

# Applying Intellectual Capital Process Model for Creating a Defensive Protection System to Local Traditional Knowledge: the Case of Mea-hiya Community

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**Abstract:** The purpose of this paper is to discuss the implementation of intellectual capital process to manage the traditional knowledge of the community. This qualitative research was conducted through an exploratory method in co-operation with the Mea-hiya Community Cultural Council, Chiang Mai, Thailand. A four step-approach IC process was recommended; this was aimed at the successful acquisition of the proposed model. The research demonstrates the intellectual capital process model's usefulness. Not only does the model encourage the community to formulate strategies from the stakeholders, but it also puts the strategy in practice because it is grounded in the stakeholders' needs and expectations. The process is more quantifiable by having key success factors' indicators measuring the traditional knowledge capital. The discussion leads to the formulation of a defensive protection system. The outcome of the community's traditional knowledge leans toward a local community-based organizational paradigm. Consequently, the Mea-hiya community pointed out the strategy to conserve and protect traditional knowledge by creating a defensive protection system which is in compliance to the WIPO & UNESCO framework (conserve, transmit, and protect of traditional knowledge). This paper allows practitioners to reflect on a case for implementing an IC process to manage cultural traditional knowledge.

**Keywords:** intellectual capital, community, traditional knowledge

## 1. Introduction

The research presented in this paper is based on an exploratory action research conducted in co-operation with Mea-hiya community cultural council, Chiang Mai, Thailand. The research proposes the implementation of intellectual capital system to develop a process model for the Mea-hiya community. The intellectual capital system provides the process for the community cultural council to manage their traditional knowledge. The intellectual capital process model is selected and tested by action research. In applying the process model, a four step-approach aimed at successful acquisition is implemented. The research challenge is to apply the intellectual capital system to the community's traditional knowledge for the first time in Thailand. Even though intellectual capital system is a business oriented concept and seldom applied to non-business approaches, especially in the traditional knowledge area, this proposal attempts to provide an effective management system and a new perspective which promotes of the Mae-hiya cultural intellectual capital.

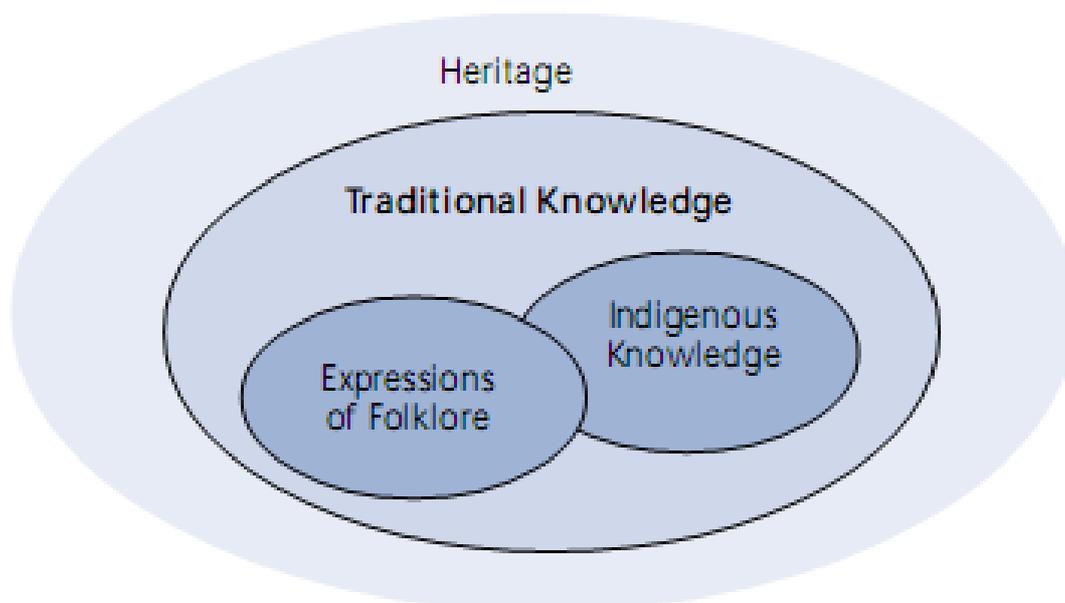
The structure of the paper is as follows: a literature review is presented at the second section. The third section presents the problem definition and introduces Mea-hiya community background. The fourth section presents the research framework. The fifth section presents the research results. The sixth section presents discussion and the last section is the conclusion.

## 2. Literature review

### 2.1 Traditional knowledge

Traditional Knowledge (TK) refers to knowledge, capability, experience and wisdoms that have been accumulated, existed, survived or developed in accordance to the ecological system, natural surroundings, society and cultures. *"Traditional knowledge is, in turn, a subset of the broader concept of heritage. Indigenous knowledge, being the traditional knowledge of indigenous peoples, is also a subset of traditional knowledge. As some expressions of folklore are created by indigenous persons, there is an overlap between expressions of folklore and indigenous knowledge, both of which are forms of traditional knowledge"* (WIPO 2001).

According to UNESCO, the meaning for traditional knowledge is similar to intangible cultural heritage. "The intangible cultural heritage means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity" (UNESCO, 2003).



**Figure 1:** Traditional knowledge

The global change has led to new attitudes in which people appreciate the concept of ownership and sole benefits of that ownership. These attitudes have unavoidably expanded to cover the usage of a community's TK. Many international organizations are taking the issue seriously especially UNESCO and WIPO. Currently, these organizations have expanded its protection scope to cover intangible properties and set up certain international criteria. They propose international obligations by means of convention up to the status of no obligation that may be a guideline, model provisions or mutual declaration. Indoctrinations and processes of right ownership over national community TK have been developed for year. These international organizations propose 2 protection measures: a) defensive protection measures, including disclosure of information about patent registration, setting-up of TK database, amendment of patent laws; and b) positive protection measures, including international sui generis system, use of model law on traditional knowledge protection as well as forming a central organization or society like an international organization to be particularly assigned to collect fees subject to the exploitation of TK and to fairly share profits among related parties (Chiyasak, Rajchagool, Pinyosinwat, Kesmanee, Apakaro & Yodmongkon 2007).

## **2.2 Traditional knowledge protection in international level (WIPO & UNESCO perspectives)**

At the initial stage, WIPO proposes a defensive protection of TK, or measures which ensure that the rights over TK are given to the customary TK holders (WIPO 2007). These measures have included the amendment of WIPO-administered patent systems. Some countries are also developing TK inventories that may be used as evidence to defeat a claim to a patent on such TK.

