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Determinants of Participation in an Online Community of Practice (OCoP)

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DETERMINANTS OF PARTICIPATION IN AN ONLINE COMMUNITY OF PRACTICE (OCOP)

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LEGEND

CoP Community of Practice/communities of practice

ICT Information and Communications Technology

KM Knowledge Management

OCoP Online Community of Practice

ABSTRACT

In 2008, a cohort of Inuit researchers met in Ottawa for a two-week training course on Inuit health research and planning. A means for ongoing communication after the course was necessary to build on their acquired knowledge. Research shows that online communities of practice (OCoPs) are often unsuccessful due to factors such as a lack of time and a lack of member involvement in design of the OCoP. The objective of this research was to find the determinants that impact participation in an OCoP of members from a cohort of Inuit researchers. An open-ended interview questionnaire was developed and members were interviewed. Results show lack of time as the main barrier to participation. Involvement in the development of an updated OCoP is of interest to many members. In a culture that has been built and sustained by knowledge sharing, an OCoP is a legitimate tool.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Knowledge is often separated into the two categories of explicit and tacit knowledge (Jashapara, 2005), hard and soft knowledge (Hildreth, Kimble, & Wright, 2000) or know what and know how (Kimble, Hildreth, & Wright, 2001). These terms are typically placed on a continuum with tacit at one end and explicit at the other, though some authors believe that they should be considered a duality (Kimble & Hildreth, 2005). Explicit knowledge is easy to capture, codify and transfer. Tacit knowledge is more challenging to capture (Hildreth et al., 2000; Jashapara, 2005) as it is internalized personal experience and work knowledge (Hildreth et al., 2000). The field of study evolving to organize tacit knowledge is called knowledge management. Knowledge management (KM) is "the effective learning processes associated with exploration, exploitation and sharing of human knowledge (tacit and explicit) that use appropriate technology and cultural environments to enhance an organization's intellectual capital and performance" (Jashapara, 2005).

The difficulty in employing tacit knowledge by placing it into a structured system that is typically used for explicit knowledge is that it "becomes little more than a repackaged form of information management" (Jashapara, 2005). Even though the field of KM is evolving, the technology, systems and tools currently in use are still those in use for information management (Jashapara, 2005). Narration and story telling are typically used for sharing tacit knowledge. However, in order for the listener to understand the story, they have to have their own tacit knowledge (Hildreth et al., 2000).

1.2 *WHAT IS A COMMUNITY OF PRACTICE (CoP)?*

One method developed to share tacit knowledge is termed "Communities of Practice (CoP)". Lave & Wenger first used and defined the term CoP in 1991 as:

> *"an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their communities"* (Lave & Wenger, 1991).

It is also

> *"a set of relations among persons, activity and world, over time and in relation with other tangential and overlapping communities of practice* (Lave & Wenger, 1991).

A CoP has been more recently defined as a tool or knowledge sharing intervention used to manage and disseminate knowledge (Hildreth et al., 2000; Jashapara, 2005). CoPs develop for many reasons such as collaboration, and personal and professional development. The main goal is to share existing knowledge and develop new knowledge. Knowledge is shared in organizational settings for many reasons such as KM for companies who are downsizing and need to get the tacit knowledge before employees leave, international group collaboration (Kimble et al., 2001) and employees who are geographically dispersed (Gray, 2004). These CoPs have gained more attention as one of the main ways of implementing KM in a non-information management way (Zboralski & Gemunden, 2006).

First we will look at the definitions of community and practice separately and see how they work together to create a community of practice. Webster's dictionary firstly defines a community in terms of how most of us would think of it, as:

> *(a) A group of people living in the same locality and under the same government;* and secondly as *(b) A group of people having common*

> *interests or a group viewed as forming a distinct segment of society* (Merriam-Webster Online Dictionary, 2008).

Practice is defined as:

> *(a) To do or perform habitually or customarily; make a habit of; (b) To do or perform (something) repeatedly in order to acquire or polish a skill; (c) To give lessons or repeated instructions to; drill;* and lastly *(d) To carry out in action; observe* (Merriam-Webster Online Dictionary, 2008).

