Tacit Knowledge in Community of Practice:
- Implications of using Social Communication Tools

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Abstract

Knowledge plays an increasingly important role in business, company, and organization, it is the ability for organization to learn and assimilate new knowledge in order to make plans or business progresses. However, when comes to the tacit knowledge, in most cases, as Polanyi (1969) said "we can know more than we can tell", which means in our daily lives, most of the knowledge stored in our brain can not be expressed out to others easily, we call this kind of knowledge "tacit". Therefore, tacit knowledge holds most part of our knowledge - and at the same time - harder to identify and share.

There is an popular approach called 'Community of Practice (CoP)' which aims at creating and sharing knowledge through informal practicing and learning. Thus, in this study, a qualitative research is desired to be made on the approach of community of practice as well as its effects on tacit knowledge sharing. The purpose of this study is to understand the pattern of sharing tacit knowledge among communities with social communication technologies (Tencent QQ) embedded, and to explore the mechanisms of generating and transferring tacit knowledge with "community of practice".

**keywords:** knowledge, tacit knowledge, knowledge sharing, knowledge creation, community of practice, team learning, social communication tools.
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1 Introduction

With the ever fast growing and changing of information industry, today the good ability in possessing knowledge and intellectual assert is the critical factor for the competitive success for company (Ackerman, et al., 2003). Indeed, business environment is chaning fast. The ability of creating and managing knowledge will provide company great advantage for its competitive forces, and make it adapt to the changing environment synchronously. Many researchers had described the importance of knowledge, e.g. "If HP knew what HP knows, we would be three times as profitable", it is from O’ Dell and Grayson (1998) and they indicated that knowledge nowadays has become the key resource within organizations. On the other hand, they imply that it is difficult for organization to discover and share the internal knowledge, especially for tacit knowledge. The similar perspective can be seen in Hedman and Kalling (2002)’s description of knowledge "knowledge is diverse in nature and the process of accessing, and creating and assimilating knowledge is problematic".

Tacit knowledge can be treated as companys’ stable and reliable resources for their competitive advantages since it is also difficult for others to imitate and duplicate (e.g. manage skills, design approaches). As Jashapara (2004) indicated, tacit knowledge is often created with informal ways such as dialogues and discussions, therefore, the way of creating and sharing tacit knowledge is different comparing with explicit knowledge, and it can be created and shared only through individual practice and daily routines (Jashapara, 2004). Nevertheless, on the other side, because of its intangible features, tacit knowledge is much difficult to be shared and managed since it deeply embedded in people’s mind and cannot be accurately described, codified or articulated (Polanyi, 1969).

Community of practice as a relatively new concept firstly coined in 1990 and its main aim is to conduct a practicing and learning environment among members in community (Wenger and Snyder, 2000). During last decade, it had been growing and adopted by many companies with its effectiveness in knowledge sharing with focusing on informal practicing patterns and communications (Barton and Tusting, 2005).

In these regards, our study aimed to investigate on how practices works on the sharing of tacit knowledge, within community of practice. What is more, in what kind of patterns that social communication tool can affect the performance of sharing is another learning point for this study. In order to do that, case study is choosed in a community of practice in China with its main domain in public health service (PHS). This community consists of 200 members and I will select some of them for interviews and gaining their perspectives depending on their different working and practicing patterns in daily works. In this way, I will try to find the implications to tacit knowledge sharing. This study will help organizations or groups of people who desire to conduct community of practice for improve
tacit knowledge sharing quality, and to understand how community of practice should be launched and running in what kinds of structures. Moreover, the patterns of how social communication tool playing in those procedures is another essentials that this study will focus on.

1.1 Problems Identification and Motivation

As pointed in former section, although many researchers had explained the theories of sharing tacit knowledge (e.g. discussions, people interactions, etc), it is still difficult for organizations to practice in the real world cases. E.g. "we can know more than we can tell" (Polanyi, 1969); "Tacit knowledge is highly personal, it is hard to formalize and, therefore, difficult to communicate to others" (Nonaka, 1991). This is mainly because knowledge especial tacit knowledge diverse from culture to culture, context to context, i.e. different strategies of sharing and managing tacit knowledge should be formulated depending on the specific situation of one specific organization. Organizations who desire to make good use of their knowledge therefore need to face the challenge that: common routines and processes inside company can not provide sufficient environment for people to conduct deep and stable communications in order to create and share tacit knowledge.

Considering on these issues, there is one approach called “Community of Practice (CoP)” which aims at making group of people with common interests come together to share and learn each others’ knowledge and ideas in a relatively informal way. As Wenger et al (2002) indicated that "Community of Practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis". The main aim of CoP is to build a kind of group to carry out activities in workplace, education and in everyday life, it had been used in many areas to share and create new ideas and knowledge such as business, health work and education, etc. (Barton and Tusting, 2005).

Based on the above descriptions according to knowledge, it appears that tacit knowledge as a kind of competitive resources for the organizations’ future exist within organizations’ different contexts and embedded deeply inside individual’s mind, and the main challenge for organization to control this kind of knowledge is: how to make people feel easy and willing to generate and refreeze their tacit knowledge and provide them a way to share to others. Community usually roles as an efficient way to connect people, employees with common knowledge and interests to share ideas and knowledge. However, tacit knowledge is something people may find difficult to share due to its intangible features, the leaders of the community then should concern many factors to make sure that this community is running with good coordination, discussion and communication, as Grant (2006) pointed out "the requirement for a community contains coordination and communication mechanisms".
Therefore, in this study, through a qualitative research, I will try to find the connections between community of practice with the case I selected - ‘IHA’ community of practice. During this research, the most common patterns and problems of sharing tacit knowledge will be understand from memberships’ different perspectives, and I will also investigate on the patterns of social communication tool play in their daily practices.

1.2 Research Purpose

The aim of this study is to understand the patterns of practicing and communicating among communities of practice with social communication technologies embedded, and to explore the implications to tacit knowledge sharing.

1.3 Research Question

What are the implications of using social communicating technologies on tacit knowledge sharing with the adoptions and running of community of practice?

1.4 Research Focus

There are three main elements that need to be focused on: community of practice (CoP), tacit knowledge sharing, and social communication tools (SCT). In our study, the objective is to understand the CoP’s role on the tacit knowledge sharing processes with SCT embedded. In this case, IHA community of practice is the place where people interactions and communications take place and it is the carrier of tacit knowledge sharing. Thus the processes of launching and growing of this community is one of the study focuses in order to understand the way of how activities and practices are carried out and the implications to tacit knowledge sharing. In addition, SCT (Tencent QQ) is the main communication tool in this community members’ daily practices and works in different phases of conducting CoP, thus their effects on tacit knowledge sharing in those phases are another study focuses.

1.5 Ethical Considerations

Nowadays, both 'knowledge sharing’ and 'learning/practicing community’ are common and important components in organization. Therefore, the process of this research can easily access into organization or its community, the employees and workers can all benefit from this study, and the employees who would like to be the participant is voluntary. When comes to the data collection and interpretation procedure, the ethical consideration should be highly paid attention to because people with different positions may have different reactions according to the interviews or questions, i.e. the interview and questions
need to be conducted for specific members and make sure that the questions will not let them feel uncomfortable. What is more, the result returned by participants will be confidential, and during data interpretation, researchers need to keep in mind that the accuracy and 'real-time' of data and information is critical for the ethical consideration of final outcomes.


2 Literature Review

2.1 Knowledge

Today, in the real world, companies are looking for many ways to manage their knowledge asserts and try to make best use. What is knowledge? To answering this question, it seems that everyone can give his/her own explanation according to their particular perspectives on knowledge. However, people make full use of knowledge when and only when they understand how to identify, express and to manage them. Hence to understand the concept of knowledge is critical before we start. Thus, In the following parts of this section, I will firstly make distinguishes among data, information and knowledge to identify knowledge; after that, two major knowledge categories 'explicit knowledge' and 'tacit knowledge’ will be described as well in order to motivate the knowledge transmission process.

In these days, millions of data and information will be produced, shared and even deleted within organization’s routines all over the world. Organizational data is the general document that produced by employees and customers in or outside the organization’s context, it can be a dozen of papers like annual reports and also can be e documents such as ".doc” and ".pdf ” files. So it is clear to see data is the thing what we can see or touch in our daily lives. Information is different from data and is what we gained from data but different people may receive different kinds of information from the same data. For example, a table in Database storing the "sales performance” of one specific company is a kind of data, but this data may show different information based on how people analyzing them. Analyzing can be seen as skills or expertise, which are driven by knowledge. "Knowledge is the only resource that increases with use” (Probst, et al., 2002). Indeed, people may use knowledge to acquire right information as well as to generate new documents which can be gained by other people within common context in order to conduct their knowledge base. The whole process from data to knowledge is shown in Figure 2.1 and it is easy to find that knowledge plays a very important role in this process, it is the whole body of cognition and expertise used by individuals to gain information from data, to learn from information and make them into knowledge. Moreover, knowledge is based on data and information but also bound to particular person, therefore, data, information and knowledge they need to be managed in a cooperative way. Just as Bateson (1987) said: "A company is not a machine but a living organization”.

Referring to knowledge, I have mentioned many times of explicit and tacit knowledge in the Introduction chapter, and here in the rest part I will make detail explanation about what is explicit knowledge and what is tacit, moreover, the comparing between the differences of tacit and explicit knowledge will be conducted at the end by mapping to Nonaka and Konno (1998) ’s model shown in Figure 2.2.
2.1.1 Explicit Knowledge

As Collins (2010) described "*tacit cannot be understood without first understanding the explicit*" explicit knowledge can be expressed in words or images and can be shared in formalized forms such as memos, books, documents etc. From Collins (2010)’s perspective, "Explicit is something to do with something being conveyed as a result of strings impacting with things". Jashapara (2004) also described explicit knowledge as 'know what’ or 'knowing that’, it is the knowledge that people usually know how to discover and how to transfer. Explicit knowledge is often connected to human communications through signs, images, codes and some such relevant things. The transmission of explicit knowledge is based on the interactions between people who own their information and data which can be easily accessed and seen by others. As Quinn, et al. (1996) described, 'knowing that’ can be seen as the basic kind of knowledge that professionals achieve through extensive training and certification. But they also indicated that "*this knowledge is essential, but usually far from sufficient, for commercial success*”. Therefore, the concept 'know-how’ and 'know-why’ nowadays play more and more important roles in organization’s knowledge management systems.

2.1.2 Tacit Knowledge

"*We can know more than we can tell*” Polanyi (1969). For example, we know how to ride a bike, but we find it is difficult to tell novice how to do it. The best and probably only way is to let themselves get on a bike and fall down again and again, then keep on practicing. In this case, intangible skills is created during learning and practicing time after time, it is 'tacit’.

Therefore, what is tacit knowledge? As Nonaka (1991) defined "*tacit knowledge is highly personal and is deeply rooted in action and in an individual’s commitment to a specific context - a craft or profession, a particular technology or product market, or the activities of a work group or team.*” Tacit knowledge is hard to formalize and also difficult to
communicate with others. Given a word, people must know what this word means and how it varies from context to context, and at the same time, one should have the ability to recognize what kind of context it is (Nonaka, 1991). Therefore, in order to understand the meaning of tacit knowledge, one should concerns more factors than explicit knowledge.

Collins (2007) had divided tacit knowledge into two main parts "Somatic - limit tacit knowledge (STK)" and "Collective tacit knowledge (CTK)". However, as he indicated, these two kinds of tacit knowledge are rarely distinguished since both of them are expressed and acquired by people through adaption and practice in the social context.

STK is knowledge with the limited capacities and specific natural of human brain and body, instance of STK can also use the 'bike - riding’ example coined by Polanyi (1969), people when they have learned how to ride a bike, he or she does not have the ability to articulate the knowledge inside, i.e. although there are some formal rules according to riding a bike, humans they can not make use of the rules to carry out the behaviors they present. CTK is the knowledge focusing on the relations and connections between individuals and social communities, if we again take the above example of 'riding a bike’, then we can think further with 'riding in traffic’, unlike 'bike riding’ problem, when riding on the street, what people need to concern is not only about how to balance the bike, but also the understanding of social conventions of traffic management as well as the traffic situations, what’s more, different locations may have different conventions and people need to be able to adapt into the new conventions. As Collins (2007) indicated, the CTK “Is not a matter of the accident of the human constitution, but a matter of the knowledge itself ” Different from STK which can at least be presented with some rules, CTK has to be known extremely tacitly since it is located in human collectivity, and therefore, more factors will control the acquiring process of such knowledge, such as changes, culture and so on.

No matter which kind of tacit knowledge that organization wants to manage, the individual as tacit knowledge carrier, they should transfer themselves across into organizational boundaries and to make organizational participants to learn by seeing and doing (Sanchez and Heene, 1997). Therefore, during this study, people perspectives according to their daily practices is one of the core resources I study on, moreover, both STK and CTK will be investigated to find how learning and practicing community run with them.

2.1.3 Two Different Ways of Managing Knowledge

Towards the two common kinds of knowledge (tacit & explicit) discussed above, there are also two ways of managing such knowledge correspondingly - 'cognitive approach’ and 'community approach’ (Nonaka and Takeuchi, 1995). Cognitive approach thinks that knowledge needs to be fitted for objectively defined concepts and will focus more on ex-
Figure 2.2: Two different approaches of managing knowledge

explicit knowledge which can be codified and transferred through string and text, the knowledge management process will more like exploitation (Nonaka and Takeuchi, 1995); In contrast, community model argues that organizational knowledge needs to be embedded in the social context with social relationships and interactions, exploration will be the main process in this model in order to combine different social groups and communities (Nonaka and Takeuchi, 1995). The main structure and distinguishes of these two approaches of managing knowledge will be shown in Figure 2.2 as below plus perspectives from Newell, et al. (2002).

Considering the focus of this study, I will also turn the emphases into the ‘community’ approach, i.e. I will try to study on the exploration processes (e.g. learning with practicing) within community and to understand its benefits and cons for managing tacit knowledge in organizational context.

2.2 Organizational Learning

When comes to knowledge and knowledge creation within organization, organizational learning is one of the key issues that needs to be concerned since they are highly connected. In other words, organizational learning is the way of how organization creates its knowledge and uses them to drive its performance.

Since earlier 1990s, all the large companies who wished to success in the global economical market often or must highly depend on their learning processes (Argyris, 1998). Therefore organizational learning became one of the hottest subjects in the last two decades. Fiol and Lyles (1985) defined organizational learning: “Organizational learning means the process of improving actions through better knowledge and understanding”, the concept is easy to understand but actually it contains more than simply learning. Here we can also view the whole structure of organizational learning as three consequence levels: in-
This diagram shows the general levels of organizational learning and how knowledge is performed in each level. For example, in individual level, learning is divided into two main parts: intuiting which as Jashapara (2004) defined “A subconscious process that often requires some form of pattern recognition” which provide language to communicate people’s insight to others with experience.

Since one of the focuses on this study is community of practice, so I will study on the knowledge creation and its relations to group and team learning. And when organizational learning comes to the group level, what people need to concern is more like integrating different ideas and knowledge together, therefore, the integrating process is to let people share information and take coordinated actions with dialogues, discussions and through mutual adjustments (Jashapara, 2004). It is also worth to mention that the feedback as well as feed forward process is always ongoing during the learning procedures to make the information and knowledge updated.

### 2.2.1 Team Learning & Learning Group

Team learning is based on individual learning but consists by a group of people. Senge (1990) defined team learning as "The capacity of a group to engage appropriately in dialogue and discussion". Therefore, the main character and distinguish for team learning comparing with individual learning is it generate knowledge through dialogues and dis-
cussions to conduct a way of communication. As we can see from Figure 2.3 that team learning roles as the bridge between individual and organizational learning, so organizations need to know why they need team learning and how it can be performed?