In the meantime, since 1989, UNESCO has expanded its protection scope to cover intangible properties and set up certain international criteria, e.g. Recommendation on the Safeguarding Protection of Traditional Cultural and Folklore, as well as other conventions, e.g. Convention for the Safeguarding of the Intangible Cultural Heritage 2003. The convention aims at protecting intangible cultural heritage and promotes respect to cultural heritages at community, national and international

levels as well as multinational cooperation and support. Allied countries need appropriate measures regarding laws, management and financial systems to promote strength to organizations which function to administrate and conserve cultural heritages. Allied countries are also required to promote knowledge and build understanding towards the cultural heritage and ensure that access to intangible cultural heritage will respect traditional practices. The conventions aim at ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspect of such heritage at community, national and international levels as well as multinational cooperation and support.

According to the convention, "The State Party shall endeavor, by all appropriate means, to (UNESCO 2003):

- *ensure recognition of, respect for, and enhancement of the intangible cultural*
- *heritage in society, in particular through:*
- *educational, awareness-raising and information programs, aimed at the general public, in particular young people;*
- *specific educational and training programs within the communities and groups concerned;*
- *capacity-building activities for the safeguarding of the intangible cultural heritage, in particular management and scientific research; and*
- *non-formal means of transmitting knowledge;*
- *keep the public informed of the dangers threatening such heritage, and of the activities carried out in pursuance of this Convention;*
- *promote education for the protection of natural spaces and places of memory whose existence is necessary for expressing the intangible cultural heritage.*

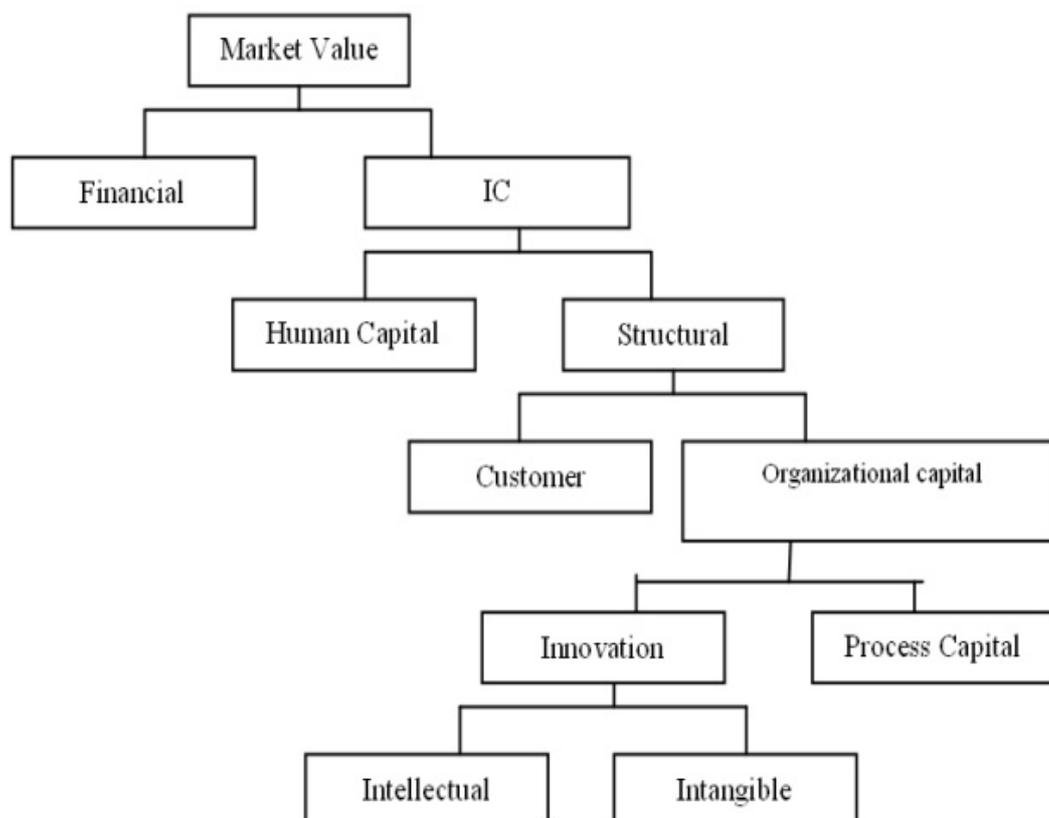
Within the framework of its safeguarding activities of the intangible cultural heritage, each State Party shall endeavor to ensure the widest possible participation of communities, groups and, where appropriate, individuals that create, maintain and transmit such heritage, and to involve them actively in its management".

### **2.3 Intellectual capital**

Intellectual Capital (IC) is defined as the sum of a company's knowledge that is contributed to an improved competitive position of the organization by adding value to the defined key stakeholders (Edvinsson 1997; Marr 2004; Stewart 1997). IC has become the newest hot topic in the business community since the 1990s when Skandia the Swedish company suggested an extension of intellectual capital statement to the company's report named the Navigator (McConnachie 2007; Chu, Lin, Hsiung & Liu 2006). Skandia distinguished IC into two categories, the structural capital and the human capital. Structural capital is defined as infrastructure that organizations develop to commercialize their human capital. It includes both direct and indirect support, and for each there are both physical and intangible elements (Edvinsson, & Sullivan 1996). Structural capital includes customer capital (external) and organizational capital (internal). Organizational capital consists of innovation and process capitals. Process capital is the sum of a company's know-how. Innovation capital includes intangible assets and intellectual property which is the source of renewal for the company. Human capital is defined as the collective capabilities of the employees' competence, attitude and intellectual agility (Roos, Roos, Dragonetti, & Edvinsson 1997). This asset includes experience, skills, and know-how of the employees.

Today, IC concept is being developed to another level beyond business approach. The new perception is that IC is the basis for wealth in communities, regions, and nations (World Bank 2005). Social values such as connections, relations, and interactions in a networked society must be considered as value added for a community (Jay 2006). Many countries in Europe, America and Asia are acknowledging and attempting to get basis to operate knowledge-based capability and intangible wealth especially in private sector, educational community and governments. These non-profit organizations start to study and research in the field to develop example framework of knowledge based community (Bueno, Salmador & Rodriguez 2004). Accordingly, the non-profit organization' nature makes it difficult to assess its' value. It is impossible to use traditional financial report to

measure cost efficiency. With the unique characteristic, these organizations' value can be assessed and measured by the IC process while other methods cannot (Chu, Lin, Hsiung, & Liu 2005). One of the IC advantages is that this application is suitable for a non-profit organization (Bontis, Dragonetti, Jacobsen & Roos 1999).



