer, Suay, and Yoe ethnic groups in Sisaket. Nevertheless, the groups have been living near to each other, in the same country and learning things together. This research found that all four ethnic groups wove the ebony-dyed *luk kaew* pattern. As Srilapan (2016) noted, this pattern been woven for the past 200 years, has been called by different names, and woven through different techniques depending on the group’s identity. Furthermore, Duangmanee et al. (2018) found that all four ethnic groups incorporated the ebony-dyed *luk kaew* pattern. At the same time, each group had certain unique details not shared by the other groups. Lao women wore a distinctive woven breast cloth known as *khit*, which nowadays is made of brightly colored fabrics to offset the ebony-dyed *luk kaew* blouses. The distinctive identity of the Yoe

can be seen in the expensive genuine silver buttons for the blouses to show the status of the family. Moreover, the breast cloth is woven with colorful stripes contrasting with the black background. The Khmer commonly use colorful threads to embroider. In addition, nowadays Lao women commonly wear cylinder-sleeve blouses woven from several colors of cotton which are brighter than the *luk kaew* pattern. Lao men wear round-necked, short sleeved *mo hom* cotton shirts with distinctive pockets in the front. Currently, most of the differences in the clothing of the four ethnic groups are in the weaving techniques. Women's clothing has more details than men's in blouses, breast cloths, and wrap-around skirts, but in all ethnic groups, men wear sarongs in the same way.

Regarding similarities in knowledge management of the four ethnic groups, every group reflected knowledge of traditional fabrics inherited through the wisdom of weaving. In this way, the group's identity had been passed on to the next generations. This identity must be maintained and valued in the present era. A problem shared by all groups was that of looking to the next young generation to continue the tradition. It is possible that the knowledge of ethnic fabrics might fade over time because most of the young people, both men and women in Sisaket and other rural provinces, prefer to migrate out of the villages to other labor markets (Thirasasawat, 2003; Jampaklay et al., 2022; Rungmanee, 2021). Dechgoolong (2017) found that the problem of the Ban Na Siew weaving group, in Mueang district, Chaiyaphum province was the younger generations' lack of interest in traditional textiles. This trend may cause knowledge of weaving and ethnic fabrics to fade over time.

The second similarity was the way of seeking knowledge of the four communities' representatives who obtained knowledge from government agencies that provided new information in weaving and fabric processing. In addition, they also sought knowledge from nearby communities and through various types of media. This was in line with the research of Watthanachanobon, Sakda, and Pengtowong (2015), who studied ethnic weaving knowledge management in Sukkasem village, Bang Len district, Nakhon Pathom province. They found that

seeking knowledge from group members could be done by asking the experts in the community, viewing printed media, and by the examples of other groups.

To summarize, it was found that transferring knowledge about textiles of the four ethnic groups through a web application is very beneficial to the relevant agencies in applying this knowledge in planning, projects, and activities related to conservation, inheritance, and development to create added economic value. Furthermore, it is beneficial to students' education and general people as well. This finding echoes Timakum et al. (2010) regarding knowledge management of Lanna folk wisdom of Lamphun woven textiles, which has developed a knowledge management website. It was found that the website could be used to record, store, transmit, and share knowledge among students and people in general who are interested. Knowledge management plays an important role in organizing unrecorded information, such as indigenous wisdom, to form a solid body of knowledge. In addition, applying technology such as internet applications has assisted knowledge management in terms of times and data storage. The results of this study have shown concrete examples of indigenous wisdom through the lens of ethnic clothing which can be passed on to the next generation.

Conclusion and Recommendations

The four ethnic groups in this study are similar in that all live in the same country—and even the same province—and learn things together. However, the differences can be seen in the identity of each ethnic group.

Only one community, the Suay living in Ban Ku, Prang Ku district, stored knowledge in digital media where it is easy to find and transfer. The other ethnic groups transferred knowledge solely through oral transmission, which made organizing the information difficult. In addition, other factors that drew the attention of the community on knowledge management similar to the characteristics of Ban Ku leader, were the ability to use technology for communication, a positive attitude towards potential community development through participation in

activities with government agencies, the requirement to make the community identity distinct, and teamwork.

The knowledge management process of Turban, Sharda and Delen (2014) was applied with the SDLC development process of Valacich and Schneider (2016). This means that the knowledge management process and the system development process can work in parallel by merging some of the activities, thus saving time for the target groups to transfer knowledge. This process is an adaptation of activities based on area context, as seen in the research of Timakum et al. (2010). That study employed the SECI Model to the rapid application development of Valacich, George and Hoffer (2015), which applied the activities of the two processes in parallel and added the necessary activities in the research context.

Similarly, the folk wisdom of the ethnic groups expresses their distinctive identities, especially for the diverse ethnic groups living in the same country at the present time. The government organizes various projects based on the national strategy for modernization and technology, but it sometimes overlooks the roots of each ethnic group, which can cause the loss of those distinctive identities. The community leaders of each ethnic group may need to pay attention to a balanced blend of preserving their distinctive identity and developing new practices. Leaders need strong teamwork to help each other in thinking and operating to create the sharing of ideas. This can be done through the process of social identification using communication technology as a stimulus.

Updating community development with changes in the current world and technology, while maintaining the identity of the community, can operate based on the collective ideas of community leaders and teamwork. Hence, it can be said that the knowledge management process is always implemented through various activities, especially in the modern technology era. The local government must share ideas with the community to achieve a balance between development and the folk wisdom conservation of each ethnic group. In this way, the similarities and differences of the ethnic groups can be passed on successfully.

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