Newell, et al. (2002) once pointed out that knowledge creation and all the relevant processes belong to knowledge are activities and progresses that are accomplished by a team or with a group of people rather than individuals working. Team learning is highly associated with team knowledge creation since members always learn from others whenever they generate a kind of knowledge in the group context. (Newell, et al., 2002). Team learning should be distinguished from team work, for the later one, for example, if company wants to conduct a new project or generate a new kind of product, there are many factors for managers to concern: risk evaluation, customer relationship, technique problems and so on. Merely depending on few people can not really control all of these tasks even they may think their knowledge are ‘enough’, and usually in this case they will conduct a project team targeting to the specific topic and to resolve on. However, this kind of team work has several limitations if we want to make it into a team learning group:

1. The unstable team: Common projecting team will lose its significance and even be disbanded when the group target has been done. (Vennix, 1996) Therefore, it lacks of stability and ductibility for members to learn in this context.

2. ”Command and Control” problem: Although the team itself responsible for the specific decision making, it will often restricted by the organizational strategy or resource limitations and such kinds of problems. Therefore, as Vennix (1996) suggested, ”this can in fact be very productive if and when people learn from each other in order to build a shared perspective. Learning in this way might prove to be the only sustainable competitive advantage for organizations in the future” and he also indicated that in order to conduct such learning group, people should create a learning context and atmosphere rather than trying to win the result and to create a shared understanding of problems and social context. (Vennix, 1996)

Therefore, as Nahapiet and Ghoshal (1998)’s points of view, knowledge needs to be conducted in social context which focus on an interactive team - working process that ”transfer knowledge between different background, cutting across organization boundaries and combining skills, artifacts and experience in new ways”. Social context is important in knowledge creation, because ”collection of people” is not enough to build learning team and gain knowledge, we need emphasize on collaboration and interaction.

Comparing with the focus of this study - learning and sharing in community of practice, we would take up the concepts of team learning as one of the main theoretical lens to guide the empirical study and to help researchers to work on the right dimension in order
to find out what are the connections between learning, sharing and practicing.

### 2.3 Knowledge Sharing and the Limitation

In the former section I have discussed the definition of knowledge and also made a detailed explanation of explicit and tacit knowledge. What is more, through organizational learning knowledge will be generated and driven for using. However, as mentioned in Introduction chapter, only know how to create knowledge is not sufficient for organization who wants to make full use of its knowledge asserts. In organization or its communities, individual creates and carries new knowledge during the daily routines, however, if this kind of knowledge is tacit - or in other word - intangible (e.g. presentation skills), then the quality of group learning will be discounted since people feel difficult to show tacit knowledge out and share within group context. Therefore, right mechanism of knowledge sharing especially for tacit knowledge is important.

Firstly, we need to get the idea of what is knowledge sharing. Jashapara (2004) described 'sharing knowledge' as the connection between 'evaluating knowledge' and 'leveraging knowledge' in the KM cycle model. And he pointed out that knowledge sharing is highly related to the organizational/community culture - norms, symbols and artifacts which connect more to explicit knowledge. Different organization culture will lead to different strategy of knowledge sharing. However, when going deep into organization’s context, the essentials of 'values', 'beliefs', 'attitudes' and 'assumptions' which focus more on tacit knowledge plays the key role in measuring organizational culture and creating knowledge sharing culture.

When sharing happened inside organization or, more specific, a community, the benefit it brings will help people with their abilities of communicating and gaining essential information and knowledge from the context he or she stands in. However, it is often not easy for people to control the tacit knowledge sharing processes. As previously described, explicit knowledge is some kind of knowledge with strings and signs which can be understand directly. Therefore, sharing explicit knowledge needs focus more on people interactions (e.g. documents and reports sharing). However, it will become much complicated when comes to tacit knowledge. The reason will probably because tacit knowledge is deeply inside one’s brain and the owner themselves often do not know how to find and express them. As Probst, et al.(2002) indicated "Tacit knowledge is more important and at the same time more difficult to identify".

Indeed, today people within organizations they often meet a common problem that they have all the information but difficult to identify what they need. This is the fact exists in most of today’s companies although it sounds irrational. There are many factors that limit the transmission of knowledge within organizations. As Drucker (1988) described there
are three common issues that limit the transferring and sharing of knowledge.

**Internal invisibility of knowledge asserts:**
Poor access to knowledge is part of life in many organizations. Managers usually do not know if there is an internal expert on a particular subject, and in some cases, the same researches may be conducted in different location or positions in organization for the same purpose, and also some valuable knowledge asserts may be ignored and unused.

**The flood of information:**
With the ever high growing of internet, organizations these days have too much information and data rather than too little. Managers nowadays need to make selections among such amount of information through their own judgment; however, what there lack is a good way of accessing into the knowledge environment and to identify particular kinds of knowledge in order to make decisions and selections. There is a research made by Probst, et al. (2002) and described a point of view of a manager from a multinational bank:

"Almost everyday I need quick and easy access to knowledge that I am sure must exist somewhere in our global organization. Our internal knowledge asserts are not easily visible, so I have to find other solution, and this costs time and money."

**The transparency of knowledge:**
If we consider the difference between explicit and tacit knowledge, one of the obvious distinguishes will be that tacit knowledge is 'hided' somehow within organizational context and therefore it needs transparency more than explicit knowledge does. But the question is how to make the tacit knowledge transparency, and what is more, organization should not merely perfuse absolute transparency but more focus on the adequate. Knowledge transparency is very important and particular for tacit knowledge in order to make the right person get access to the right knowledge at right time. However, as Harrigan and Dalmia (1991) indicated, it is necessary to know the knowledge goals and to let it guide out way of selecting the areas and sources of adequate knowledge for competencies, but we need to be careful that it will led to failure if we seek for absolute transparency. Therefore, as managers, they need to concern where, when, and which kind of knowledge should become transparent. Or in other words - form tacit knowledge to explicit knowledge.

Above are the common issues towards knowledge sharing in common organizations. And the sharing of tacit knowledge is more difficult and need to be concerned more comprehensively in today’s organizations. The general reason may because that tacit knowledge often 'hide' and difficult to be expressed, e.g. ‘bike - riding’ example. When comes to organizational level, it can also be the knowledge as communicating skills or the way of working. However, since organizations often operate in some formal and structured ways, thus in this kind of context, for employees, their individual skills and knowledge may be
hidden under the whole organization’s context and structure, people do not share their knowledge because they do not know how to share and what can be shared, therefore the problem of internal visibility and transparency of knowledge will become tougher.

2.4 Community of Practice

In Chapter 2.1, I explained that *community* approach is an effective way of creating and sharing knowledge with explorations. Swan, et al.(2002) pointed out that knowledge "Is not just based on interest or geographical area but on practice”. The word ‘practice’ means group activities that others can also take part in. By involving in this practicing community, one can be able to develop his or her practice - sharing experience and ideas with others who are involved in the same pursuit.

This kind of community called "Community of Practice (CoP)". Community of practice is the platform that can be used as an efficient way to implement knowledge sharing, and its importance in promoting organization’s competitive advantages had been realized by more and more organizations. Wenger and Snyder (2000) had indicated that the difference between CoP and common community is that the former need to develop members’ capabilities and to build the exchangeable knowledge; the major interest in CoP is that they provide significant benefits to organizations than do more formalized forms of activities. As they described "The informal interactions of organizational members in communities of practice are considered to encourage reflections of practice rather than simply reworking everyday processes” (Wenger and Snyder, 2000). Thus, with a good process of CoP, organizations could gain benefit directly such as: "driving strategy", "start new lines of business", "solve problems quickly", "transfer best practices", "develop professional skill” and "help companies recruit and retain talent” (Jashapara, 2004).

The CoP concept has been taken up and adopted in many areas and different people may use it with different aims. Barton and Tusting (2005) had described several kind of reasons why CoP has been taken up so widely recently. E.g. it appears to present a theory and a way of learning which acknowledges teams and small working group learning will be formulated in informal instead of formal structures and it allows groups of people distributed in some way and not keep in touch with each others (Barton and Tusting, 2005). Moreover, as Holmes and Meyerhoff (1999) described the learning with CoP is "learning beyond the individual”, which can better explain the idea of CoP - learning and practising within group of people.

The general procedures in this community are discussion and dialogue and various kinds of informal communications just in order to make the whole groups operate fluently without too many limitations. But what is the proper structure and components of CoP? As Lave and Wenger (1991) defined three crucial characteristics for community of practice:
Figure 2.4: Community of Practice Model (adapted from Lave and Wenger, 1991)

'Domain', 'Community' and 'Practice' as shown in Figure 2.4 inside the circle, they indicated that these three factors were playing the core roles in CoP (Lave and Wenger, 1991). *Domain* means a CoP needs to identify the shared of interests in the proper domain, which means a more specific area can distinguish with others need to be identified; and people in this *community* need to realize that having the same work and goal does not means community of practice - they need to highly focus on the interactions among members; and also, people within this community need to *practice* more instead of just taking about what they have, i.e. they need to not only gain but also provide their knowledge with tools, experience and even stories to the community and to build the knowledge base in it.

However, based on Leonard and Straus (1997)’s point of views, above aspects can be only internal factors and can not guarantee the success of CoP. If we assume CoP as a department within organization, then this department its performance will also depend on the helps and supports from other departments. Therefore, four more factors need to be added into the original CoP model according to the perspectives from Leonard and Straus (1997) shown in Figure 2.4 outside the circle. The main ideas and aims of these factors are appreciating the CoP’s value, maximizing the value and minimizing the efforts, managing the members as well as ensuring the final goal of this community is good to organization and so on.
2.4.1 Life Cycle of Community of Practice

Many virtual communities of practice are dynamic social structures which require "cultivation" so that they can emerge and grow (Wenger, et al., 2002). Right and health structure will help community of practice members to design community environment in which they can foster the formalization and plan and carry out activities to help grow and sustain the community (Wenger, et al., 2002). In Chapter 5, the structures of community and practicing and their connections to tacit knowledge sharing will be discussed in detail.

From Wenger, et al. (2002)’s descriptions, community of practice has life cycles, as shown in Figure 2.5. For a successful community, its energy, commitment and visibility will grow over time until it become the core value-added capability for the sponsors, which can be reflected from steps ‘Grow’ and ‘Sustain’ in Figure 2.5. However, before coming into these two phases, four main steps (‘Inquire’, ‘Design’, ‘Prototype’, ‘Launch’) need to be conducted and developed in order to guarantee the right developing dimensions and strategies of community.

In this community life cycles, ‘Inquire’ and ‘Design’ are the preconditions which need managers and core group members to understand why community of practice is needed and do they have enough participants, sponsors and other policy factors to support the developing of this community. When all these factors are guaranteed, core leaders can conduct ‘prototype’ to formulate the detail requirements of ‘launching community’, such as missions, goals, core activities etc. In the ‘growing’ and ‘sustaining’ phases, community practicing patterns and structures determine and directly affect the ways of how members share their knowledge and experience through daily communications and interactions. Therefore, for this study, the analysis part will follow the community of practice life cycle and I will investigate on what are the implications to tacit knowledge sharing for each phase with social communication tools embedded.

2.5 Limitation of CoP

Looking back to Figure 2.2 and comparing with the common cognitive approach of managing knowledge, we will find that the community approach is harder. As individual and employees, what they mostly desire to is to have the right knowledge to solve the specific problem that they meet in daily routines. Although managers they prefer community approach for the further goals and plans of organization, however, unlike tools and financial data, CoP can not be seen in organization context and it is also difficult for managers to present and locate it in business processes (Brown and Duguid, 2000).
Figure 2.5: Community of Practice Life Cycle (adapted from Wenger, et al., 2002)
What is more, as I indicated before, CoP emphasis freedom and informal learning and sharing flow, i.e. if we process it with formal ways and specific goals, then the aim will be different and we also won’t gain full benefit. But in real world, it is difficult to distinguish informal and formal. For example, in many organizations, people are involved voluntarily into a group or community to learn and share just because they have something with common goal to learning or to contribute. This kind of community will often become "on the-shelf” when the initial goal has been achieved. And we can easily see the situation that different kinds of CoP communities exist in one organization at the same time, and this also require managers in this organization to connect each CoP group together. How to control the proper process of the integrating of different CoP communities and at the same time do not "tie” people and limit their motivations? This is probably one of the most important issues that managers who want to gain great benefit of CoP need to concern.

In good community of practice, people should feel easy to communicate with no deadlines or specific 'deliverable’. So it is more like a big family that full of 'trust’, 'help’ and 'sharing’. As Wenger (2000) pointed out, "Community of practice needs to be cultivated rather than controlled". However, every kind of community needs organization spends resources and time on it, the 'flexible' of community of practice does not mean 'relax’, so managers need to use CoP rightly and know how to balance and adjust members’ working, learning and practicing attitudes.

2.6 Social Communication Technology

I have mentioned several times of social communication when talking about team learning and the concept of community of practice. Social communication technology (SCT) is also one of the core elements will be study on its effects on knowledge sharing and learning within community. Thus we need to firstly gain an understanding of what SCT is and how relevant theories may contribute to this study.

Social communication technology (SCT) mainly refers to the social network technologies such as e mail, Blog, Skype, MSN and so on which can allow people communicate without face to face conversations. "The social communication technologies (SCT) may be another alternative source of knowledge transfer and enable employee to work fast, find solutions, and achieve their goals.” (Koo, et al., 2009). From their perspectives, the use of SCT highly related to the types of tasks, i.e. the characters of different tasks and behavior of people may affect the way of how people adopt the SCT features for different purposes, for example, categorized as Real time and Not-in-real time communication patterns. What it more, as Sheer and Chen (2004) pointed out, with the appropriate way of applying SCT in knowledge management system (KMS), organization could achieve essential information, transform the information with an adequate manager, and restore
in KMS or exploit them for the organizational purpose.

SCT provides a web-based way for communicating between people of using the relevant products such as Skype, Tencent QQ, Blog and so on. It helps people overcome the problems of communicating with each others with distance. For example, Skype offers the possibility that a group of people can hold remote video meetings even they are separated geographically in the world; E mail allows people sending business documents or assignments with high level of security; and Blogs can let people create their own content and share to others in a long time period. Therefore, SCT can perform various of tasks and activities through web-based interactions and communications, and it is changing the way of people working and sharing, and an organization can select the suitable SCT with a variety of working spheres, such as working groups, communities, or project groups (Koo, et al., 2009). Indeed, as Fulk and Boyd (1991) indicated, the development of SCT make social activities and networks more active than other times, it helps people better processing and share information and as a result improve their knowledge and skills in daily works.

2.6.1 Using SCT in Community of Practice

Considering the use in community of practice, SCT also has its essential positions in the community launching stage. From the instructions of COPPHI (NNPHI, 2012), the CoP should identify the right tools for members, along with the access permissions and roles as well as developing collaboration rules to ensure that everyone acts respectfully. In many cases of common CoPs, community members are likely geographically spread out, therefore, electronic communication mechanisms are needed. For example, email is an efficient way to begin connecting groups and recruiting new participants. Moreover, as NNPHI (2012) indicated the essentials of using SCT, as growing of the community, the CoPs have to identify tools for the needs of “Electronic document repository to hold work products and research”, “A message board system”, “Web conferencing tools”. In this case, SCT supports both synchronous and asynchronous communications. Synchronous tools such as instant messaging and video conferencing could conduct direct communications with all parties involved at the same time; Asynchronous tools like email and discussion boards allows community to evolve and to develop conversations over a period of time. Therefore, SCT is to ensure that all CoP members are informed and connected to the work and activities of the group.