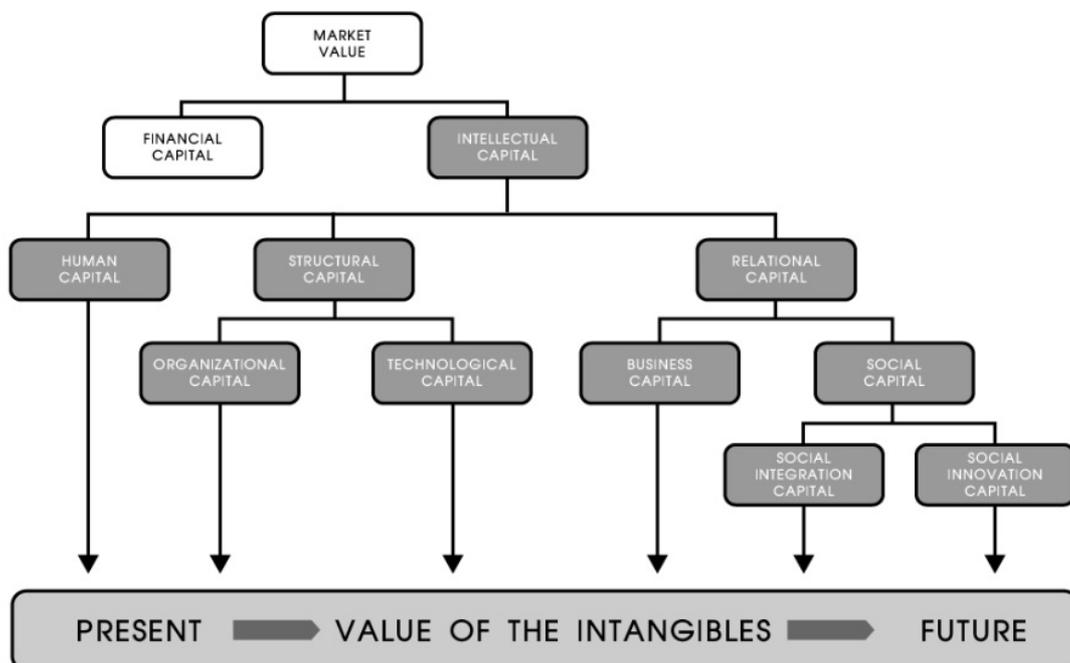
**Figure 2:** Skandia model source: Roos et al., 1997

The IC model has been modified taking into account a major component of intangible value called social capital (McElroy 2002). Social Capital refers to connections within and between social networks (DeFilippis 2001). It focuses on the value of relationships between people forming an organization or community which is a core concept in business, economics, political science, and sociology. In the late 1990s, the concept gained popularity, by serving as the focus of the World Bank research program and has become the main subject of several mainstream books. The following are four main approaches to social capital.

**Table 1:** Main conceptual approaches of social capital source: Bueno, Salmador & Rodriguez 2004

Social Capital Approach	Main Ideas
Economic development theories	Confidence, civic behavior and associativity strengthen the social networks, contributing to the sustainable economic development
Social responsibility and ethics	Social capital expresses the degree of social integration and responsibility with respect to the whole society and its agents and group. It is based on values and attitudes, such as confidence, corporation, safety, principles, ethics, and compromise
Corporate governance	Ethics and corporate governance codes have a positive impact on the creation of social capital, stimulating the solidarity and overcoming market imperfection
IC	Social capital is a component of IC. It is based on a set of values and the subsequent indicators such as confidence, royalty, sincerity, compromise, transparency, solidarity, responsibility, honesty and ethics

Bueno, Salmador, & Rodriguez (2004), propose the evolutionary IC model that had been modified with social capital (Figure 3). The model is based on three main intellectual capital components which are human capital, structure capital, and relational capital. The researchers pay special attention to the relational capital. The relational capital consists of business capital and social capital. Social capital consists of social integration, while capital refers to the relationship between the organization and its stakeholders. In addition, Bueno, Salmador, & Rodriguez (2004), also categorize social capital into six areas which are “first, solidarity and social cohesion; second, economic development of the environment; third, commitments of efficient corporate governance; forth, commitments acquired with the scientific and technological development; fifth environmental protection; and sixth *defense of cultural and artistic heritage*”. Thus, IC process can be applied not only to the business domain, but also to the social domain; in particular to intangible traditional knowledge.



**Figure 3:** Evolutionary intellectual capital model source: Bueno, Salmador & Rodriguez, 2004

### 3. Problem definition

Global changes have led some people to adopt a new attitude in appreciating the concept of ownership and sole benefits of the ownership (Convention on Biological Diversity 1992). These

attitudes have expanded to cover the usage of a community's TK. Current disputes are caused by two main factors. 1) Misuse of the community's TK which leads to the disrespect of the TK. 2) Exploitation of community's TK without receiving any permission from the community or sharing profits with the community (WIPO 2006).

With its diverse element of community's TK, Thailand is now facing three major disputes. First, from a comprehensive study, it is apparent that Thailand does not have appropriate laws to deal with the piracy of TK (Setsirote & Donavanic 2005). Second, the way of life in Thailand has been constantly changed by the three waves of development (the 1960s, the 1970s and the 1980s). These three waves have brought upon a new attitude, lifestyle, and modern beliefs to the local people (Bager 2003). Third, there is a lack of local cultural management to conserve the TK. Local people use story telling as a method of transferring traditional knowledge from generation to generation especially within their family (Chiyasak et al., 2007). Without a standard reference as a guideline, people might interpret and understand things differently based on their experiences. This misunderstanding leads to a misuse of their TK and misleading the people.

### **3.1 Mea-hiya community**

Mea-hiya is a rural community with more than 700 years of history located within 15 kilometers from Chiang Mai city center (the second largest city in Thailand). Since 1980, the waves of development greatly altered the Mea-hiyas' way of life.

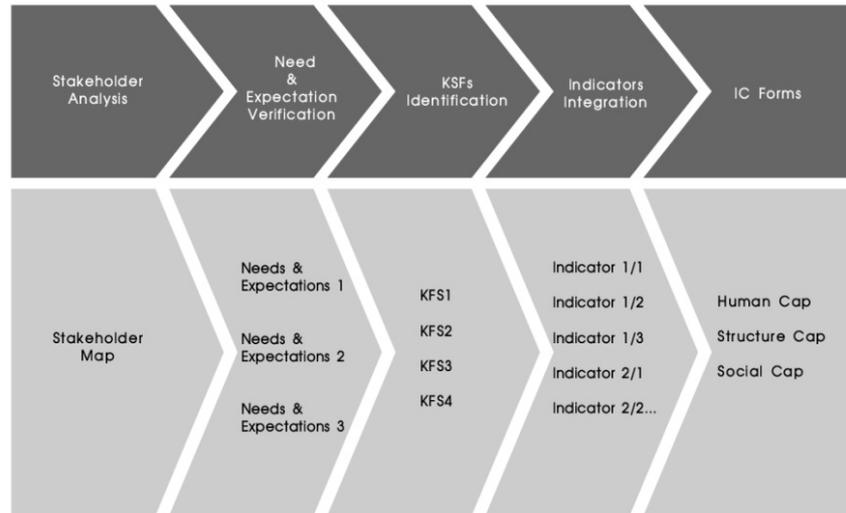
The role of occupation has changed when urban growth drew people from rural community to urban work. Agriculture which was considered the main profession had suddenly vanished. Some cultural rituals like the Tan Loua Pha Joew festival have now vanished because it does not fit the modern lifestyle. Other cultural ritual performances have changed from the way their ancestors performed them because the community does not have a standard reference as a guideline to perform the rituals correctly. Changing the way to perform also causes a misunderstanding particular to the meaning of the ritual. In addition, Mea-hiya community had one big misunderstanding from the public. For example, one of the unique rituals called Leang-Dong which has been performed in Mea-hiya for hundreds of years was disseminated to the public by the outside media. Without an explanation of the reasons behind the ritual, the story caused a stir and was followed by some heavy criticism. The central government also came to investigate the incident and the community had to report in clarifying their actions. This incident destroyed the community's reputation badly.