We can take these definitions of community and practice and see how they have been merged together to define a CoP. A recent definition of a CoP is a:

> *"group 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"* (Milne & Callahan, 2006; Tang & Yang, 2005).

The community in this research project is best defined as a group of people having common interest, as in definition (b) above. It may be that the community members do live in the same locality or government, but this is not a criterion for a community of practice. The form of practice in the case of a CoP encompasses many of the definitions of practice.

CoPs differ from other communities in three main ways. They allow members to (Gray, 2004):

(i) Focus on a domain or topic of shared interest and knowledge. The domain defines a set of issues, creates a common ground for all members of the community and creates a sense of common identity. To be a member of the community implies a level of knowledge of that domain that distinguishes community members from other people;

(ii) Interact and learn together by engaging in joint activities and discussions, helping each other and sharing information and knowledge. In addition, this community builds relationships based on respect and trust which can lead to better discussions and sharing; and

(iii) Develop a shared collection of experiences, stories, best practices, documents, and ways of solving problems and providing support for one another.

In short, "CoPs promote collaboration, improve social interaction, increase productivity and performance" (Rainsford & Murphy, 2005) and imply reciprocity (Ellis, Oldridge, & Vasconcelos, 2004).

CoPs can be categorized into two types of communities: self-organizing/informal and sponsored (A. Ardichvili, Page, & Wentling, 2003; Rainsford & Murphy, 2005). Self-organizing CoPs develop from a shared interest among its members. Membership is voluntary and domains/topics will change over time as the members change. Sponsored CoPs are created to discuss specific domains/topics, exist only for as long as necessary to discuss the domain/topic, and are likely to have goals to reach (Rainsford & Murphy, 2005). A CoP does not have to be purely self-organizing or sponsored; it can possess some of the typical characteristics of each type.

Building on the traditional definition of a CoP, virtual or online CoP (OCoP):

> *"involve a dispersed group of people who work together in a virtual environment (primarily, but not exclusively) to achieve a specific objective within a defined time frame"* (Restler & Woolis, 2007).

As with any CoP, active member participation is essential for a successful OCoP (A. Ardichvili et al., 2003). Many OCoPs are in use but are considered unsuccessful due to lack of member participation. This raises the question of how much of the knowledge is being shared and disseminated to those who need it. Many members of OCoPs are seen as "lurkers" or "peripheral" members, where they use the discussion groups to gain knowledge, but do not post themselves. In a 2006 study (Milne & Callahan, 2006), 78% of members had never or infrequently posted to the discussion. Although unhelpful to the community as a whole, another study (Gray, 2004) shows that members learn by lurking and once they gain enough knowledge of the domain they then begin to actively participate in group discussions. Although inactive in knowledge sharing, those who had rarely or never posted still consider themselves part of a networked community (Milne & Callahan, 2006).

Developing a successful OCoP is not easy. Developers must deal with the motivation of the members to participate in discussions, especially those who are geographically dispersed, the leadership of the experts to encourage member participation, and the technology such as servers, interface and speed (Koh, Kim, Butler, & Bock, 2007). However, those who are looking to build an OCoP must keep in mind that while using only the best technology, they can fail to produce an effective OCoP (Restler & Woolis, 2007). Technology alone does not build a successful OCoP; there are many other factors that must be considered.

Typical online methods used to share tacit knowledge include emailing, text-based conferencing and video-conferencing (Jashapara, 2005). However, with the development of the tools that have been termed "Web 2.0", fully interactive, participatory websites that encourage participation in OCoPs can now be built. Web 2.0 is built around user contribution, which leads to "collective intelligence" and re-usable content (Kamel Boulos & Wheeler, 2007). This is ideal for building and using OCoP.