Therefore, considering the relationships of SCT and CoP in communication and sharing, in this study, I will try to research on the embedded SCT in communities and to find its utilizing performance for tacit knowledge sharing with discussions on real time (synchronous) and not-in-real time (asynchronous) SCT utilizations.
2.7 Use of Theories

All above theories and models will be used as theoretical lens for later empirical studies. Knowledge flow model inform us the internal connections between data, information and knowledge, therefore, it can help researcher with the analyzing of collected information; the transition processes of organizational learning model will give us an overview about how and in what phase can we identify the knowledge and therefore leads us the right way of discovering knowledge sharing within group and communities. Moreover, since I will mainly study on knowledge sharing in community of practice and how social technique tools function on it, so a model of CoP contains different effecting factors will help us to map the theories of knowledge and SCT to the communities of practice in the real world, and to help researchers to category the collected data from these communities of practice.
3 Method

This section will mainly talk about the research method that I would use, including which kind of research type to choose, the knowledge claims, data collecting and analysis and so on.

3.1 Qualitative Research

There are two broad approaches of research: quantitative research and qualitative research. Morgan (1983) described the distinguishings of these two approaches in this way: 'quantitative research' is the earlier form of research originated from the nature science such as physics, biology which the data will be collected and analyzed in statistic ways; the term 'qualitative research' came later than quantitative and mostly work in social science such as sociology, the qualitative researchers believe that measurements sometimes can not adequately answer the question 'why?' and as Morgan (1983) views "They were interested in studying human behavior and the social world inhabited by human beings". Also, the quantitative research is often derived by scientific method and described by the term of 'empiricism' (Leach, 1990) whereas as Cormack (1991) pointed, "qualitative researchers are guided by certain ideas, perspectives or hunches regarding the subject to be investigated", and what is more, the aim of qualitative research is to describe the certain aspects of a phenomenon with explanations.

Considering of the above explanations, in this study, I decide to select qualitative research. The selection of qualitative interpreting and empirical methodology is based on the topic and purpose of this study. During this research, I am aiming at seeking the answers to the research question with deep understanding of specific group of people’s perspectives in a given local context. I would study on people and on their behaviors as well as on how they perform their routine tasks. And I believe that qualitative method will better suit this study since it can help me to culturally obtain specific information on the values, opinions and social context of particular amount of people, especially for the investigate of tacit knowledge. Therefore, through qualitative research methodology, I desire to identify tacit factors like social norms and community context and organizational culture so that to help us to gain the right information and the final data analysis.

3.1.1 Research Type

This study will be conducted by social constructivist worldview. The concept of this kind of philosophical perspective was gained from Creswell (2009) and as his description of social constructivist perspective that researchers seek to understand the real world surrounding them and needs to focus on the specific context in which people live and work. In this case, the social constructivist worldview can help researchers to analysis on employees’ own perspectives on the research topic with open - ended interviews. Different
perspectives from employees will be gained at the end and this can give us a much comprehensive view within organization to see how exactly community of practice perform in organizations and effect tacit knowledge sharing.

3.1.2 Case Study

Based on Yin’s (2003) perspective, the case study is selected when the research addresses a described question such as 'what happened' or an explanatory question such as 'how and why this happened'. In this study I am going to make an exploration in a natural organization to see why tacit knowledge is difficult to be learned and shared within organizational context and therefore I believe using case study can give me comprehensive understanding of these perspectives.

Also, Ghauri and Gronhaug (2005) state that researchers can choose case study when they feel that they have little control on the events and they are focusing on a phenomenon in the real life context. Therefore, here I select single case (holistic) design since I as a researcher can not participant in the organization’s daily routines, but at the same time, I need the perspectives deeply embedded inside individual’s mind to resolve on their particular understanding and ideas of tacit knowledge sharing.

3.2 Case Selection

The case selected for this study is the "Information of Health Archive Sharing and Communicating (IHA) Community" which is a community of practice with its memberships doing public health services (PHS) or relevant works in FY city, China. Here I named it as 'IHA' for the facilitate use. IHA is a non-profile community that aims on promoting the PHS workers’ knowledge and capabilities through various practices and communications. It is a medium-scale community contains more than 200 people with their different abilities and knowledge related to PHS. However, the main role of IHA in PHS work is not for 'replacing' but for 'promoting', i.e. based on their own jobs, memberships will increase their abilities and knowledge level through additional communications and collaborating of works in order to achieve their learning and practicing goals.

FY city health bureau (FYH) is a typical government - sponsored health bureau institution with different social health responsibilities, such as: management of city hospitals, management of public health service (PHS), assigning tasks to other health departments and responsible for the coordination, and monitor the quality of their health works, etc. It is the main sponsorship for IHA. Generally, a health bureau is the bridge connecting the city’s whole health activities and works and it also roles as the portal of city’s public health works for communicating with other cities’ and even the health ministry to get proper policies. For example, in this study, one of the leaderships in FYH - Wong, is also
the main leadership of IHA. He is the coordinating people responsible for the balance of PHS works and control the global directions of IHA community of practice. More details of what he was doing in this community will again be described in the following sections.

3.2.1 PHS Project

In earlier phase, comparing with traditional clinical health services in hospitals, PHS in FY city and even in most eras of China has two main shortages: 1) Lack of comprehensive management, unsubstantial of its foundations and 2) Need the cooperating from various departments and the supports by society, e.g. people/citizens of different populations and communities should comprehend and support the PHS works. Therefore, the reason of building PHS project was to systemically put the PHS works and requirements into practice and enhance the PHS management. Consequentially, through the reviews of FY city’s PHS documents, the main goals of PHS project in FY are “reducing the risk factors of health”, ”effectively prevent and control the infections”, and ”ensuring that citizens can enjoy the basic while effective public health services”. Relevant tasks and executions are carried out in order to help achieve those goals:

Executions, Tasks and Plans containing:
1) Conducting health archive (HA) for citizens;
2) Public health educations;
3) Preventions and Inoculation;
4) Report and deal with emergency;
5) Health care for 0-6 years children and women, and other details.

As a common community of practice with a common domain - PHS, members in IHA also execute PHS tasks for different purposes, e.g. conducting HA. From interviews, I was informed that ”Conducting HA” is an important task and playing key roles in the whole PHS work at current stage. a) health archives contain very comprehensive health information of citizens, it can help PHS workers and managers acquire their health status efficiently; b) there are a lot of works (show in Figure 4.1) that need different PHS workers to do together, and those kinds of works are the connections between PHS services and citizens.

Therefore, considering the complexity of the study, I will mainly use Figure 4.1 which shows the entire working flows of conducting health archieve to illustrate how people practice the real world executions in IHA, and, with what kinds of approach. Figure 4.1 presents the work flow of health archieve services as one of the core processes in PHS project as well as one particular practical task in IHA. Therefore, by following this model, when talking about IHA working groups, I will investigate on the members in IHA community who responsible for the listed tasks in the figure need to complete the corresponding jobs with their knowledge and skills.
Figure 4.1: Flow of conducting health archive

Category for service objects (SO) → Confirm service objects

- Citizen here?
  - No
    - Return visit
    - HA info card
    - Obtain HA info of SO
    - HA update
  - Yes
    - First visit
    - HA info card
    - Obtain HA info of SO
    - HA update

- Had built HA
  - Yes
    - HA update
  - No
    - Not yet

- Do you want HA?
  - Yes
    - Booking instant
    - Conduct
    - Provide HA card
  - No
    - HA update

People go to HIS institution for service

People of the SO population

- New born visit
- Postpartum visit
- RPR Services
- Check Whether built HA before RPR
- HA info card
- Obtain HA info of SO
- HA update

- 0-6 year children
- Gravida
- Older > 65
- Chronic patient
- Psychopath

RPR: Registered Permanent Residence
HA: Health Archive
3.2.2 IHA Community of Practice

IHA community was settled in 2009. The first intention of this community was to "better conduct and manage the health archive work" for PHS services through online or offline communications and practices, and the main work tasks are about "creating HA", "update HA" or "FAQ". Sooner, with the increasing amount of members and the requirements from PHS, FYH reconstructed the IHA community and it had become the main and core community in PHS project, with its memberships’ jobs covered almost all the related works for PHS with various working positions.

As described in Section 2.4, practice in CoP has many patterns, one of which is working groups with specific working tasks. Generally, most working tasks in IHA community are based on the PHS goals. As described, PHS is a kind of social public service, it covers "Assessment", "Policy Development" and "Assurance" (WHO, 2006) with about 10 interrelated working branches. Thus, for IHA, there are three institutions "CDC", "children and women health center", "health monitor center" play roles as the IHA supervisor, IHA members from these departments mainly joined in core group and take charge of operation guide and make plans for every quarter as well as taking part in community acceptance and assessment; besides core group works, there are many community health centers in different populations of FY city and they build up the main body of PHS project for details of PHS works, health care, health educations, conducting HA and so on. Normally people from these working positions take the roles as general memberships which consist the main body of IHA community of practice. However, to role as core group or general memberships is up to members themselves, it depends on whether they have the enough knowledge and the willing to take more responsibilities for more contributions.

Whether for the whole PHS project or IHA community, most of their works are under the management of FYH organization and reflected by the unique control by single leadership. Wong, one of the leaderships in FYH organization and in charge of PHS works. As Wong indicated "By the global vision, we need to make sure that the PHS project runs healthily, it is not an easy job, you need to balance multiple factors ...". Moreover, due to the geographically distributed community members, Tencent QQ as the most often used SCT is the main place where general communications happen, and therefore it (Tencent QQ) is the main technique that will be study on. The structure of IHA community will be detail explained in Chapter 5 in order to see what are the relations and connections between main leader, core group and general memberships, what are the patterns of using SCT (Tencent QQ) and what are the implications to tacit knowledge sharing.
3.3 Study Focus

3.3.1 Public Health Service (PHS)

When talking about FYH organization, I declared that it takes charge of many health-related works. However, the IHA community’s main domain is city Public Health Service (PHS).

"Public health is the practice of preventing disease and promoting good health within groups of people, from small communities to entire countries". Moreover, differing from clinical health workers, PHS workers "rely on policy and research strategies to understand issues such as infant mortality and chronic disease in particular populations". (Perlino, 2006)

Indeed, public health work requires three core functionalities: "Assessment", "Policy Development" and "Assurance" (WHO, 2006). Rather than a single project with people have same knowledge, in order to gurranting the quality of PHS, it needs people from many different areas working with the common purpose which is to protect the health of a population, such as 'health educators', 'public health physicians', 'researchers', 'community planners' and so on (Perlino, 2006). As described by Wong, one of the leaders of FYH organization,

"In this community (IHA), people with different kinds of knowledge work, share and learn all together for public or community health, it requires us to use the communities' (both IHA and its target communities) resources reasonably, and with appropriate technologies, so that to bring everyone’s ability into play."

IHA community along with PHS tasks can be the project will be focus on in this study. And I also investigated from interviews that knowledge is one of the core resources in order to running this project. What is more, this knowledge is not merely means professional knowledge, it also means capabilities and the right understanding of the PHS environment and work tasks.

3.3.2 IHA Community of Practice

The first and also key focus in this study is the Information of Health Archive Sharing and Communicating (IHA) Community. Since the purpose is to explore the mechanisms of transferring tacit knowledge with "community of practice", therefore, I will mainly investigate on the characters of IHA practicing community and try to discover its connections to sharing of tacit knowledge happened in the real world.

IHA community of practicing has been built for 3 years and its effect on the entire city
public health work becomes more and more critical not only because the data and information it creates and shared, but also highly depends on the fluently knowledge running among these 200 members. As the director of FYH administration office indicated.

"In IHA community, people all can realize the influence brought from people to people with their individual knowledge, and we care about the executive ability."

During the empirical study, I will firstly investigate on why and how this community was built and what are the requirements of running this community as well as what are the supporting departments and environment forces. After that, I will explore on the structure of this community as well as the structure of practices, which include the ways of how people communicating and sharing and the patterns of how SCT are utilized due to different purposes and activities. At the end, I will try to find out the implications to tacit knowledge sharing.

3.3.3 Social Communication Tools

Both face to face and remote discussions and communications exist in IHA community. And both of them play important factors in information and knowledge sharing. There are 2 kinds of tools utilized for the remote communicating, one is the "health archive management & communicate platform" which mainly used for explicit health archive information loading and sharing, while another one is Tencent QQ which is the most popular social communication tool in China, and people use this SCT for daily formal or informal communications and ideas or file sharing. Plentiful functionalities of Tencent QQ will be introduced in next section.

Technologies can change the way of how people working and communicating (Sheer and Chen, 2004). Vice versa, as I explained in Chapter 2, the adoption of SCT also highly depends on the variety of tasks. Therefore, investigation on the effects from SCT to community of practice is one of the focuses of this study.

3.4 Tencent QQ

What is Tencent QQ? "Tencent QQ is a subsidiary of Tencent; it is the biggest online instant messaging (IM) provider in China."; "... more than 800 million people are registered QQ users, and it influenced millions of Chinese people’s lifestyle.” (Zhang, 2010)

In faith, from 1999 when QQ was firstly launched to recent years when International QQ was developed for the global adoptions, Tencent QQ has developed many comprehensive features based on IM for complimenting the messaging platform: QQ mail, QQ group, Q zone and so on. Detail functionalities of each feature will be introduced in the
**QQ IM**

The first and core feature of Tencent QQ is IM. And this feature includes both text message, video/multiple video, voice/multiple voice, file transfer, discussion group, remote assistance and e-mail.

As we can see from Figure 3.1, the content of text message is showing at the white area, and they can also review the structured message history by click button 7. Other abilities like screen shot, sending emotes are available at area 8 and it can also translate the message by choosing the content and clicking button 9. Besides text message, QQ also provides total function of (1) video and (2) audio/conference chat and (3) file transferring. Detail variety of these three features can be shown in Figure 3.2. Moreover, the common chatting interface also supports users to (4) create discussion group and invite people take part in, (5) remote assistance allows other end users to control and manage this computer when needed and can also send e-mail to the person talking to by clicking (6) ”sending e-mail”.

**QQ Group**

Based on the features of one to one QQ IM, Tencent added more functionalities as well as some modifications for the extensions of QQ group (see Figure 3.3). 1) It changed file transferring into file sharing; 2) Adding QQ community web platform, which allows group members to visit as a blogger, where they can publish their articles and share ideas; 3) Since a QQ group may have hundreds of members, therefore video chatting is embedded in small-scale group discussion feature which can avoid unnecessary resource waste.

**Qzone**

“Qzone is similar to Facebook because they both focus on social interaction and customizability.” (Ma, 2010) In fact, Qzone is a personal blog product combined with QQ IM, every QQ IM user can active their Q zone with the same account of QQ IM. People can access to others’ Qzone by clicking their Icon (if they are in contact) or through QQ community which allows a single person join into a large group to share their Qzone blogs. As reported from (Ma, 2010), “To help with network effect, Qzone integrates nicely with other QQ products such as QQ IM and QQ community, for example, a QQ IM user can see what their friends update their Qzone real time through chatting interface”. 27
Figure 3.1: QQ IM Interface 1

1. Video/multiple video
2. Voice/multiple voice
3. File Transfer
4. Creating Discussion Group
5. Remote Assistance
6. Email

Figure 3.2: QQ IM Interface 2
3.5 Technique Focus

In this study, the group of people I study on are using QQ group, therefore, QQ group is the main feature of Tencent QQ technologies we focus on, moreover, QQ IM and Qzone as combined products will be the secondary technologies as complementarity to the research on this SCT if it is needed.