Fortunately, the community has begun to reclaim their social space by creating a community organization in order to take control of their cultural heritage. The Mea-hiya community founded a cultural council to manage their traditional knowledge. The cultural council is supported by the local government. The council objectives are to formulate policies and support cultural activities (Mea-hiya Cultural Council Const. Sec 6). From observation and document study, there are some flaws that are apparent. As for a start, the local government has a high influence to manage cultural activities because the government staff handles most of the job. The people in the community haven't really participated fully in managing their own cultural activities. Second, most of the activities that perform in the community are the annual cultural festival and rituals (Mea-hiya Municipality, 2007). The council is missing in the action to conserve, preserve and protect their community's knowledge. And finally, the council does not have the precise policies and strategies to provide a systematic way for the community to preserve, transmit, and protect their traditional cultural knowledge.

## **4. Research framework**

The research framework is to study the implementation of an intellectual capital process model to the Mea-hiya community. The community will be encouraged to reach an initial stage to form a defensive protection system of its traditional knowledge. The research has been identified through exploratory action research conducted in co-operation with the Mea-hiya Community Cultural Council. The research is conducted by using qualitative methods such as documentary research, semi-structured interviews, observations, participatory observations, and focus groups. The target samples interviewed have a direct connection or relationship with the community's traditional knowledge and its significance. The theme for the semi-structured interview questions was created from the literature. A pre-test of the questions examined to four target samples for adjustment. After the interviews, transcriptions of the interview were made as soon as possible.

The process model is the suggested means for the management of the community’s traditional knowledge toward a local community-based organizational paradigm. A four step-approach aimed at successful acquisition of the proposed model is implemented.



**Figure 4:** Community Cultural Management Process Model  
*Stakeholder analysis*

Stakeholders’ identification is the first task of this step. Once the list is complete, it is then prioritized by using a power-interest grid (Rachel 2007; Perrot 1996) as an analyzing tool. Then, building the stakeholders’ map is the next task to categorize the different groups of stakeholders and translate the highest priority stakeholders into a table.

*Stakeholder need & expectation verification*

The next step is a creation of strategies. The stakeholders’ needs and expectations of community traditional knowledge would be the strategy of the community cultural council. The key stakeholders’ needs and expectations have to be written into a statement that defines the cultural council’s future and identity. Then the needs and expectations are listed and prioritized as strategies.

*Key Success Factor identification*

This next step is to translate stakeholders’ needs and expectations into action plans which are indicated as key success factors. The needs and expectations found in the previous step must be used to identify the Key Success Factors (KSFs). In each need and expectation, there is no limit to the number of KSFs; however, if there are too many, the stakeholders should prioritize and indicate the most important ones to focus their attention.

*Indicator integration*

The next step of the process is to measure the achievement of each KSF by putting indicators that reflect its purpose. Appropriate indicators can be selected carefully by the stakeholders if they identify the true essence of the KSFs.

**4.1 Data analysis**

Data analysis is based on qualitative approach. Content analysis, thematic extraction and ground theory were used. There will be five stages for analyzing the data.

First, the documents are analyzed. Second, the data from interviewees shall be transcribed and analyzed by content analysis method. In the first two stages, all texts are read line by line and marked with marginal notes. The knowledge & opinion from the participants is analyzed and given systematic coding. Third, the potential themes are identified by grouping examples from the text and then the text is categorized and termed. Fourth, concept maps are created from the transcript to show relationships

and correlation between the differences, similarities and the gaps generated in the development process. Then, the maps are interpreted and analyzed to represent the knowledge & opinions of the participants. Finally, the IC process model will be created to identify and verify the community's strategies, KSFs, indicators and capital forms.

## 5. Results

### 5.1 Stakeholder analysis

Seven key stakeholders were identified (Figure 5). Content analysis was used as the method to evaluate the stakeholders. The result found that the local government, cultural council, local leader, temple, local philosopher, school and villagers have a high direct relevance to cultural activities in the Mea-hiya community.

The seven key stakeholders were prioritized based on the following key stakeholders who were deemed as the most important figure to the community's cultural domain in regards to the power-interest grid (Rachel 2007; Perrot 1996). Based on the results, the local government is identified as the key figure with the highest level of participation in the cultural domain of the community. This is due to the fact that all of the resources that are supporting and being provided to the community are derived from the local government. The local government also has a legitimate authority in controlling the community's activities. The second influential stakeholder is the Mea-hiya cultural council. The council's role is to be the central manager of the cultural function within the community. All official annual cultural activities are conducted by the cultural council. After the council, the next stakeholders are the local leader and the abbots (temple representatives/religious clerics). Their roles vary from being recruiters, gathering the villagers, calling for meetings, and assigning jobs to villagers. The next stakeholder is schools. The schools support cultural activities by attending meetings, sending students to join the events and sometimes conducting cultural activities for students in the school. The stakeholders that have a minor influence are the local philosophers who provide consultations and the local villagers who participate in cultural activities.

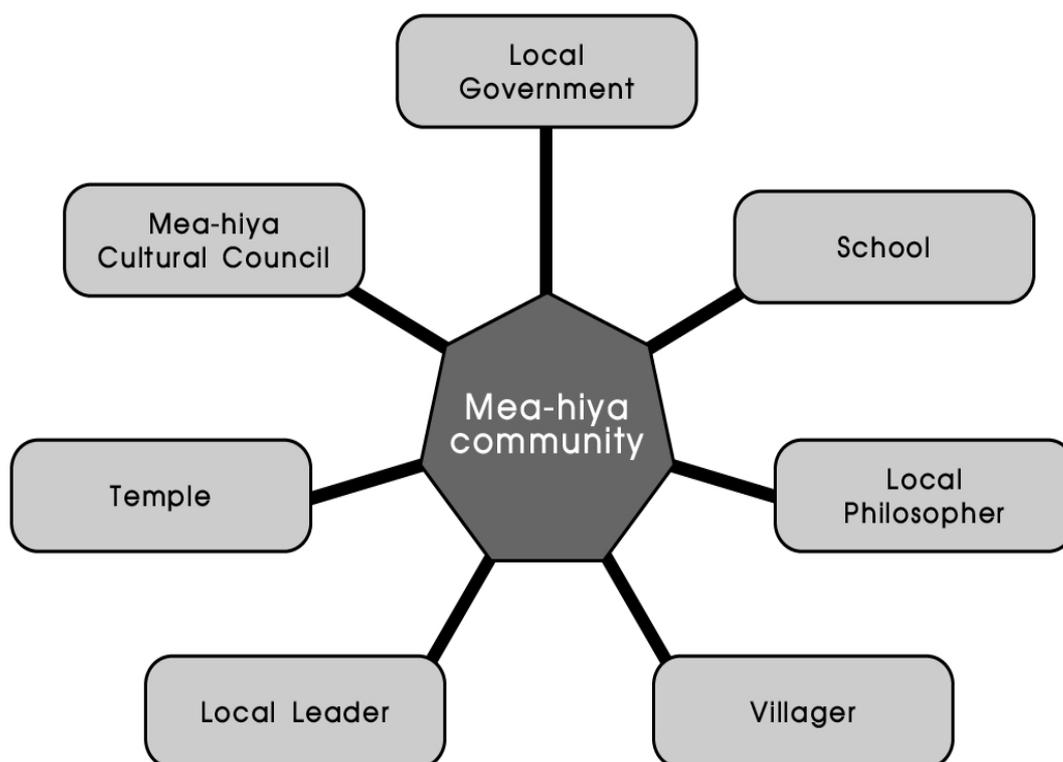


Figure 5: Mea-hiya community key stakeholder

# Stakeholder Analysis

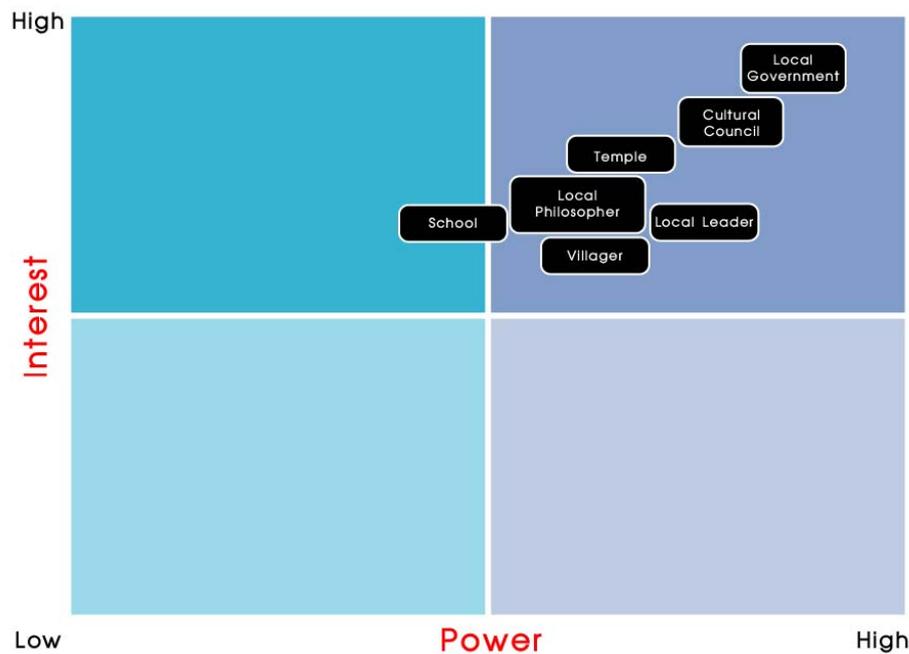


Figure 6: Stakeholder analysis

## 5.2 Stakeholder need and expectation verification

In order to develop strategies and identify related issues, the stakeholders' need and expectation is needed to verify the representatives of each stakeholder group selected (Table 2). These key stakeholders have a direct influence on the local cultural domain. Each one was interviewed for their need and expectation about the community's culture (Table 3). Nineteen needs and expectations were identified and categorized into five strategies (Table 4).

Table 2: Stakeholders' representatives

Stakeholders	Representatives
<b>LG: Local Government</b>	: the local government prime minister : the deputy chief : the president of local parliament
<b>MC: Mea-Hiya Cultural Council</b>	: the president of Mea-hiya cultural council : the vice president of Mea-hiya cultural council : the secretary of Mea-hiya cultural council
<b>LL: Local Leader</b>	: the sub-district chief : five head men of the village : the president of the house-wife group : the president of the youth association
<b>TP: Temple</b>	: the abbot of Phajee temple : the abbot of Doicome temple : the abbot of Ubosot temple
<b>LP: Local Philosopher</b>	: five local philosophers
<b>VG: Villager</b>	: ten villagers
<b>SC: School</b>	: the principle of Sirimangklajran school : the principle of Donpin school : the principle of Mea-hiya Samukkee school

**Table 3:** Stakeholder needs and expectation

<b>Stakeholders</b>	<b>Needs &amp; Expectation</b>
<b>LG: Local Government</b>	LGN11: To conserve, support and restore the local culture LGN22: Cooperation from citizen (private, household, temple and school)
<b>MC: Mea-Hiya Cultural Council</b>	MCN13: To disseminate the right information to the public MCN24: To conserve MCN35: supporting the youth for cultural development
<b>LL: Local Leader</b>	LLN16: Cooperation (government, villager, school and temple) LLN27: Budget supporting
<b>TP: Temple</b>	TPN18: Cooperation TPN29: Children and school are important “for cultural development” TPN310: To make cultural inventory from local philosopher
<b>LP: Local Philosopher</b>	LPN111: To make cultural writings from people with expertise of that specific field LPN212: Cooperation LPN313: To disseminate the right information to the public
<b>VG: Villager</b>	VGN114: Cooperation VGN215: Budget supporting VGN316: Transfer the cultural knowledge to children
<b>SC: School</b>	SCN117: To make cultural writings from local philosopher and expertise SCN218: Local study SCN319: Focus on the youth

**Table 4:** Common strategies

<b>Stakeholders' strategies</b>
<b>S1: To conserve, support and restore the local culture</b>
<b>S2: To promote community cooperation</b>
<b>S3: To focus on children and schools for cultural development</b>
<b>S4: To make traditional knowledge inventory from local philosopher and experts</b>
<b>S5: To disseminate the right information to the public</b>

### 5.3 Key success factor identification

From the stakeholder’s common strategies, the stakeholders’ meeting was conducted to identify the strategies’ Key Success Factors (KSFs). Ten KSFs were identified (Table 5).