3.6 Data Collection Method

In this study, data are mainly collected from the IHA community, and its related factors which may have effects or forces on IHA’s performance will also be the resources, such as leaderships in FYH organization or other public health institutions in FY city. Also, whether I am going to collect data from which places will also depends on how I analyze the current data and what results can I find, this will be explained in data analysis part as well.

About 12 IHA members had took part in this research, it include at least 1 director in FYH, 3 leaderships (core group members) in IHA, and proper amount of general members with different working responsibilities in IHA for PHS or related services. One of the core elements of this study is tacit knowledge, therefore, people as the real carrier of tacit knowledge play critical roles in this research, their perspectives and working expe-
riences will provide researcher important information for continue researching on tacit knowledge sharing in IHA community of practice.

The data collection procedures was divided into mainly three parts: (a) In - depth interviews, (b) Interactions and communications from online daily chatting in IHA QQ community (the researcher already gained the accessibility to IHA community) and (c) analyzing documents and material culture (content analysis). The categories of the collected data will relate to the analysis of employees’ perspectives on tacit knowledge and factors that determine the performance of IHA community.

In - depth interviews is one of the core parts of the empirical research, considering the common three categories of interview approaches “informal, conversational interview”, ”general interview guide” and ”open - ended interview” (Patton, 2002). Here I will mainly adopt the last one and desire to allow participants and respondents to fully express their experience and knowledge. Interviews will be conducted through online video or voice chatting, telephones or e mails, with open - ended questions. The questions during the interviews will be conducted without assumptions and try to let respondents have enough time and space to conduct and organize their working experience and knowledge.

Content analysis with documents, reports and other human communication records will support the data collection process and providing “an objective and neutral way of obtaining a quantitative description of the content of various forms of communication” (Kvale, 1996). In this case, it can be the communicate history in QQ group, shared files and planning drafts, etc.

3.7 Data Record Method

Since I select open - ended interviews during data collection procedures, the collected data will become cumbersome for researchers to reflect the overall perspectives of all responses through the coding process. Therefore I will record the data into different categories with different ways. The categories can be predefined and record new information into the specific category through first stage of analyzing and filtering, and we can also add new categories during the research process whenever they are connected to the research topic. All these categories will relate to each other and used for the second stage of data interpreting process.

3.8 Data Analysis

The data analysis procedure will be conducted and organized mainly according to Creswell (2009)’s book - from the beginning of raw data to the interpretation of the meanings of themes and descriptions. This is an ongoing procedure during the whole process of re-
Figure 3.4: Flow of Research

search. And what is more, as already mentioned in data collection section, the data analyzing will be divide into two main parts based on Creswell (2009).

1) The first part of analyzing is occurred when the researcher has some collected data in hand and need to category them into classes. This requires researcher to intensively read the collected data, notice the interest points and then identify and define segments. Afterward, with sorting and sifting of the segments, I will further search back in the collected data to find more or potential relevant information which may compliment the segments or group the segment pieces. Therefore, this stage should be iterative progresses. In this case, data from the interviews, the daily communications and routines in IHA may at first present as "pieces of a puzzle", therefore the first part is very important to make sure that we have the right way of coding data.

2) Second part contains the main data interpreting process, researcher needs to think, read and re-code on the data or data segments, in order to discover patterns, sequences, processes. During this phase, we will involve the employees’ own perspectives as well as the researchers’ knowledge to the approach of IHA CoP as well as study the effects of social communication tools on tacit knowledge sharing in this community. We will compare the new findings with past findings and compile the data into sections or groups of information (Creswell, 2007) as shown in Figure 3.4. Moreover, through re-coding and re-thinking, I will read back from the data and think about ‘why’ and ‘how’ to build theories.
3.9 Essentials in Data Collection Procedures

Before collecting the data, there are four essential questions that need researcher to think about. By answering these questions, the way of how and what kinds of data will be explained as well as the ethical issues.

Q1: What kinds of data should I collect?
This is a very critical factor because it directly related to the validation of this study. The purpose of this study is to understand tacit knowledge sharing in practicing and learning community with SCT embedded. Therefore, considering the features of tacit knowledge that hard to be transferred and expressed but embedded into practices (Collins, 2010), I will mainly investigate on how people dealing with their practical works along with their feelings of sharing and communicating in IHA among all memberships or within small working groups. What is more, in order to help researcher better describe the working requirements and to help readers better understand the launching details of IHA community of practice, I also need to collect data from relevant documents and files for content analysis.

Q2: Where/from whom should I collect the data?
After we identified the kinds of data that should be collected, the next step is to identify the right people with specific data so that to make sure they can provide essential information for us. During this study, Wu and Wong are the critical persons that can provide researcher the accessibility to the IHA QQ group to analyze on members’ daily communications as well as offering some documents which are needed for content analysis. Moreover, three people (Wu, Jing, Yang) from core group will give us comprehensive views on the leadership side to see how plans and strategies are shared to all memberships and 8 general memberships which can bring the people perspectives on radical working and practicing situations.

Q3: How should I conduct the data collecting procedures?
First of all, I will conduct interviews with Wong and Wu to get the basic ideas of what IHA community of practice is and how it works until researcher get enough knowledge to conduct further interviews with core group members and general memberships. The basic tools for these interviews are QQ IM, Skype, telephones and e mail. The time and content of interviews depending on the data analysis results even there are some predefined questions: when new ideas and questions come out from the previous analysis, new interviews need to be conducted in a good time in order to get the feedback perspectives. This process can also be reflected in Figure 3.4.

Q4: What critical issues should I concern during data collection?
There are several critical issues in the data collection process, the predefined categories
for data collecting should not be too many, instead, it is more wise to build new categories
during collecting. The purpose of conducting such category is to facilitate the later data
analyzing and coding, but we should pay attention that too many predefined categories
may sometimes limit the research width and therefore reduce the research validation.
Also, another critical is the coding process. For qualitative research, most of the data is
needed to be coded without statistics support, therefore, on the one hand, I should make
the interviews and questions opened so that people can share their experience and ideas
widely, on the other hand, I need to be aware that feedback from coding and analyzing is
important for the next interviews in order to come to the final theory.

3.9.1 Interviewees for Data Collection

Leaderships Wong
Wong is one of the leaderships in FYH organization, and is the unique and main leader
in IHA community of practice. The main tasks for him in IHA is to balance the working
status of FY city’s PHS works and the running performance of IHA. Through discussing
with core group members, he will transfer the policy and global views on PHS works and
get feedbacks on how IHA memberships’ practicing and learning going on. Therefore, he
is the responsible person in IHA community of practice.

Core group Wu
Wu is the director for all the executions of PHS works. She is one of the core group mem-
bers in IHA and mainly responsible for the coordinating communications between core
group and general memberships. During this study, Wu will provide many good sugges-
tions and documents in order to help researcher better understand the running situations
of IHA as well as to get the proper people for further interviews.

Core group Jing
Jing is one of the core group members, he is the worker in "child and women care cen-
ter". In IHA, he has some expert leading groups for ‘conducting health archive’ and
‘public health education’. He will provide the views of how practicing patterns in work-
ing groups is and what are the issues according to the real world cases and so on.

Core group Yang
Yang is one of the core group members in IHA mainly responsible for emergency re-
response, and her own job is in CDC. Her perspectives on strategies, plans and the utiliza-
tion of SCT will be collected during the empirical study.

General community memberships
Besides main leader and core group members, about 8 general memberships had took part
in this study. These people are the essential people in FY’s PHS work as well as in the
practicing and learning activities in IHA, their working performance and experience will
directly relate to the status of running for PHS and IHA. Therefore, perspectives from
these people will give ideas on some basic points of how practices and interactions take
place among memberships, what are the benefits and limitations of using SCT for the
communications in IHA, and what are their implications on tacit knowledge sharing.
4 Findings and Discussions

This Chapter will mainly explain the empirical findings and discussions based on the interviews. The summary of interview questions and answers is listed in Appendix I. In this Chapter, By following the life cycle of community of practice, I will firstly discuss what are the essentials of launching CoP, and then resolve on the running and growing stages with different practicing patterns. At the end, the adoptions of Tencent QQ (SCT) and the implications on tacit knowledge sharing.

4.1 Why IHA Community of Practice?

Communities of Practice for public health is not a new term, for example, the national network of public health institutes launched the project called "Community of Practice for Public Health Improvement (COPPHI)" in 2012 (NNPHI, 2012) had declared their aim that "facilitates the exchange of best practices and builds capacity among the nations’ public health departments to become accredited and conduct quality improvement (QI)". In this case, Barberg (2012) who is the president of Insight formation Inc. (also the responsible person in NNPHI) indicated, public health needs both collective and collaborating works, therefore assessment of identifying different levels of accomplishments is crucial according to public health work by adopting different levels of practices. However, he also pointed out, for the purpose of launching COPPHI, although communities may set goals, the problems of poor alignment and collaborating on the strategies to achieve the goals may lead the leaderships to think about 'better approaches', which is to integrate quality improvement practices and techniques with strategy maps development, and seeking to find of shared practices to improve effectiveness and efficiencies. (Barberg, 2012)

At first, people who in charge of public health works in FY city mostly belonged to MA department in FYH organization. At that time, although every small institution did their own jobs without much communications and interacting practices, with the common purpose of working on PHS and uniform management under MA FYH, there is no ‘big problems’ according to the real world works. However, with the increasing variations and working requirements of PHS, the issues and problems started to emerge.

1. The number of people working in PHS should be more because the issue of PHS becomes more serious;
2. Collective and collaborating works are needed due to the poor coordination abilities between different institutions of FY’s PHS work;
3. The complexity of management is then increasing;
4. Learning, practicing and knowledge sharing are lacked because of the one-way working structure.
Therefore, people especially for those who managed the PHS works, they started to realize that the original ways of working and the organizational structures limited the performance of PHS work, and as a result, primary level workers often met problems on both profession and communication aspects. In this case, managers were under pressure of the 'worse' performance of the whole public health work—which leaded to the decreasing quality of citizen’s public health service.

Moreover, besides performance, another policy factor from the country’s global aspect also impact on FY city’s public health work: In year 2004, ’SARS (Severe Acute Respiratory Syndromes )’ grievously injured people’s health and even lives, Chinese center government published a series of policies to encourage local governments develop their PHSs. For example,(Ardiserv, 2012) there is one phrase in “Health Care Reform 2009” as

"Comprehensively enhance the constructing of public health service, consummate the public health service features based on the primary level health service network. We encourage local government put additional public health service term based on the local economic and public health issues"

Thus, people in management level of FYH organization started to think about changing the way of doing PHS works. The first step is to separate PHS from MA, as Wu indicated "before that we have too much works and different tasks, we need to separate PHS work out of MA and construct the PHS office and build the community, ..., yes because the government fund us on PHS". Here we can clearly see that at least two and simple factors can determine the building of IHA community: a) there is a need of community; and b) get the sponsorship’s support.

At the very early stage, as investigated from the case by interviews with Wu, the original version of IHA community was for "better conduct and manage the health archive work with the increasing of people’s knowledge and capabilities". However, health archive is the first and core component in PHS, and people of PHS working on IHA just because it is part of their jobs, very few people only did IHA works without any other connections to PHS. This implicated that people within this community need to have the common area of sharing inquiries and key issues, which is PHS work; and because of the characters of PHS work, they kept practicing everyday in this common area. Hence comparing with the model of CoPs in Figure 2.4, the launching of community of practice then is reasonable and also needful with both 'domain', 'community' and 'practice'.

To sum up, and combined with CoPs model in Figure 2.4, now we can find that both "Domain", "Community” and "Practice” elements exist in IHA community of practice, these three elements can be seen as the developing target and goals, while they are also the
key requirements of building community of practice. Moreover, sponsorships and government policy can also impact on the decision making directly according to the constructing of community of practice in this case.

4.2 Requirements of Launching IHA CoPs

According to Wenger (2000)’s CoP theory, community of practice is a place where everyone can feel flexible to share ideas and practices, there is no too much limitations so that knowledge can be created and transferred fluently. However, this does not mean the launch stage of CoPs is easy, and in fact, it can be even harder and is the key step in the whole life cycle of a common community of practice. As Wenger (2000)’s opinions, before constructing community of practice, it is very important to have a plan, of which the overall goal is to develop the community around the three key elements “domain”, “community” and “practice” by identifying the mission and focus, and building relationships among members as well as predefining of projects, activities or topics which need members to practice with.

In this study, interviews with Wu and additionally with two persons who had ever took part in the planning processes of IHA community of practice will be the very important data, of which to help us investigate on what are the requirements of launching CoP in the real world by examining on the relations and connections between missions and goals. I will also try to understand how it justified the IHA CoP members, leaderships, sponsorships and potential participants. What is more, knowledge is the core competence in PHS work, therefore I will continue the work by holding the question of what are the effects brought by knowledge especially tacit knowledge related issues according to the requirement specifications.

**Mission (long term)**
1. Enhance the learning, sharing and practicing processes of PHS works in FY;
2. Present common problems and issues of daily works and discuss for best solutions through communications and collaborations;
3. CoP members will promote their abilities in working efficiencies and problem solving

**Goals (long term)**
The final goal of IHA community is to ”prevent disease and promote health”, to improve the quality of public health services in whole FY city by increasing IHA members’ knowledge and practicing skills. Moreover, with the growing of IHA community of practice, to increase the effectiveness and efficiencies of PHS work towards each community’s populations.

**Prototype (short term)**
Prototype is a necessary step before putting community of practice into use (Wenger, 2000). Wu also indicated the importance of: after designing the conceptual purpose and missions, investigating on short-term pilot can help establish the community as a viable and valuable entity. Leaderships can better understand the meaningful metaphors by measuring and evaluating the success and failures. In IHA, some participants on this prototype process later became the members in core groups and responsible for the planning and management of the whole IHA general practices and working groups.

Activities and Tasks (long term)

As Wenger (2000) pointed out, activities and tasks in community of practice are the processes of generating energy and power because these are the carriers of where knowledge sharing and practices may take place. In IHA community, based on the measurements of success factors in prototype stage and the real life situations of FY PHS works, there are 7 main activities listed below as the most common tasks in IHA community members’ daily works.

1. Conducting health archives, monitor and report health status in each population;
2. Investigate factors affecting public health;
3. Public health educations;
4. Enhance relationships of members;
5. Develop strategies and future roles or activities to support public health goals;
6. Ensure and improve the level of PHS knowledge among general membership;
7. Evaluating success and failures

If comparing these tasks with PHS goals which introduced in previous section, we could find most of the above activities are related to the goals of PHS, some are even the same. For example, educations and health archive are exist in both. This is mainly because the domain of IHA community of practice is PHS. Nevertheless, we can also see from the different aspects: the goals of PHS are focus on ‘public’, ‘health’ and ‘service’, these three key words can best distinguish PHS with other works or public services. While in IHA CoP, as we already know, the key aspects are ‘domain’, ‘community’ and ‘practice’, which can also be understood from the above listed of activities that: although the domain of IHA community of practice are PHS oriented, when comes to the community level, the ways of what and how people perform core activities determines whether this community of practice can provide a platform for members to share knowledge and promote practicing, with willing. Therefore, besides the common working area (PHS), the relationships among IHA memberships and the sense of connecting as well as the body of knowledge, practices and approaches are also important for IHA to launch and run.

Justification
Participants is one of the core essentials in community of practice, and through various of approaches such as interviews, invites and surveys, the leaderships of CoP should justify the potential members to participate, with proper overview of their visions, goals and other justifications to show what values and benefits can this CoP bring to its members. (Wenger, et al., 2002)

In IHA, as investigated, justification was also seen as very important factor when leaderships started to recruit participants. Here I extract one paragraph from the justification script of IHA.

"about the IHA community of practice, its main job is to fully motivate every membership’s ability, provide a broad stage for knowledgeable people to share, learn and practice, and encourage every member with a kind of positive and passionate community spirit so that let them exert their potential knowledge and capabilities."

In addition, experience and results from prototype also been used to illustrate how this community of practice works with what kinds of activities and potential changes. Roles and structures of IHA also became ‘visible’ with the accessibility to prototype, which can partially be done by providing new participants the technique platform that used to share communications and performance.

**Technique Support**

In most of the cases, members in CoP are separated by geography. Under this situation, web-based tool is needed to ensure that all the members can communicate synchronously or asynchronously. Figure 4.1 shows up the most often utilized features and ways of communication for CoP that described by (Wenger, et al., 2002), where we can see from the matrix that: although F2F meeting is a kind of preferred types of communications in CoP (Wenger, et al., 2002), the cost and time consuming would be too much due to the distributing of members geographically. Thus ‘Not-in-Person’ is the most often communicating approach in CoP with distributed members.

In this case, the domain of IHA is public health work, which already informed us that: since PHS is not a single project with single organization, people within this community would come from different positions, departments and even populations. Therefore, ‘In-Person’ conversations and F2F communications are lacked in IHA just as most of the common CoP. Generally, members of IHA work on their jobs in different places, and share thoughts and experience through social communication tool - Tencent QQ.

However, as informed from Wu, in IHA, the leaderships will at least hold a meeting (F2F meeting) in each quarter regularly with a possibility that all members can take part in. The main topics of the meeting are defined by the main leadership and core groups according
to the results of quarterly assessments to the running performance of IHA community of practice and to the status of PHS works. Common problems and solutions are expected to be discussed and general membership would feel comfortable to share their opinions and thoughts. During the flexible conversations and discussions, knowledge is expected to be generated and shared through face to face talks. Wu used a short word to describe the purpose of F2F meeting *“find problems, overcome difficulties, and manage memberships”*. So, we can see from the case that: although F2F communications are costliness in IHA, as the traditional way of people interacting, it is very important that using regular F2F meetings to control the macro-directions and to manage memberships.

SCT is the technique adopted by IHA. Based on the results from prototype, Tencent QQ, especially the feature of QQ group, can support most communicating requirements in IHA community. However, this does not mean there is no need to make changes on technique aspects. In fact, as said by Yang, *“until now we are still not totally satisfied on the technique issues, this may because the way of using, however, we keep evaluating and just to make this better suit for our memberships”*. In prototype stage, I have already investigated that one of the reasons for choosing Tencent QQ as communicating tool in IHA is due to the most popular SCT in China and almost every membership at that time had an account and knew, at least the basic operations of that.

Therefore, in this study, the performance of SCT (Tencent QQ) in IHA community of practice would become the key factor for us to analyze on knowledge or tacit knowledge sharing since it is the platform where most of the practices and communications happen. During this research phase, the general membership’s perspectives as well as leaderships’ thoughts will be the primary data in order to objectively get the ideas of how this SCT works.

### 4.3 Implications of Launching IHA CoPs to Tacit Knowledge Sharing

Previous section introduced what are the essentials need to be considered before running community of practice, in this case illustrated by the description of IHA community. In fact, designing and preparations of CoP is more than above, for example, identifying leaderships and general membership, conducting charters to recruit new participants, etc. However, what we should be aware is: no matter what kinds of processes these are, the aim is the same: to identify "domain", "community" and "practice" with proper techniques embedded. Therefore, several questions are following by the study purpose: what are the implications brought from the launching of CoP to tacit knowledge sharing? Do they have mutual effectiveness?

We need back to the concepts and characters of tacit knowledge in order to answer these
Figure 4.1: utilization of techniques
questions. Tacit knowledge is often the thing "we know better than we tell" (Polanyi, 1969), it resides inside individual’s mind in forms of experience, insight, know-why and know-how. What is more, it is also the most valuable and significant part of human knowledge (Abidi, et al., 2005). However, in organization, the sharing and integration of tacit knowledge is often harder than explicit knowledge because of the dis-match between its unstructured culture and organization’s formalized structures (Lai, 2005), i.e. it is hard to transfer and even create tacit knowledge in an explicit way. If we again think about the two different ways ("cognitive" and "community") of managing knowledge for explicit and tacit knowledge which described in Chapter 2, which can also be knowledged from Figure 2.2, that exploration is the main process to discover and create tacit knowledge. Therefore, to sum up, the 'unstructured/informal working and communicating environment', together with 'exploration purposes' are or at least one of the essentials of managing tacit knowledge.

Now resolve on the launching requirements of IHA, what we can find is: before running a community of practice, a series of preparations and predefined structures and roles are necessary just because CoP is a special kind of community, with common domain, interests, and proper structured activities. Moreover, we informed from members in IHA CoP that the participatory is voluntary, whether to join this community depends on whether these people have the same or relevant interests and some domain knowledge, and most of them felt flexible to choose roles in core group or general membership. In this case, tacit knowledge is provided with a relatively 'suitable' environment where community was independently launched without too much limitations from FYH organization, and people gathered together for the purpose to explore and share knowledge in same interests and areas. Those can be seen as the effects brought from tacit knowledge sharing to IHA community of practice. However, on the other side, although tacit knowledge cultivated mostly in unstructured ways (Endres, et al., 2007), as a community, it still needs a systematic structure to ensure the rhythm and main direction to make sure that it can grow and develop. What is more, considered on the issues of geographically seperated memberships, SCT (Tencent QQ) as the platform for most of the communications and ideas sharing in IHA, its effects in tacit knowledge sharing is obviously essential.

Nevertheless, until now the running and practicing among memberships of IHA community in the real world situations have not been talked. Thus, whether community of practice as like IHA can bring what kinds of effects on tacit knowledge sharing based on its running structures, as well as what are the connections to Tencent QQ’s utilization are the study emphasis for the rest.
4.4 Structure of IHA Community

Although I have described many times of what are the characters of ‘informal’ commun-  
icates and practices in CoP , as Wenger (2000) suggested, structure is also important for  
ensuring community’s growth and management, and leaderships need to have the intrin-  
sic legitimacy in the community and effects on the community’s development, i.e. proper  
structure of roles and activities that memberships play. What is more, distinct with general  
social communities, community of practice is not merely relationship (Swan, et al, 2002).  
Instead, domain, or in other words, common subject, is the key to determine whether  
members can benefit from daily interactions and practices so that increase their knowl-  
dge and capabilities with common interested area (Jashapara, 2004) . For example, in  
this case the common subject is PHS work. Therefore, in this study, I will research on the  
structure of IHA community of practice to see its connections with the domain PHS and  
how it affect memberships’ daily practicing. In the end, I will discuss the implications of  
tacit knowledge and then connect to the SCT utilization.

Through interviews, I investigated that the structure of IHA community of practice is  
divided into mainly three parts: ‘leadership’, ‘core group’ and ‘general membership’.  
Actually, in many literature (Swan, et al., 2002), core group means leaderships. For ex-  
ample, Allkm (2011) describe core group as key leaderships group that determine the  
learning and practicing agenda and trying to build the networks among membership for  
effective knowledge flow. However, in this case, as informed from interviews, although  
IHA also have core groups in which people responsible for maintaining the general mem-  
bers’ relationships and formulating the activities and plans, they are all under the direct  
and unique guide from one person, Wong, who is the main and unique responsible person  
of the PHS works in whole FY city. From Wong’s explanations, this is because PHS work  
is something closely related to the health quality of a specific population, which is then  
no longer an easy and simple task. As described, PHS involves a lot of public works from  
policy to preventing. Under this circumstance, the unique responsible person need to take  
charge of all the status and performance of PHS related work tasks and contact between  
different departments. Wong described the relation between IHA and PHS as “IHA com-  
munity of practice is part of our PHS project, we want to improve the service quality and  
the workers’ practicing capabilities through IHA. However, PHS is more than that ”.

In fact, this is an objective and real-life perspective. That is, although many literature  
talked about how the CoP approach can benefit members knowledge and organization’s  
performance, when it comes to the real-life case, the positioning of CoP in an organi-  
azation or project is depending on the real-life situations. For example, when Wong said  
more than that”, this means the activities running in IHA community did not cover all  
the tasks in PHS works, even almost every membership is working on PHS. Instead, it  
can improve the entire quality of the PHS works as well as the abilities of practicing and
problem solving for common PHS workers.

The idea can be again explained in details: membership especially for general memberships, they all have their own departments or institutions that belong to. Their jobs are or at least related to PHS works and services for a specific population or community of people. In this case, IHA community of practice is the place to let all these people share their working experience and knowledge by such as story-telling and activities practicing in IHA. Members have the common goal that is to make their works better, make their knowledge running. However, the activities and tasks in IHA community can not replace their original works, instead, people still working on their bits (sometimes IHA working groups can also perform PHS tasks, e.g. Task-oriented working group), but with more informal interactions and practices with other people in PHS domain to help cultivating and sharing knowledge. In this case, core group of IHA is one of the main places where activities and plans come out, while the main leadership is the key person to control the ‘big picture’ of IHA because he or she also need to manage and balance the whole PHS work, as shown in Figure 4.2.

Under this structure, the main leader thinks about how to improve the PHS quality and performance through discussions with core group members. Wong brings the global views of how the entire processes going on and sometimes with the policies from top levels; at the same time, core group members provide their suggestions and plans according to the problems and practices happened in IHA, sometimes they also lead working groups to carry out more specific tasks for deeper practicing. Therefore, by regular meetings and discussions between main leader and core group, the knowledge gaps existing among general memberships are expected to be discovered and then corresponding activities or practices will be discussed and carried out in order to bridge those gaps.

4.5 Structure of Community Practicing

Besides working connections between main leader and core group, Figure 4.2 also represents the ways of how general memberships participated in IHA’s daily activities. Generally, every member has their jobs, and they will, at least wish to promote their capabilities through IHA communicating and knowledge sharing, of which the corresponding practices can be divided into two main parts: a) general communicate and common practices among whole IHA members; and b) small working groups that focus on more specific tasks with more specific goals.

General practice facing to the whole IHA memberships including both core group and general memberships, it is the place where SCT are widely used. Therefore discussions about the relations between general practicing and SCT utilization will be explained in detail in next section. Meanwhile, due to the particular working forms of PHS, small
working group is another way for carrying out practices among general memberships with helps coming from core groups. This kind of practicing pattern can match to the perspectives as (Wenger, et al., 2002) once indicated: members can remain the connections with CoP while doing works by joining working groups, and it is also the way of making experts fully participate with particular discipline. Figure 4.3 shows the structure of how practice is categorized in IHA, from which we can see that working group is divided into three main branches: "Experts leading", "self-organized" and "Task oriented".

4.5.1 General Practice for All Memberships

Boland and Tenkasi (1995) once indicated that storytelling is the process by which a community of practice can develop and strengthen its knowledge domain and practices by capturing historical knowledge and conducting a repository for the accumulative intelligence of memberships. In IHA, without surprising, storytelling is an effective and widely adopted approach for sharing experience and conducting relationship between participants. For instance, it is very often for PHS workers to visit with the citizens in order to better conduct the health archives and to help their populations to improve the PHS quality. When one IHA member found a good way of communicating with servicing object citizens, he or she may want to share this experience to all of the others. In this case, the listeners will all benefit from this story by integrating into their own working experience and situations.
"sometimes we take part in by dialogues and sometimes we read from their articles, I have to say it is a very nice experience to listen other people’s story, it can bring you new thoughts and motivate your ideas all the time"

Storytelling often happened among whole IHA memberships, and therefore it is one of the general practices in IHA community of practice. Besides this kind of practicing, general communication between core group and general memberships or among general memberships is another way of sharing thoughts and practicing activities. Comparing with storytelling, general communication has two main differences: a) instead of one-to-many communicating pattern in storytelling, general communication is more complicated. Through discussions with the main leader or regular meetings, core group members may constitute a plan or publish an activity aiming at improving whole IHA memberships’ capabilities or knowledge, in this case, it is ‘many-to-many’ communication. Another situation is when specific member posted a question or declared a problem and wish to get a solution, and therefore it becomes ‘one-to-many’ pattern again; b) general communications especially those between core group and general memberships are sometimes related to activities which need to be executed. Although both storytelling and activities are the patterns of how practicing exist in IHA community of practice, their purposes and relations to knowledge sharing are different, which we will further discuss in the later.

It is worth to mention that, as I going to explain in Section 4.7: even communicate pattern in general practice is the same, the ave of how people conduct the communications with
what kind of SCT features can still as a result determine the different outcomes in the real world, as well as the connections to the tacit knowledge.

4.5.2 Experts Leading Working Groups

IHA has mainly seven activities, some of them are performed by all community general memberships through their daily works, e.g. activities 1 and 3; while the rest activities require the cooperating between core group and general memberships. Through ”experts leading” working groups, specific activities can be better performed with more professional capabilities and knowledge due to the experts’ participating. These experts mostly come from core group with their different abilities in PHS works. Through activities planning and discussions with other core group members or the main leader, they can lead particular practices with specific team members in order to carry out ideas into practicing. In this case, members in one team may come from different populations or departments while both under the systematic directions from one or more experts. Jing believed that, this kind of working group is more inclined to ’capability oriented’, through which the team members’ capabilities as part of the whole PHS work will be improved by learning communicating skills and people interacting with more details and right directions. Moreover, he also indicated that this kind of working group is an effective way to promote PHS workers’ working performance in a relatively long time.

4.5.3 Self-organized and Task-oriented Working Groups

Self-organized working group is another team-based practicing and learning manner in IHA community of practice. This kind of practicing group can be seen as the epitome of IHA, the purpose of building such working environment is purely based on a group of people interested on a more specific aspect, which should related to PHS works and people desire to share and increase the relevant knowledge with a long term practice. Nevertheless, self-organized group do not depend a leadership managing their works, instead, they practice with more flexible activities in their own ways. In common with expert leading, members in this kind of group usually come from different geographical positions. However, based on the finding in empirical research, people in self-organized working group often hold same kinds of knowledge and even working on the same PHS branches, but serving for different populations. Moreover, through interviews, I also investigated that communications and the ways of how ideas and experience are shared are the crucial basics in self-organized working groups to ensure that knowledge can run as expected.

Differing from self-organized, people in task-oriented working group do not often limited by geographical problems because mostly they all come from same departments or communities of same population. However, the main driver in this environment is the
task itself, and members in this group may sometimes hold different knowledge and capabilities comparing to those in self-organized. In this case, as some task-oriented members indicated, collaboration is the key factor to determine whether people with different knowledge can work synchronously to carry out specific tasks.

4.5.4 Different Practicing Patterns of Working Groups

In this section, we can take health archive conducting work as the example to show what are the difference between "expert leading", "self-organized" and "task oriented" working group.

As described, there are many small community health centers that providing health services to their in charged population, which can also be reflected from Figure 3.1 as "people go PHS institutions for services". During this process, IHA task-oriented members at the same institutions may need to conduct collaborating works, e.g. some PHS worker may familiar with specific citizens or some may good at interpreting benefits and costs, since health archive are created and managed online, technique supports for obtain and updating HA information is also an necessary task.

While for expert leading group, most of their PHS working tasks are more specific and the varieties are depending on the experts’ knowledge range. For example, Jing as the worker in "child and women care center" has more possibilities to lead a working group for practices in conducting HA for '0-6 years children’ or women because they have more professional knowledge on that. Usually this institution face to the whole population of FY so that it is possible that group members come from different populations.

The core essential in self-organized working group is interest. For example, some general memberships from IHA community of practice gather together and share their experience of how to better interpret the benefits and costs of conducting health archives or how to build a stable relationships with citizens and so on.