**Table 5:** Key success factors

Stakeholders’ strategies	KSFs
<b>S1: To conserve, support and recover the local culture</b>	S1K1: Increase budget
	S1K2: Policy support
	S1K3: Constructing a Mea - hiya history center (for learning)
<b>S2: To promote community cooperation</b>	S2K1: Strong Networking
	S2K2: Supporting “the Three Generations Center”
<b>S3: To focus on children and schools for cultural development</b>	S3K1: Local history subject in schools
	S3K2: Create the youth groups & support Activities
<b>S4: To make traditional knowledge inventory from local philosopher and experts</b>	S4K1: Intensive seminars
	S4K2: Focusing on local philosopher
<b>S5: To disseminate the right information to the public</b>	S5K1: Strong Public relations

### 5.4 Indicator integration

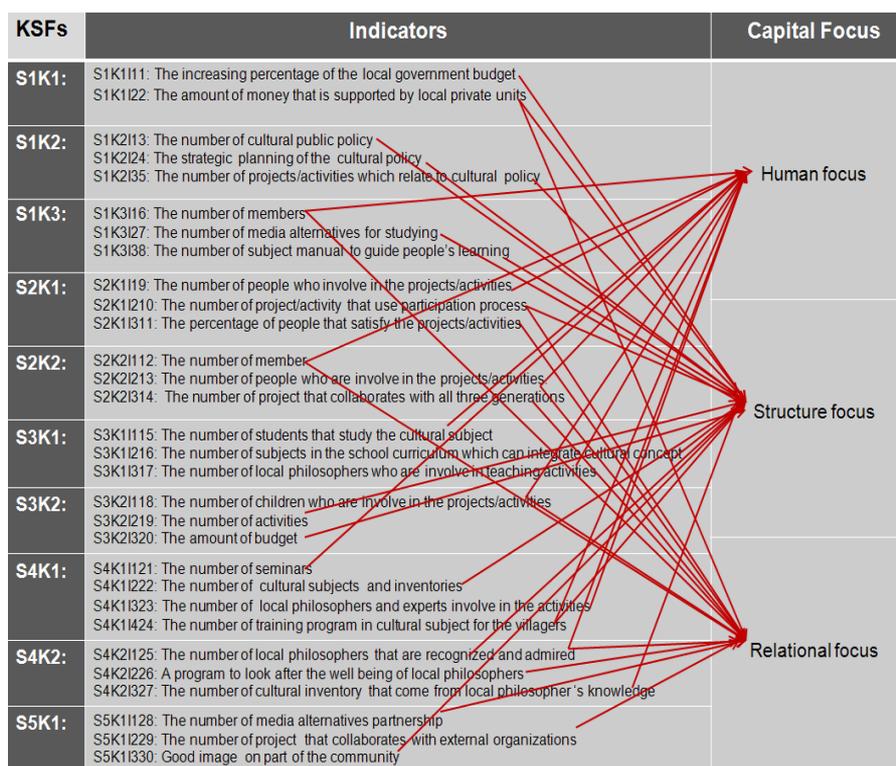
The key stakeholders selected 30 indicators for the ten strategies (Table 6). Since this community is dealing with non-financial data, selecting the right indicators is very difficult or nearly impossible because the indicators must reflect KSFs precisely. However, in this case, the stakeholders tried to select the easiest and uncomplicated indicators based on their understanding; such as the number of the people who are involved in the activity or the number of seminars. Both examples are easy to count and record.

**Table 6:** Indicators

KSFs	Indicators
<b>S1K1: Increase budget</b>	S1K1111: The increasing percentage of the local government budget S1K1122: The amount of money that is supported by local private units
<b>S1K2: Policy Support</b>	S1K2113: The number of cultural public policy S1K2124: The strategic planning of the cultural policy S1K2135: The number of projects/activities which relate to cultural policy
<b>S1K3: Mea-hiya history center</b>	S1K3116: The number of members S1K3127: The number of media alternatives for studying S1K3138: The number of subject manual to guide people's learning
<b>S2K1: Strong Networking</b>	S2K1119: The number of people who involve in the projects/activities. S2K11210: The number of project/activity that use participation process S2K11311: The percentage of people that satisfy the projects/activities
<b>S2K2: Support the Three Generation Center</b>	S2K21112: The number of member S2K21213: The number of people who are involve in the projects/activities. S2K21314: The number of project that collaborates with all three generations
<b>S3K1: Local history subject in schools</b>	S3K11115: The number of students that study the cultural subject S3K11216: The number of subjects in the school curriculum which can integrate cultural concept S3K11317: The number of local philosophers who are involve in teaching activities
<b>S3K2: Create the youth groups &amp; support activities</b>	S3K21118: The number of children who are involve in the projects/activities S3K21219: The number of activities S3K21320: The amount of budget
<b>S4K1: Intensive seminars</b>	S4K11121: The number of seminars S4K11222: The number of cultural subjects and inventories S4K11323: The number of local philosophers and experts involve in the activities S4K11424: The number of training program in cultural subject for the villagers
<b>S4K2: Focusing on local philosophers</b>	S4K21125: The number of local philosophers that are recognized and admired S4K21226: A program to look after the well being of local philosophers S4K21327: The number of cultural inventory that come from local philosopher's knowledge
<b>S5K1: Strong public relation</b>	S5K11128: The number of media alternatives partnership S5K11229: The number of project that collaborates with external organizations S5K11330: Good image on part of the community

In addition, the 30 selected indicators were put together and arranged according to the particular outlook of the community's intangible capital. Fifteen indicators link to structural capital, twelve indicators link to relational capital and eleven indicators link to human capital (Table 7). Thus, the direction of Mea-hiya community cultural management is to focus majorly on structural capital. The relational capital and human capital are nearly equal focus.

**Table 7:** Mea-hiya community capital focus



## **5.5 Initial stage of a defensive protection system of traditional knowledge**

According to the strategy defined by stakeholders, the Mae-hiya community is operated as followed:

The local government has allocated the 2008 annual budget of 25 % to operate on the whole educational and local cultural event. The local government gets a 30% increased budget for education and local arts & culture for the 2009 annual budget (structural capital).

The local government has determined to take the local culture conservation issue as one of the main local strategies. The activities of recovering the tradition, inheriting the tradition and significant local rituals have been established in the annual activity. For instance, the Dum Hua tradition, the Doi Kam mountain worship and Liang Dong ritual are going to be officially held every year (structural capital).

The cultural council is planning to revise the content of Liang Dong ritual by setting up a seminar among the ritual's experts; village philosopher, monks and academics. The ritual has been in existence for over centuries but has never been officially recorded. It is believed that the ritual has been distorted from the original one. The essence has then changed, thus misleading the truth to the current generation. Revising and correcting the ritual's content by the experts will validate the ritual to be in the prestigious form for the next generation (structural capital)

Under the support of the Chiang Mai provincial culture council, the Mea-hiya culture council has arranged and video-taped the Dum Hua tradition (providing water on the hands of revered elders and ask for blessing during Songkran festival) in the Lanna authentic way. The footage is recorded on VCD which is distributed to schools and the public. The VCD can benefit students and local people by serving as a model for learning the original tradition (structural and human capital).

There would be a meeting to gain community's opinions for every cultural activity. The meeting will be hosted by the cultural council. Local participants, representatives of the school and temple, village philosophers, local leaders, and local government would gather to share their opinions and make decisions. The local government will provide the support for having the meeting in order to generate cooperation from everyone (relational capital).