4.6 Implications of IHA Practicing to Tacit Knowledge Sharing

In Section 2.3, I described several reasons of why knowledge especially tacit knowledge is hard to share within traditional organizational structure, such as "knowledge transparency", "internal visibility of knowledge assets" and so on. Moreover, many researchers also had previously studied on this problem with different research dimensions. Therefore, based on the descriptions from all these two aspects and combining with the real world situations of IHA community of practice, in this section, we will mainly investigate on the relations between IHA practicing structure, i.e. the patterns of practicing activities in IHA community and tacit knowledge to see their implicated benefits and lim-
4.6.1 Personal Capabilities and Environment Support

The individuals’ own capabilities and experiences may affect their personal abilities to share tacit knowledge with the environmental supports (Endres, et al., 2007), which can also be reflected from IHA community’s structure. In this community, IHA had already settled the foundation that each membership as a single knowledge sharing unit that interacting with others has related capabilities and experiences in common domain - PHS. Therefore, although people may come from different organizations and may work on different positions, as long as they have the common interest and mutual effects by each others’ experiences, the whole knowledge sharing dimension and step is coherent.

What is more, supporting from core group can better promote the knowledge sharing efficiencies by providing their high level knowledge, and guarantee the learning and practicing directions by regular core group meetings with main leader participated. In this case, the internal visibility of knowledge assets is increasing because of the common interests and the close coordinations between core groups and general memberships.

4.6.2 Incentives & Motivations of Sharing

Members learning with context and atmosphere is an effective way for them to share perspectives through communications (Endres, et al., 2007). However, as Jashapara (2004) indicated, memberships’ motivations are often lacked in traditional team learning, their willing of sharing are limited by the composition and power relations underlying the team or organizational culture. What is more, in order to encourage individuals the sharing of tacit knowledge, the formulation of a number of incentives which target to group memberships can contribute to individuals so that give them encouragements. Therefore, incentives and motivations are important determinants of whether people are willing to share and learn. This can partially be verified based on three specific features of IHA:

a) Multiple communication patterns;
b) Multiple practicing patterns;
c) Self-organized activities, self executing practices.

There are different communication patterns in general practice such as storytelling, general communications and with different approaches (e.g. instance face to face (F2F) dialogue or online chatting through Tencent QQ). In this case, group members can choose the most comfortable way for them to share or to learn. For example, storytelling is an informal and flexible way of sharing experience. Under this circumstance, some people want to talk and express on their own perspectives while some may just want to role as a listener and learn. There is no external pressure affecting on this circumstance and people
feel comfortable to take part in. In fact, similar with storytelling, some researchers also indicated that members can even better exchange ideas and share narratives in information settings such as cafe room, entertainment places where no formal rules to limit dialogues between members (Orr, 1990).

General practicing facing to the whole IHA memberships and it is the main place where general PHS related knowledge and ideas are shared and transferred. However, some tasks in IHA need more group workings due to the specific target population or particular practicing areas, such as public health educations. Therefore, different types of practicing allow members to choose the best activities at the current period depending on their specific jobs, capabilities and goals. When an IHA member wants to promote the health education capabilities to a specific population that working with, he can choose to join the expert leading working group in order to learn from experienced experts. Because of the multiple communicating patterns, he can also just learn from others by their storytelling using Tencent QQ without F2F meets and asking questions until he get enough knowledge and experience to tell his stories to others.

Self-organized working group is another different practicing pattern in IHA, the reason it can be seen as the epitome of IHA community of practice is because it is created by people with common interests at a small working area in PHS works. From the interviews, people described that members in self-organized working group are more willing to share their ideas and they fell much flexible to practice activities which all motivated by themselves. In this case, tacit knowledge can have a right environment and more possibility to be shared with more specific purposes.

4.6.3 Trust Ties Together an Tensive Community

Extensive personal contact and trust are basic requirements for effective tacit knowledge sharing (Song, 2009). Trust ties together collective system, it is based on the communications and expectations and therefore formed in the consciousness of group members (Kramer and Tyler, 1996). Therefore, considering the limitations of tacit knowledge sharing, high level of trusts within community’s environment will help members get more accurate information, and because people are more willing to share their knowledge and ideas with trusts, the transparency of knowledge can be better managed and controlled with reliable sharings. In IHA, people mostly held a critical point on their mutual trusts. Through interviews, people reflected their perspectives on trust and described it as one of the most valuable resources in IHA community of practice, which as a key factor for promoting every member’s capabilities and knowledge base. However the performance is not as good as expected mainly because of the lack of face-to-face communications. Still, there are some ways for enhancing trust and expectations in this community. By storytelling, relationships between story tellers and listeners are built through natural connect-
ing; within working group, trust and connect are strengthened by incessant self-organized or experts leading practical activities. As Yang’s perspective, trust is the most important link that connecting IHA people with different skills and knowledge levels together and let them willing to learn and share, but the core group need to work more on that to build stronger relations among members.

4.6.4 Emotional Commitment with Proper Guidance

Song (2009) described an effective step towards tacit knowledge sharing among a community is: to allow it to flow from the pull of emotional commitment and deep personal involvement. In IHA community of practice, this aspect had been again proved by its ways of communicating and practicing. In this community, people all aware that the core element is knowledge, everyone has the same goal which is to improve themselves with practices and shares and as a result promote the PHS working qualities. Moreover, as Wu once indicated, PHS is a non-profile project with many branch works and tasks, in this case, it is in some aspects much easier for all membership to better commit themselves into this ‘big family’ without too much pressures on performance. i.e. people can relatively feel flexible to learn and share and try to improve their capabilities and knowledge on own jobs.

However, it also bring shortages due to the large-scale memberships and different working positions, attitudes and specific goals. As Song (2009) pointed out from a practical standpoint, individuals must hold some forms of strategic guidance and under a relatively stable running structure so that they can align their creative energies with the goal and purpose of the whole community or its project. Considered about this issue, Wong stated the reason of why there is a need of one responsible person in charge of the IHA running dimensions with the assistance from core groups, as already explained in Section 4.4. That is, although the idea of community of practice is to let members informally communicate, when it comes to practical standpoint, the community structure including how activities are performed and in what patterns knowledge exist and been shared can at the global aspect determine whether tacit knowledge sharing is within a common domain and supporting the community’s common goals. Figure 4.4 shows the summary of connections between IHA’s structure features and tacit knowledge sharing.

Nonetheless, balance is the key, and it is what the most important thing that Wong as the main leader of IHA community consider everyday. He further indicated that, with the current structure (for both community and practice), so far the IHA community of practice runs well and shows itself a growing posture based on the observations on FY city’s whole PHS work status. He also pointed out core group played very crucial roles because
they are the bridges between the community’s global development and the every practicing activities in general memberships. In this case, knowledge runs fluently as main power source and connections of memberships which drive the activities and make sure that knowledge can be shared, learned, or created in a healthy and growing environment.

### 4.6.5 IHA Practicing Structure and Collective Tacit Knowledge (CTK) Sharing

In Collins (2007)’s perspective, CTK is one kind of tacit knowledge that with its focus on relations and connections between individuals and their social communities. CTK has to be known extremely tacitly since it is located in human collectivity, therefore purely individual learning can not make sufficient effect on CTK sharing (Collins, 2007). What is more, in Figure 2.3 we can find that the learning processes in individual level and in group level are different, in which individual learning needs one person’s abilities to convert other people’s experience and knowledge into themselves while group/team learning requires more interactions and integrating within community or small groups (Jashapara, 2004).

The differences of individual and group learning along with their different implications on CTK sharing can be reflected by IHA practicing structure as well. From interviews, we investigated that some IHA activities and tasks are completed by a lot of collaborating practices, and the typical example could be task-oriented working group or self-organized. As Jing stated, in most cases, members of task-oriented working group are from same organizations, and when they are on a specific task, every member can be aware of how

<table>
<thead>
<tr>
<th>Essentials of Tacit Knowledge Sharing</th>
<th>Features of IHA community of practice</th>
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<tbody>
<tr>
<td>1. Personal Capabilities and Environment Support; (IHA 6, 8)</td>
<td>1. Clear structure with leadership, core group and general membership;</td>
</tr>
<tr>
<td>2. Incentives &amp; Motivations of Sharing; (IHA 2, 3, 4)</td>
<td>2. Multiple communication patterns;</td>
</tr>
<tr>
<td>3. Trust and Contact; (IHA 2, 5)</td>
<td>3. Multiple practicing patterns with different size;</td>
</tr>
<tr>
<td>4. Emotion Commitment; (IHA 3, 5, 7)</td>
<td>4. Unique main leader, controlling the main global directions;</td>
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<td>5. Proper Guidance. (IHA 1, 4, 6)</td>
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<td></td>
<td>5. Self-organized working groups;</td>
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<td></td>
<td>6. Various supporting from core group;</td>
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<td>7. Less limitations from organization;</td>
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<td></td>
<td>8. Common domain and interest with detail specifications of tasks.</td>
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Figure 4.4: Connections between TKS and IHA
their own practicing performance can be affected by the mutual effects and connections among whole group members. Moreover, some people from task-oriented group reflected that through more and more collaborating practices on a specific task, the relationships between group members will increasingly be enhanced and as a result know better on each others’ working attitudes and styles.

From the empirical research, I found that as long as people practicing and learning within an stable environment for a long time, he or she will increasingly understand what are the effects brought by this circumstance and how to positioning themselves in order to work better. Moreover, some respondents also indicated that when this environment contains less people and proper amount of activities, then they will feel easier and quicker to understand the effects from it, such as changes, habits, practicing patterns and so on. Therefore, in this case, knowledge is no longer carried by individuals but the entire groups, and therefore CTK can have a growing environment to be cultivated and shared with the deep understandings among group members.

4.7 IHA Practicing and Social Communication Technique Utilization

From Figure 4.2 describing the whole structure of IHA Community to Figure 4.3 which shows up the detail structure of IHA practicing, we can distinctly see that members in IHA community of practice have various activities and works, and people may choose different working group due to their different learning or practicing purposes. Therefore, considering the widely use of communicating tools in IHA, in this section, we will mainly investigate on the mutual relations between IHA practicing and SCT (Tencent QQ) utilization based on the previous description of IHA practicing structures. Moreover, general practice will be the study emphasis point in this part because it is where most SCT utilizations happen with both real and not-in-real time communications with its large-scale membership and different patterns of practicing, while working group will be the comparison when it is needed.

4.7.1 Real Time Communication and Adoption of QQ Group

"yes, QQ is widely used in our daily works". A lot of interviewees provided this kind of perspectives when asked about their working relations to Tencent QQ. Indeed, as a social communication technique, QQ needs to firstly satisfy people’s communicating demands according to their works. For example, one of the interviewees had indicated that QQ is an efficient tool for communicating between colleagues even they are in the same department. Yang is one of the core group members in IHA core group mainly responsible for emergency response. When referring to the communicating features of Tencent QQ, she also pointed that QQ group IM chatting is the most comfortable and effective feature for her works in IHA because it can support more than 200 people chatting at the same time.
In this case, it is possible that to share core group members’ ideas to general memberships and everyone can post their own opinions with instant messages showing on the QQ group’s main interface.

As mentioned in Chapter 3, in this study, researcher has accessibility to the IHA QQ group and therefore can observe most of the communications for general practices. One of the investigation is that people would like to post a specific question or an idea that he or she thought was interesting, and usually a following up discussion will happen based on this question or idea; also, when core group members came up with a new working plan or practicing activity, one of them will post it on the chatting interface and asking general memberships for their comments and feedbacks. However, all of these communications are restricted to IM feature that took place in the QQ group’s main chatting interface. Through interviews, I again found out that besides IM chatting, discussion group is another tool embedded in QQ group that support multiple members’ talking and videoing. Figure 4.5 shows the main interface of a common discussion group, people can select members from the QQ group, and build up a relative smaller group for a small-scale discussion.

Based on the interviews, QQ group supports the IM communications between core group and general memberships or among working groups by two different ways of communicating: QQ group IM chatting and discussion group. For example, for members who would like to communicate each other in a task-oriented working group, building a discussion group is sometimes more efficient than conducting another QQ group because most of their communications are F2F. While for the expert leading working group, core group members indicated that whether choosing another QQ group or conducting a small discussion group depending on the complexity of the group’s tasks and the basic communicating requirements. They further pointed out, in most expert leading working groups, the leaders will conduct another small-scale QQ group comparing the one for whole IHA members instead of discussion group because: a) this kind of group still needs a leader to manage the tasks and guide group members, while there is no such kind of features in common discussion groups; and b) expert leading working group are often conducted with clear purpose and therefore they may have the plan of how to use QQ group to conduct what kinds of practical communications, because the performance of QQ group is more stable and mature than discussion group. Some respondents from self-organized working group also indicated that, discussion group is a good place for a group of people completing a specific project or solving a problem with a short-term learning and practicing, but it is not suitable for long-term due to the incomplete functionality which will also be described at the end of next section.
4.7.2 Not-in-Real time Sharing and Communicating

IHA community of practice is a place where people share knowledge and experience. Both QQ group and discussion group IM chatting is an effective way to share thoughts and ideas by telling stories or declaring a plan, but it is not enough. Through interviews, some general memberships provided their perspectives that: they all believe IM chatting is the fast way to get what others thought and the ideas from core group, however, they complained about the problem of information quality during group IM chatting. For example, when core group once made a plan and wanted to discuss with general memberships through group IM chatting. In this case, only members who are ‘online’ at this moment and join the discussion in good time can fully get the ideas. Although all the time chatting history is available for the subsequent checking, the absence of IM chatting will as a result lose the real-time ‘discussing’ and ‘sharing’ even they can still get the ideas of what was going on there. What is more, since discussions happen everyday, people who missed the discussions in last week may feel difficult to follow up because it is covered with too much new information.

In a way, the ”Not-in-real time” ways of sharing can eliminate the problem in IM chatting. From most general memberships’ perspectives and some from working groups, they prefer to discuss with a specific topic through visiting the QQ community web platform. QQ community is a new interface that allows memberships to create a new topic or join other people’s discussions as the sub-feature of QQ group. It is more like a forum, along with the supporting of file and image sharing and with a longer ‘quality guarantee period’. What is more, the features of QQ community and file sharing are only available for QQ group, i.e. , discussion group only support real time communicating, and this is the main
reason of why most people do not often choose discussion group as their long term technique choices.

4.7.3 Interactions in IHA and connections to Social Communication Technique Utilization

Interacting is important in community of practice, Wenger and Syden (2000) described it as the way to encourage reflections of practicing; Interacting is also the key of team learning, as Nahapiet and Ghoshal (1998)’s point of view, interactive team-working processes will help "transferring knowledge between different background".

In IHA, interacting is the crucial factor that determine whether members can complete their works rightly and efficiently when PHS is a complicated work. There are a lot of interactions happen everyday between IHA memberships and their service object persons. Under this situation, memberships need to conduct a bridge between the service object and PHS, they need to spread their knowledge to the people they want to spread to and demand for feedback. As Wong once indicated, interacting between PHS workers and PHS object population is one of the most important processes, while at the same time, it is the place where problems mostly happen. Through interviews, many general memberships who worked at the primary PHS positions described their problems with interacting due to the knowledge gaps between themselves and service object population. They said this kind of problem and related issues are the ‘hot’ topics in IHA daily communications as well as the corresponding practices.

Generally, interacting between IHA members and PHS object population is a face-to-face (F2F) process, so there is litter place that Tencent QQ group can have an effect on. Instead, QQ IM is the preferred feature for most IHA members for conducting one-to-one communication as complementarity for F2F interactions.