The culture council president, village philosopher and local people have an opportunity to broadcast Liang Dong ritual to the public through the channel 5 television station. This will help create a sense of understanding about the community's background and belief which has existed for centuries. This also creates a good image for the community as being the preserver of a very long and unique tradition (relational capital). The local government has established the "Three Generations Center" to be the place for elders, middle age and youth participating together in any activity. The cultural activity is a part of the three generations for cooperating with each other. There is also an activity for learning how to play the local musical instruments and taking a traditional dancing course that is taught by elders. This center is considered as a place for grandfathers, grandmothers, fathers, mothers and grandchildren to do an activity together; this also includes cultural interests (relational and human capital).

## **6. Discussion**

This exploratory action research is conducted in co-operation with Mea-hiya community council to develop a new concept of managing traditional knowledge systematically and practically.

First, the key stakeholders are selected. The process allows the community to focus on the right stakeholders who are the most important to the community's cultural domain.

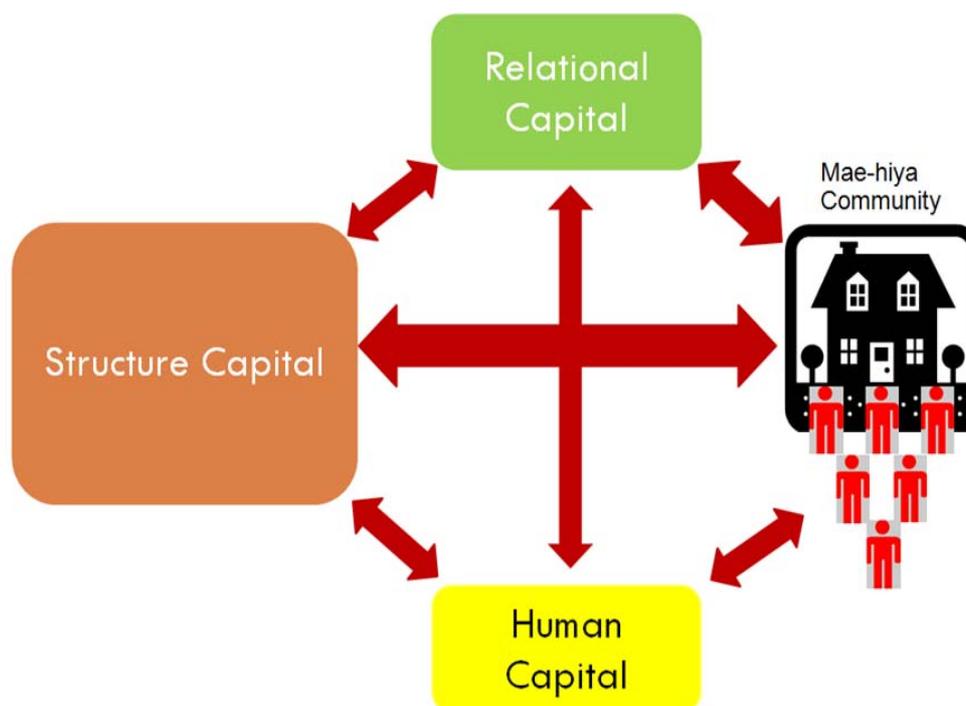
Second, the five precise strategies are settled. The research adapts a new idea to the process. Instead of creating strategies from top down, the stakeholders' needs and expectations of the community's traditional knowledge would be the key element for creating the strategy for the community's cultural council. The strategies which are formed from the community's stakeholder can respond more directly to any situation than a strategy that is formed by the central government. According to Riege & Lindsay (2006), in order to develop strategies and identify related issues, an organization should consult with the targeted groups of stakeholders. The consultation provides a better environment to facilitate debate and develop more equitable strategies. The organization needs

to have a clear and transparent structure and process to keep stakeholders and their consultation focused (Byrne & Davis 1998).

Third, the community can put the strategies into practice. For successful implementation of an IC system, there needs to be a linking of the selected IC measures to the strategies (Shulver, Lawrie & Andersen 2000). The strategies must be used to identify the Key Success Factors (KSFs). The KSFs are a list of must do activities to achieve the strategic goals. This step of the process creates some opportunities to fix the problems within an organization using identified strategies which otherwise would be forgotten due to the focus primarily on their short-term goals (Roos et al., 1997).

Fourth, the process strives to be realistic by having a measuring method in the process. The aim of measuring is to identify the knowledge component of an organization in order to manage them so they can continually improve their performance (Marr, Schiuma & Neely 2004). However, appropriate indicators can be selected carefully by the stakeholders if they identify the true essence of the KSFs. Rarely does only one proxy provide an accurate measure. According to the research, the 30 selected indicators are put together and arranged. Fifteen indicators link to structural capital, twelve indicators link to relational capital and eleven indicators link to human capital. Most cases more than one indicator is needed to get a clear and correct picture (Roos et al., 1997).

Structural capital plays the most important role in the Mea-hiya community; the role is easier to implement for the stakeholders than from other types of capital. Many structural capital activities can provide an obvious outcome for the community. These activities are supported by the local government who has all the resources (the local government has the highest level of participation to the cultural domain of the community).



**Figure 7:** Mea-hiya community capital focus

Fifth, the intellectual process model deals with the allocation of cultural resources (capital form) and encourages learning, participation, and forming the awareness to the community's cultural heritage. The stakeholders' knowledge and experiences are exchanged and new knowledge is created during their participation in the process.

Nonaka and Takeuchi (1995) proposed the SECI process by explaining how knowledge can be transferred and created. SECI is a spiraling process of interactions between explicit and tacit knowledge. The interactions between the explicit and tacit knowledge lead to the creation of new

knowledge. According to the research, regarding the Mea-hiya community, the spiraling process of knowledge can be explained in the SECI Model (Figure 8).

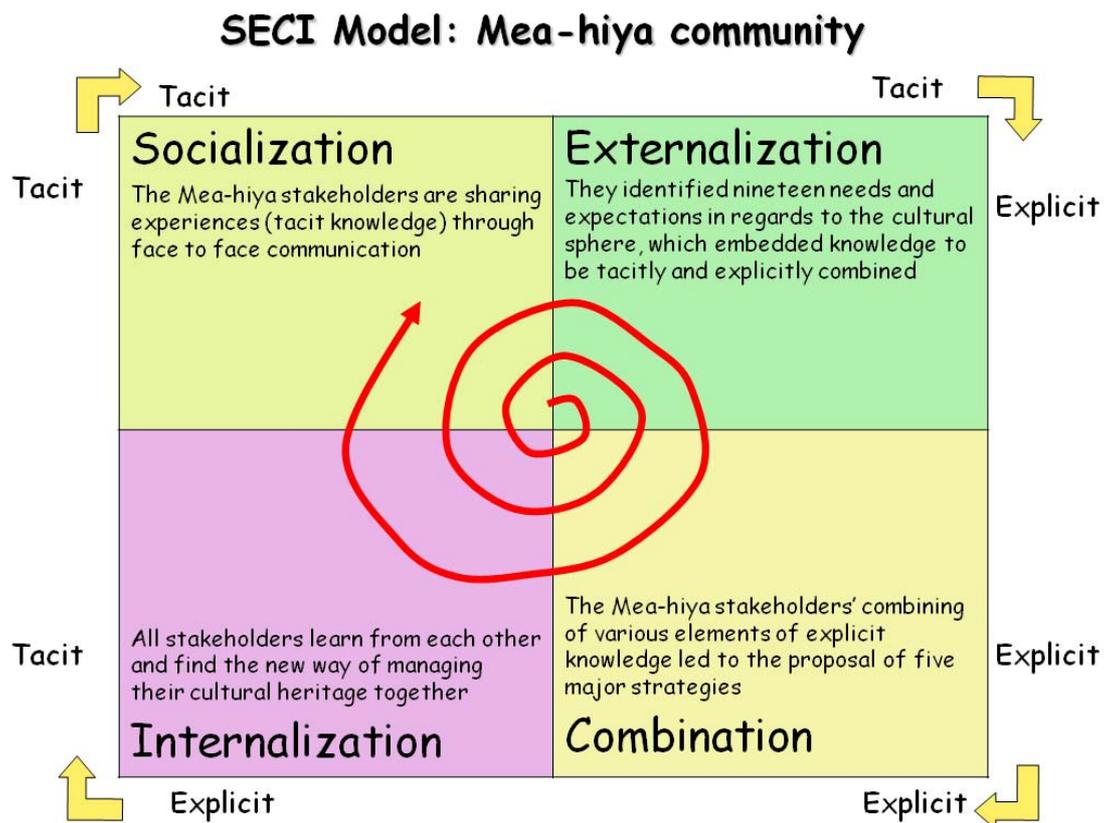
**Socialization:** the Mea-hiya stakeholders shared experiences (tacit knowledge) through face to face communication. These key stakeholders get together for cultural community meetings and share their opinions with each other.

**Externalization:** from the cultural event on exchanging experiences, they identified nineteen needs and expectations in regards to the cultural sphere, which embedded knowledge is tacitly and explicitly combined.

**Combination:** the Mea-hiya stakeholders' combining of various elements of explicit knowledge (their needs and expectations) led to the proposal of five major strategies to manage the community cultural capital.

**Internalization:** The explicit knowledge becomes part of the individual's knowledge base. For example, the cultural council receives knowledge for managing stakeholders; the stakeholders receive knowledge for managing cultural heritage which takes part in encouraging the communities to arrange their cultural activities regularly. All stakeholders learn from each other and find the new way of managing their cultural heritage together.

In addition, the implementation of some community rules and regulations will allow the community to appreciate their cultural heritage value and to recognize the guideline mutually set up by themselves in order to preserve, promote, and protect the community's cultural heritage.



**Figure 8:** SECI Model (Nonaka & Takeuchi 1995)

Sixth, the intellectual process model provides an opportunity for the Mea-hiya Cultural Council to manage TK systematically and practically. The Mea-hiya community can reach an initial stage of defensive protection of its traditional knowledge which is related to the objectives of international organizations particularly UNESCO and WIPO. UNESCO and WIPO promote equal rights, identification, documentation, research, preservation, protection, promotion, enhancement, transmission, and exchange particularly through formal and non-formal education in order to promote

understanding and respect of each culture (UNESCO 2003). The following table below (Table 8) demonstrates how the Mea-hiya activities are in compliance to the WIPO & UNESCO Framework.

**Table 8: Mea-hiya activities & WIPO & UNESCO Framework**

WIPO & UNESCO Frame Work	Mea-hiya KSFs & Initial stage of a defensive protection system
Developing TK inventories	<p>The cultural council is planning to revise the content of Liang Dong ritual by setting up a seminar among the ritual's experts</p> <p>The Mea-hiya Cultural Council has arranged and video-taped the Dum Hua tradition and distributed to the school and public</p>
<p>To ensure recognition of, respect for, and enhancement of the intangible cultural heritage in society, in particular through:</p> <p><i>educational, awareness-raising and information programs, aimed at the general public, in particular young people;</i></p> <p><i>specific educational and training programs within the communities and groups concerned;</i></p> <p><i>capacity-building activities for the safeguarding of the intangible cultural heritage, in particular management and scientific research; and</i></p> <p><i>non-formal means of transmitting knowledge;</i></p>	<p>The local government gets a 30% increased budget for education and local arts &amp; culture for the 2009 annual budget</p> <p>The Mea-hiya culture council has arranged and video-taped the Dum Hua tradition and distributed to the school and public</p> <p>Teaching local history subject in schools</p> <p>The activities of recovering the tradition, inheriting the tradition and significant local rituals have been established in the annual activity</p> <p>Constructing a Mea - hiya history center</p> <p>Create the youth groups &amp; support Activities</p> <p>Focusing on local philosopher to transfer knowledge</p>
<p>To keep the public informed of the dangers threatening such heritage, and of the activities carried out in pursuance of this Convention.</p>	<p>The culture council president, village philosopher and local people have an opportunity to broadcast Liang Dong ritual to the public through the channel 5 television station</p> <p>Strong Networking</p> <p>Strong Public relations</p>
<p>To promote education for the protection of natural spaces and places of memory whose existence is necessary for expressing the intangible cultural heritage.</p>	<p>Local history subject in schools</p> <p>Intensive seminars</p>
<p>TO ensure the widest possible participation of communities, groups and, where appropriate, individuals that create, maintain and transmit such heritage, and to involve them actively in its management.</p>	<p>There would be a meeting to gain community's opinions for every cultural activity</p> <p>The local government has established the "Three Generations Center" to be the place for elders, middle age and youth participating together in any activity including cultural activities.</p>

## 7. Conclusion

Traditional knowledge is a community heritage and it needs to be managed. By applying the intellectual process, the Mea-hiya community can manage traditional knowledge practically. The result shows that the structural capital plays the most important role to the community which supports the community to reach an initial stage of defensive protection of its traditional knowledge. This initial stage is related to the objectives of the UNESCO and WIPO; "each party shall endeavor to ensure the widest possible participation of communities and individuals that create, maintain and transmit such heritage and to involve them actively in its management" (UNESCO 2003). The IC process responds to this requirement directly. From a knowledge management approach, the intellectual process model deals with the allocation of cultural resources (capital form) and encourages learning, participation, and forming the awareness to the community's cultural heritage. The stakeholders' knowledge and experiences are exchanged and new knowledge is created during their participation in the process. In addition, the implementation of some community rules and regulations will allow the community to appreciate their cultural heritage value and to recognize the guideline mutually arranged by themselves in order to conserve, transmit, and protect the community's cultural heritage. Therefore, it

is suggested that the local communities should continually promote community learning, which will result in the efficient management of the community's cultural resources.

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