Nonetheless, QQ group IM chatting and QQ sharing are still the way of how interactions happen among IHA memberships for their own communications. Although IHA structure is divided into core and general levels, the knowledge gaps between memberships are small and people can still understand each other even without enough F2F meets and practices. Moreover, remote assistance is an very efficient and fast way to solve technique problems by letting other people managing their computers. In our interviews, many people praised this functionality because it is really practical and can indeed save a lot of time.
4.8 Limitations of Social Communication Technique Utilization

It has been previously described the various adoptions of SCT in IHA community of practice and discussed about their connections to different work tasks and practicing purposes. However, through interviews, the limitations of using SCT in daily communications and practices still affect the quality of sharing and interactions. This section will explain with more details on those limitations based on the IHA members perspectives, and I will then discuss the relations to tacit knowledge sharing in next section.

4.8.1 Security

When asked about the limitations of Tencent QQ in IHA community of practice, almost every respondent mentioned the security issues. Indeed, as web-based communications tool, Tencent QQ needs to face the challenges from both information security and personal privacy sides (Zhang, 2010). As introduced, IHA memberships often use QQ group as their preferred tool for communicating. In this case, whenever a person posting a message or sharing some files, it means all of these information will be seen by all people, from leadership to general memberships. In general practice, this is an effective way for IHA members to share and communicate within a common environment.

However, this advantage can also turn to be limitations. Based on the feedback from IHA members especially from general memberships, they often complained about the information security issues and pointed that this may as a result make them feel difficult to judge the truth of an information. For example, when a specific member’s computer was hacked, he or she may post a link which ‘related’ to the IHA QQ group’s topic and domain, e.g. PHS, and other memberships’ computers may also be hacked by clicking the link. This is a very typical trick that exists in Tencent QQ group, and it brings many adverse factors for QQ group members. Therefore, in this case, when IHA members start to think about their information security and privacy, then it may lead to the situation that ‘trust’ among IHA communications become more and more weak. Comparing with the limitations of knowledge sharing, it can as a result make information even harder to be identified and people may feel more difficult to share knowledge without sufficient security guarantees.

Through interviews, working group members pointed that the same kind of security issue happened less in their small-scale QQ group than the one for IHA. The reasons are a) they know each other better than the whole IHA community members; b) it is easy to judge the validity and reliability of the online information by direct contacts with calls or F2F meets. In this case, as most working group members reflected, trust is not the main problem in their small group environment.
4.8.2 Understanding

"sometimes I really can’t get what people want to express, even I can clearly see and understand the words”.

When security is guaranteed and trust is well constructed, IHA members start to concern the communicating quality and efficiency. On the general practice side, from some core group members’ perspectives, they felt that sometimes people do not really get their ideas and thoughts because communication is limited by using literal expressions. What is worse, some may misunderstand the original meaning if they thought they have the right ways of understanding. In fact, it is hard to say who is right or wrong considering their different understandings of the same expressions, because people have different capabilities and ways of thinking. Therefore, As Wu indicated, many arguments happened during the communications between core group and general memberships when using QQ group IM chatting to transmit ideas or tasks, and the reason of using QQ voice is sometimes because too many disagreements or misunderstandings exist in the IM dialogue and she can not follow up their ‘typing’ speed anymore. However, she also pointed out that QQ voice is limited by technique issues, the quality of voice chatting is decreasing while the number of participants is increasing. For example, it is possible that 200 people talking through QQ voice at the same time, but due to the difficulty of distinguishing speaker’s ID and other voice quality issues, it is often hard for other people especially for core group to get the clear ideas. From Wu and other IHA membership’s perspectives, comparing with QQ group IM, QQ voice is a faster way for discussions, however, they often use this feature under group discussions instead of the whole IHA QQ group because in that case the quality of voice chatting is better and the communicating efficiency can be guaranteed with less participants taking part in.

4.8.3 Different Habits of using SCT between Core Group and General Memberships

In section 5.2, I mentioned the different sharing ave between Real-time and Not-in-real-time. Through interviews, I again found that for most core group members, they prefer to use real-time approach to share their ideas and thoughts at the first time, and then some of them may or may not post the same topics in QQ community which is the platform for Not-in-real-time communications. While for many general memberships, they mostly have the same opinions that the core group members rely too much on the real-time communicating even sometimes it does not work well. Combined with the perspectives from both sides, core group members prefer real-time chatting because they want to get general memberships’ feedback in good time, while general memberships would like to also have the same topics exist in QQ community so that they can follow the ideas even absent for the first time IM chatting.
4.9 Implications of Social Communication Technique to Tacit Knowledge Sharing

For most common communities of practice, the adoptions of social communication tools are neccessary and important especially when community memberships are seperated geographically. In this case, many interactions and practices happen through remote web-based communications. As a result, the effects brought by social communication techniques are essential factors that determine the quality of tacit knowledge sharing.

4.9.1 Sharing experience

Practical experience is recognized as one of the main essentials of tacit knowledge sharing (Panahi, et al., 2012). Nonaka (1991) also indicated that it is not possible to disseminate tacit knowledge without sharing experience. Moreover, in this study, many community members had described the importance of experience sharing as the key resource of tacit knowledge.

Generally, there are two patterns of sharing experience in IHA community of practice by using SCT: storytelling and discussions. Further, these two sharing processes can also be divided into two SCT utilizing approaches: real-time and not in real-time. From general memberships’ perspectives, not-in-real time is the best way of learning from the shared stories and experiences through general practices. In this case, the user generated content on the Tencent QQ community can enable people easily share their experiences without too much time limitations. Storytelling exists in both general practice and working groups, as long as they choose QQ group as technique.

By using storytelling to share experience, story tellers can have enough time to conduct their stories to ensure the quality integrality and readers can also feel flexible to read and learn. What is more, by providing the stories’ links to other memberships or other working groups, it is an efficient way of transmitting experience among community and with stable and effective accessibility, and this is also one benefit of using SCT for sharing experience. On the other side, discussion is another way to share experiences. The advantages of real time discussions with SCT on experience sharing is: it can quickly help people discover the problem and get a quick solution. On the core group side, this is the best place where to get the first time feedback and perspectives from general memberships so that they can make the corresponding changes or plans on a good time. In QQ community (not-in-real time), discussions may take place according to a particular topic or embedded in storytelling. Comparing with real time discussion, this approach is relatively slower but at the same time could increase the quality of the discussing content with more thoughts before talking. In the real world, it is the favourable way for most IHA general memberships.
4.9.2 Sharing Information

Figure 2.1 represented the knowledge flow and the connections between information and knowledge. Information is the resource from which people use their original cognitive capabilities to learn and create new knowledge (Jashapara, 2004). Therefore, in IHA, information plays basic roles in knowledge sharing, and thus the quality of information sharing directly determine the performance of knowledge sharing.

When talked about the differences between explicit and tacit knowledge, it is clear to see that the essentials of tacit knowledge sharing are ‘interactions’, ‘informal communications’ and such kinds of practical things in order to enhance people’s feelings and mutual relations. However, in IHA community of practice, due to the geographical decentralization and consequently the numerous utilization of SCT, these practical things are partially reflected and represented by sharing of information with SCT which roles as the carrier for experiences or the resources for learning. In IHA, SCT supports informal interactions by providing the platform for people to share ‘informal’ information, for example, storytelling. Although content in storytelling is explicitly represented to people by QQ community or group chatting, the inherent information that tellers want to transmit is more tacit with telling of experiences or personal thoughts.

Information in IHA also has many patterns, such as words, files, images or even online voice, thus comparing with traditional F2F communicating, people can have more choices and have the abilities to manage information. What is more, for general practice, Tencent QQ group provides the platform that everyone who joined this group has the possibility to acquire information sent by one specific person without all gathering together for F2F meetings.

In summary, from the different patterns of sharing information and practices, it is easy to see that the choice of SCT features highly depend on people’s particular purposes and tasks, for example ‘real time’ & ‘not-in-real time’ and ‘storytelling’ & ‘discussion’. However, as we already indicated in Section 2.6, personal habits and behaviors can also directly determine their ways of using SCT and different SCT utilizations can generate communication gaps among memberships when mutual understanding is lack.

4.9.3 Mutual Understanding become Limitation

Nonetheless, mutual understanding is the main limitation for information sharing by using SCT. Back to Figure 2.1, personal cognition is what make people obtain knowledge from information, and again improve their capabilities of learning from information by their knowledge base. Therefore, when people want to learn from others, the most important thing is to understand the information that they give. In traditional communications, this can be guaranteed by many times of F2F chatting until mutual understanding is for-
mulated, for example, task-oriented working group in IHA. However, as we already mentioned, understanding between core group and general memberships is one of the main limitations of using SCT in IHA general practices. As shown in Figure 2.1, knowledge also has its effect on the transition from data to information. Consequently, different people may gain different information from the same data, e.g. the shared stories or some ideas from core group, due to their different level of knowledge. In this case, it would as a result lead to misunderstanding or wrong way of doing tasks if there is a lack for further and deep communications and explanations; on the other side, period of validity for information is also a problem in IHA, because in some situations, core group members use group IM chatting to transmit information and desire to get quick feedback, which on the general membership side make them feel difficult to take the whole idea without good time participating.

4.9.4 Relationship among Community Members

Developing informal relationships is an efficient way for enhancing tacit knowledge sharing (Panahi, et al., 2012). Relationships formulate the linkages among people within an common environment and provide the embedding of collective tacit knowledge and make it 'sticky' so that it is difficult for people outside of this environment to imitate the complexity of the cognitive and interactive links. (Hippel, 1994)

Tencent QQ group as the most often used tool is the main platform that gather all IHA memberships together and is the place where most of people build their mutual relationships through daily conversations and dialogues. Generally, respondents gave their positive opinions on the performance of building relationships through QQ group for both general practices or working group use. Nonetheless, some of them thought if it is possible they prefer to further enhance their connections with other community members by more F2F communications. For example, in Task-oriented working group, people do not often use SCT for the practices because they can always see each other easily, and in this situation, most of them reflected that the relationships between group members are very close and everyone knows each others well.

To sum up, on the global side, SCT (Tencent QQ) is an efficient and low cost tool for connecting people from different places together and thus have the common environment to build relationship. While for individuals, their opinions on SCT and relationship are different due to their different practicing styles and the dependency of SCT.

4.9.5 Mutual Trust among Community Members

We have described the importance of mutual understanding in information sharing, and it is also necessary for people working within a common group in order to trust each other (Wu, et al., 2006). Many studies have found that people would have more possibility to
share tacit knowledge when there is a strong mutual trust among their environment (Wu, et al., 2006; Song, 2009).

Through interviews, using SCT in general practice faces the challenges of its effects on mutual trusts among all memberships. In general practice, most practical ideas or plans are shared on IHA QQ group, in this case, misunderstanding of information and the potential threat on information security can sometimes break mutual trusts between members. In working group, there is less misunderstandings than the IHA QQ group, and the information security issue can be partially eliminated with more possibilities of F2F or more direct communications. Therefore, considering the utilization of SCT, we can see the mutual trust will become more complicated and take more challenges when facing to a large-scale community, and traditional F2F communications are still a better way to enhance the mutual trust.

In Section 2.3, when talked about the difficulties for tacit knowledge sharing, one of the main reasons is it deeply embedded in people’s mind and only through sufficient practices among groups of people can let tacit knowledge be shared and learn. Therefore, in this case, the limitations of both relationships and mutual trusts within community memberships will decrease the quality of tacit knowledge sharing because those are the ligament for people who want to practice and learn with others.

4.10 SCT in General Practice and Working Group

Different working tasks determine different adoptions and utilization of techniques (Panahi, et al., 2012). General practices in IHA facing to all community memberships and therefore IHA QQ group is the best Tencent product to support multiple talking and sharing. With many (more than 200) general memberships participating, core group can often easily get the general feedback and help them conduct further plans and activities in order to promote wide and deep tacit knowledge sharing. With the advantages of large-scale participants, limitations brought by SCT in general practice are also obvious to see: the misunderstandings between core group and general memberships, the quality of information, the trust between information sender and readers and so on.

Expert leading and self-organized working group all focus on long term practices, therefore, QQ group is their preferred tool to guarantee the stability and usability. On technique side, there is no difference between working group and general practice with their QQ group, while on the practical side, the points of emphasis are different: IHA community use QQ group to share information, transmit ideas with the standpoint on global knowledge creating and sharing, thus there is a very high level of dependency of QQ group, what is more, in IHA QQ group, both real-time and not-in-real time communications are important for various of practicing patterns. However, communications in working group
are more focus on real-time chatting and take not-in-real time sharing and discussing as secondary elements for further understandings.
5 Summary and Conclusion

5.1 Summary

Based on the research purpose, question and methods, in this study, with the selected case - IHA community of practice, we have discussed the patterns of how a common community of practice is launched and run in the real world with the utilization of social communication tool - Tencent QQ.

In order to help guaranteeing the accuracy of empirical study, we firstly investigated on the PHS project to see its main features and requirements, therefore it is easier to understand the goals and missions of IHA community of practice before taking it into practice. At the end, we also investigated on what are the connections between tacit knowledge sharing and the launching requirement of community of practice.

Analysis on the running structure of IHA community of practice was divided into mainly two parts "community structure" and "practicing structure" with their mutual relations that the ways of how people practicing highly depend on the community’s structure. Moreover, the implications of practicing structure or, in other words, the practicing patterns to tacit knowledge sharing also be discussed along with the more specific description of collective tacit knowledge. In addition, the implications to tacit knowledge sharing of using social communication tool with different practicing patterns had been clearly interpreted with both benefits and limitations.

There are three main contributions of this study: 1) through deep and opened interviews, this study described the detail requirements of launching a common community of practice and explained the reasons with its implications to tacit knowledge sharing; 2) compared the different community memberships’ perspectives on practicing and knowledge sharing with respondents from both 'main leadership’, 'core group’ and 'general memberships’ and with their different practicing experience from 'general practice’ to 'working groups’. Therefore, the benefits and limitations of using social communication techniques in tacit knowledge sharing within community of practice can be objectively described with more detail and validations; 3) instead of merely talking about the entire concept of tacit knowledge, we additionally specified what are the effects brought by community of practice and the use of SCT to collective tacit knowledge (CTK) sharing for which needs much more concerns on relationships and community than somatic-limit tacit knowledge sharing.
5.2 Conclusion

Community of Practice provides a platform for people to share their experience and to be able to try different practicing patterns. It is considered to be a good way of promoting the quality of tacit knowledge sharing. For example, through daily general practice, memberships are able to fully participate in the activities and discussions by which will keep increasing their collective tacit knowledge; also the communitys multiple practicing patterns can allow people feel comfortable and flexible to motivate their ideas and incentives to share.

Although informal structure is one of the characters in common Community of Practice, from this study, it shows that a structural community with proper guidance is needed to ensure that: the emotional commitment of members can increase their willing to practice and learn rather than broke the growing of the community. It is also suggested to firstly gain an understanding of the context before building Community of Practice because it can determine the communitys domain at the very early stage.

Meanwhile, Social communication tools (SCT) plays both advantages and dis-advantages in Community of Practice, and as a result shows itself the implication to tacit knowledge sharing. SCT solved the problem of geographical decentralization of members and bring them into online contacting. In this way, experience among members will be shared imperceptibly through story-telling and general discussions. SCT could also support the sharing of information in various patterns which give people more choices and abilities to manage information. On the global aspect, building relationships among community members is another vantage of SCT. Therefore, as the linkage of collaborations and communications, relations are conducted and enhanced by using SCT.

Different people may have different habits of using social communication tool. This is one of the limitations brought by SCT because it can lead to the dis-matching of information, which reduce the consistency of practicing in Community of Practice and resulting to the knowledge gap among memberships. Comparing with Face-to-Face communication, through SCT, mutual trust is sometimes weak between tellers and listeners due to the problem of information accuracy and security. Also, only through online communicating, people with different cognition capabilities would gain different information from the same data if there is a lack of further explains, this can lead to the wrong way of understanding and practicing. If it is possible, regular Face-to-Face meeting and discussions could improve relationships and resolve knowledge gaps.

5.2.1 Future Work

This study is a start point for the researcher to understand the connections between Community of Practice, tacit knowledge, and social communication tools. There are some
points that could be extended in the future so that to make the study more comprehensive and interesting.

One of the outcome of this study is: the different habits of using SCT would limit the sharing of knowledge. Thus I would like to study on the factors (e.g. personal characters) that lead to the different using habits of social communication tool with a mixed research method and try to find the connections to the community’s structure. Based on this direction, the usability of Tencent QQ will be study on for additional work which will help us understand the potential factors objectively.
6 Reference


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7 Appendix I

There are 9 tables in this appendix based on the interview questions and followed with the answers. G1-G6 represent the general memberships. The summary is used for sum up the answers and connect to the research interests and topics.
### Table 1. Summary of Question 1

<table>
<thead>
<tr>
<th>Question1</th>
<th>1 How do you define knowledge?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wong</strong></td>
<td>1 knowledge is the experience gained from books, learning processes and practices. 2 it can also be the experience during communications with others. 3 it is the cognition through understanding.</td>
</tr>
<tr>
<td><strong>Wu</strong></td>
<td>1 knowledge is the reflection of objects' attributes and connections. 2 knowledge is people cognition.</td>
</tr>
<tr>
<td><strong>Jing</strong></td>
<td>1 knowledge is the subjective reflections of people mind after learning. 2 it is the summary and conclusion of people based on their requirements and needs.</td>
</tr>
<tr>
<td><strong>Yang</strong></td>
<td>1 on the global side, knowledge is civilization, it is the production during long time practicing, developing and accumulating.</td>
</tr>
<tr>
<td><strong>G1</strong></td>
<td>1 knowledge is the subjective thinking patterns of people's brain. 2 knowledge contains feeling, understanding and such kinds of intangible things.</td>
</tr>
<tr>
<td><strong>G2</strong></td>
<td>1 people have own knowledge which often distinguish with others 2 knowledge is difficult to be expressed through words and conversations.</td>
</tr>
<tr>
<td><strong>G3</strong></td>
<td>1 knowledge can be a kind of information that make people learn to deal with things or difficulties in their lives or works. 2 It can be get from education in school, society or all the things.</td>
</tr>
<tr>
<td><strong>G4</strong></td>
<td>1 It is the thing we learn from books, environment, parents, society, etc.</td>
</tr>
<tr>
<td><strong>G5</strong></td>
<td>1 knowledge is something to describe the objects in reality and the abstract entity.</td>
</tr>
<tr>
<td><strong>G6</strong></td>
<td>1 knowledge is actionable information.</td>
</tr>
</tbody>
</table>

**Summary**

Different people may have their different definitions of knowledge. However, the importance of knowledge is recognized by most of the interviewees. They believe that knowledge is the resource of how to learn and practice and it is what we distinguish to others.

### Table 2. Summary of Question 2

<table>
<thead>
<tr>
<th>Question2</th>
<th>2 What specific job you do, and what kind of knowledge you may often use in your works?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wong</strong></td>
<td>1 administration manager in FYH. 2 Making decisions through experience and theories. 3 Making plans and strategies after communication, discussion, analysis and summarize.</td>
</tr>
<tr>
<td><strong>Wu</strong></td>
<td>1 Director for all the executions of PHS works. 2 PHS professional knowledge, executing and operating capabilities. 3 capabilities in communications, coordination, analysis.</td>
</tr>
<tr>
<td><strong>Jing</strong></td>
<td>1 child and women care. 2 professional knowledge in child and women care and PHS. 3 coordination abilities and group leading capabilities</td>
</tr>
<tr>
<td><strong>Yang</strong></td>
<td>1 administration manager in CDC. 2 coordination capabilities with PHS works.</td>
</tr>
</tbody>
</table>
| G1 | 1 IT support for PHS  
2 mathematics, logical thinking, semantic.  
3 communication skills, computer operations. |
| G2 | 1 PHS work.  
2 medicine knowledge, medicine ethics.  
3 communication skills with patient. |
| G3 | 1 PHS work.  
2 knowledge in PHS education.  
3 knowledge in conducting health archive.  
4 knowledge in communication skills with service object and coordination in groups. |
| G4 | 1 PHS work.  
2 skills of conducting health archive.  
3 learning capabilities from experienced workers. |
| G5 | 1 PHS work.  
2 monitor capabilities of PHS.  
3 coordination and group working skills. |
| G6 | 1 surgeon and hospital manage  
2 medicine professional knowledge.  
3 clinic experience, capabilities of searching books and looking teachers for helps. |

**Table 3. Summary of Question 3**

<table>
<thead>
<tr>
<th>Question3</th>
<th>3 Why do you need/participate IHA community of practice?</th>
</tr>
</thead>
</table>
| Wong      | 1 Improve the quality of PHS work.  
2 pressure from national policies.  
3 aggregate knowledge and experience. |
| Wu        | 1 reduce working complications.  
2 supporting from FYH organization.  
3 conducting PHS service community. |
| Jing      | 1 promote coordination skills.  
2 build relationships. |
| Yang      | 1 interest in learning and practice.  
2 improve coordination skills.  
3 interest in sharing experience. |
| G1        | 1 keep information updating.  
2 communications. |
| G2        | 1 personal skill improvement.  
2 information synchronous.  
3 problems solving. |
| G3        | 1 practicing with various communication patterns.  
2 learn from others' experience.  
3 building relationships. |
1. Observe and learn.
3. Get familiar with PHS and health archive conducting works.
4. Sharing and solving problems.

1. Building and enhancing relationships.
2. Conducting more communication channels.
4. Problem solving.

1. Executing PHS relevant activities.
2. Sharing experience in clinic.
3. Sharing experience in hospital management and providing information on service object.

### Summary

Although everyone may contain different purposes of participating in IHA, there are several common factors that determine whether this community of practice can be settled and run: Members should have common interest in a common domain, participants are willing to share and learn, and the community can get sufficient support from sponsorships. Moreover, from most people's perspectives, relationships and communications are the main factors that he or she wants to improve during the practicing in IHA.

### Table 4. Summary of Question 4

<table>
<thead>
<tr>
<th>Question4</th>
<th>4 What roles you are in IHA, and what kinds of practicing patterns you often take?</th>
</tr>
</thead>
</table>
| Wong      | 1 main and unique leadership  
2 discussions, meetings with core group members. Making plans and providing the policies, PHS work status and information from other health departments. |
| Wu        | 1 core group member.  
2 coordination and connections for both core group and general memberships sides. |
| Jing      | 1 core group member.  
2 leading working groups, core group discussions, solving problems. |
| Yang      | 1 core group member.  
2 leading working groups, core group discussions.  
3 sharing articles and experience in community. |
| G1        | 1 general membership, IT support.  
2 gaining information and problems of online health archive system and provide the solutions.  
3 take part in new activities that need support from IT side. |
| G2        | 1 general membership.  
2 general practices such as posting questions, reading articles.  
3 self-organized working groups. |
| G3        | 1 general membership.  
2 taking part in different expert-leading working groups.  
3 sharing files and information in IHA. |
| G4        | 1 general membership.  
2 task-oriented working groups. |
<table>
<thead>
<tr>
<th>Question 5</th>
<th><strong>5 How do you often get information in IHA community of practice?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wong</strong></td>
<td>1 through discussion with core group members and get their feedback.</td>
</tr>
</tbody>
</table>
| **Wu**   | 1 face-to-face conversations with other core group members.  
           2 face-to-face (F2F) conversations with general memberships.  
           3 online chatting content.  
           4 shared files and documents on Tencent QQ. |
| **Jing** | 1 F2F communications in meetings.  
           2 information posted by community members through Tencent QQ. |
| **Yang** | 1 F2F conversations and meetings.  
           2 shared files and discussion history on Tencent QQ group. |
| **G1**   | 1 problems specifications from IHA community members on Tencent QQ group.  
           2 changes and activities information from core group side with F2F meetings. |
| **G2**   | 1 QQ community  
           2 QQ group IM chatting information.  
           3 one-to-one QQ IM chatting  
           4 QQ discussion groups. |
| **G3**   | 1 Telephones and email.  
           2 articles from QQ community.  
           3 QQ group IM chatting information from both IHA QQ group and other small QQ group conducted for expert-leading working groups. |
| **G4**   | 1 solutions and ideas from other members by posting questions in QQ group chatting.  
           2 F2F conversations with members in working groups.  
           3 email with experienced PHS workers. |
| **G5**   | 1 articles and topics on QQ community.  
           2 QQ group IM chatting.  
           3 QQ discussion groups. |
| **G6**   | 1 QQ group IM chatting.  
           2 QQ IM chatting. |

**Summary**: Both F2F conversations and remote communications are needed in IHA. The selections of them are highly connect to members' often preferred activities and communications.
tasks in IHA. For remote communications, Tencent QQ is the most often used tool and QQ group IM, QQ IM, QQ community and emails are the main features for adoptions.

**Table 6. Summary of Question 6**

<table>
<thead>
<tr>
<th>Question6</th>
<th>6 How do you think of the connection between IHA practices and your own jobs?</th>
</tr>
</thead>
</table>
| **Wong**  | 1 part of jobs.  
            | 2 it give helps of getting the feedback from primary PHS workers' perspectives.  
            | 3 efficient in making plans strategies.                                      |
| **Wu**    | 1 one of the main jobs.  
            | 2 provide different ways for executing plans and strategies with a stable practicing structure which may as a result reduce her own executing complexity in PHS works.  
            | 3 conducting practicing and coordinating group for PHS works.                |
| **Jing**  | 1 share knowledge in own jobs to others.  
            | 2 get more chances to communicate with other PHS core members so that to build relationships  
            | 3 coordinating capabilities                                                  |
| **Yang**  | 1 training capabilities in leading groups.  
            | 2 get additional information on how things going on and what are the new policies.  
            | 3 coordinating capabilities                                                  |
| **G1**    | 1 high connections to own jobs by getting feedback on the operating issues of the system. |
| **G2**    | 1 get experience and solutions without working pressures and use them in own jobs.  
            | 2 gain relationships with people who have common interest and can help each other in their works. |
| **G3**    | 1 enhance knowledge and skills in specific area that can help self to deal with corresponding issues in working positions.  
            | 2 get another flexible way for problems solving.                             |
| **G4**    | 1 finding solutions for daily working problems on PHS.  
            | 2 more practices that related to own works, such as health archive conducting. |
| **G5**    | 1 get more and accurate information on PHS status.  
            | 2 enhance collaborating skills.                                             |
| **G6**    | 1 building relationships.                                                    |
| **Summary** | Practicing in IHA does not mean everything in PHS works. Instead, for most members (especially for general memberships), IHA is the place where they can process more job-related activities and get more feedback and information on specific problem so that to increase their working capabilities in own jobs. However, different people may treat IHA practicing differently, this is mainly due to their various purposes of participating IHA community of practice. |
### Table 7. Summary of Question 7

<table>
<thead>
<tr>
<th>Questions</th>
<th>7 What kind of features of Tencent QQ you often choose to use during the working or practicing period in IHA?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wong</td>
<td>QQ IM, files sharing, email.</td>
</tr>
<tr>
<td>Wu</td>
<td>QQ group IM, QQ community, Qzone, QQ IM, file sharing.</td>
</tr>
<tr>
<td>Jing</td>
<td>QQ group IM, QQ discussion groups, QQ voice, email.</td>
</tr>
<tr>
<td>Yang</td>
<td>QQ group IM, QQ IM, email.</td>
</tr>
<tr>
<td>G1</td>
<td>QQ group IM, remote assistance.</td>
</tr>
<tr>
<td>G2</td>
<td>QQ community, QQ group IM, QQ IM, QQ discussion groups.</td>
</tr>
<tr>
<td>G3</td>
<td>QQ community, QQ group IM, QQ IM, email.</td>
</tr>
<tr>
<td>G4</td>
<td>QQ community, QQ group IM, QQ IM, email, QQ voice.</td>
</tr>
<tr>
<td>G5</td>
<td>QQ group IM, QQ discussion groups, QQ IM, QQ community.</td>
</tr>
<tr>
<td>G6</td>
<td>QQ IM, email, QQ community, QQ group IM.</td>
</tr>
</tbody>
</table>

### Table 8. Summary of Question 8

<table>
<thead>
<tr>
<th>Questions</th>
<th>8 what are the main problems for you according to the use of Tencent QQ in IHA?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wong</td>
<td>1 Information security.</td>
</tr>
</tbody>
</table>
| Wu        | 1 misunderstanding from general membership side.  
            2 information security.                                                 |
| Jing      | 1 information security.                                                           |
| Yang      | 1 information quality is low due to the information overlapping.  
            2 account security.                                                   |
| G1        | 1 operating performance for one specific feature is low due to the heavy and some useless functions of Tencent QQ.  
            2 security.                                                        |
| G2        | 1 information security.  
            2 account security.  
            3 mutual understanding between community members.  
            4 communication gaps with core group members.                       |
| G3        | 1 communication gaps with core group members due to their different habits of using QQ group features.  
            2 account security.                                                 |
| G4        | 1 low information quality.  
            2 communication gaps with core group members.  
            3 difficulties of understanding what core group members want to express. |
| G5        | 1 information security.  
            2 information accuracy is low because words can not express the whole ideas. |
| G6        | N/A                                                                              |
The main problems that affect the sharing processes in IHA is security issues and it can as a result broke mutual trust which is also the main essentials of collaborating practicing. Moreover, information quality and communication gaps are seen as the main difficulties between core groups and general membership, and mutual understanding is still a big issue exist among all memberships because of the unclear expression of words.

### Table 9. Summary of Question 9

<table>
<thead>
<tr>
<th>Question9</th>
<th>9 what do you think are the drive forces of practicing and sharing processes in IHA?</th>
</tr>
</thead>
</table>
| Wong      | 1 policy and environment support.  
2 personal commitment and capabilities.  
3 right structure. |
| Wu        | 1 efficiency of practicing.  
2 do not limit people's way of working because everyone has his own habits.  
3 develop every single member's predominance. |
| Jing      | 1 mutual trust.  
2 reasonably assign activities and tasks to members based on their personalities, communicating skills and interest domain.  
3 collaborating practices. |
| Yang      | 1 mutual understanding.  
2 relationships among community members are the essentials of collaborating works and practices.  
3 common knowledge domains. |
| G1        | 1 efficient and fluent communication channels  
2 mutual understandings and comprehending. |
| G2        | 1 trust is the main essential to ensure that information can be get rightly.  
2 interest in common domain.  
3 fluent communications between general memberships and core group members. |
| G3        | 1 supporting from experienced people.  
2 less pressures of sharing and practicing. |
| G4        | 1 less limitations of communications.  
2 less limitations of sharing ideas.  
3 can get quick feedback and solutions for a question. |
| G5        | 1 good mechanism of coordinating.  
2 small knowledge gaps between working group members. |
| G6        | 1 less limitations of sharing.  
2 rational distributing of core group and general membership with their different purposes and capabilities. |
| Summary   | Informal practicing patterns and working styles are still the main essentials that membership concern more about. They mostly want less limitations on sharing and learning so that have much willing to do practices without much pressures on working performance and relationships. However, proper structures and guides from experienced people are necessary to conduct the learning processes for general membership. Additionally, common interest and knowledge domain is the
core drive to ensure that this community can run and grow with sufficient energy and knowledge inside, and relationships and mutual trust are the links and resources that let people collaborating works together.