1.3 MOTIVATION

In January and February of 2008, a cohort of Inuit researchers met in Ottawa for a two-week training course on Inuit health research and planning. After this course they all returned home and in many instances, they were the only people from their respective communities to receive this training. The main outcome of the training course was to introduce epidemiological research methods and community based research initiatives. In this inaugural training session, a list of health concerns in the communities was proposed. This will be built upon in future training sessions with the ultimate goal being that of building research projects that are led by members of the Inuit cohort. In order to maintain communication and keep research momentum, the cohort needed access to a way that they could share ideas and discuss what they had learned.

Hildreth (2000) describes some features that identify a group as a CoP. They include (i) a sense of common purpose; (ii) a strong feeling of identity; (iii) has its own terminology; and (iv) is an official group that evolved from a need but which is driven by the members themselves (Hildreth et al., 2000). The Inuit cohort fits all four of these features. As an

extension of the popular phrase "the sum is greater than its parts" it can be stated that "the learning that evolved from these communities is collaborative, in which the collaborative knowledge of the community is greater than any individual knowledge" (Gannon-Leary & Fontainha, 2007).

As natives of four separate Inuit regions from two provinces and two territories (Appendix 1), members of this OCoP are geographically dispersed. Meeting face-to-face is difficult as travel is expensive and can be affected by uncontrollable elements such as weather. In Inuit culture, traditional story telling, family and community are very important and elders are the keepers of knowledge (Pauktuutit Women of Canada, 2006). Communities of practice are similar in that "a newcomer learns from old-timers by being allowed to participate in certain tasks that relate to the practice of the community" (Kimble et al., 2001). In a CoP however, the status of newcomers and old-timers is not determined by age, but by level of knowledge. Story telling or narratives have been used numerous times to convert tacit knowledge into explicit knowledge (Mittendorff, Geijsel, Hoeve, de Laat, & Nieuwenhuis, 2006).

1.4 PROBLEM STATEMENT AND OBJECTIVES

What are the characteristics and processes most likely to increase participation in an OCoP? The objectives of this research are to get an understanding of:

(i) what factors motivated or hindered the members of this community to participate in the discussions in an OCoP;

(ii) what online characteristics/tools are important to the members of this community; and

(iii) how participation in the development of the OCoP can impact member participation.

Time, personal cultures and access to technology are all examples of member characteristics that can affect participation. Currently the OCoP uses a forum, but interactive tools such as social networking, social bookmarking and video sharing, might be of interest to members if someone were available to help implement them. Participating in the interview questionnaire will allow the members to have input on the characteristics/tools and to become part of the group who will design an updated OCoP that includes more than just a forum, if this is deemed necessary by the community.

1.5 CONCEPTS

In order to fully understand the factors that impact participation in an OCoP, we have broken down the concepts into standard, specific and operational definitions.

1.5.1 Factors leading to success and/or failure

1.5.1.1 Standard definition

- The usability of technology; trust in, and acceptance of, Information and Communication Technologies (ICTs) in communication; a sense of belonging among members; paying attention to cross-national and cross-cultural dimensions of the CoP; shared understandings; a common sense of purpose; use of "netiquette" and user-friendly language and longevity (Gannon-Leary & Fontainha, 2007)
- A clear domain or body of knowledge (Campbell & Uys, 2007)

1.5.1.2 Specific definition

- Comfort in participating in a computer mediated, Internet-based OCoP, which involves very little face-to-face communication (A. Ardichvili et al., 2003)
- Members offline culture (Baek & Schwen, 2006)
- Trust amongst members (Campbell & Uys, 2007)

1.5.1.3 Operational definition

- The level of reliability and trustworthiness of the information used
- The variety of online tools such as email, blogs and videos
- The level of member involvement in choosing online tools
- The level of member involvement in the design of OCoP
- The level of the clarity of the topics discussed in the OCoP
- The focus of the discussions on these topics

1.5.2 Participation in an OCoP

1.5.2.1 Standard definition

- A group of people who share an interest in a domain of human endeavor and engage in a process of collective learning that creates bonds between them (Gray, 2004)
- Share resources (for example experiences, problems and solutions, tools, methodologies). This communication results in the improvement of the knowledge of each member in the community which contributes to the development of the knowledge within the domain (Gannon-Leary & Fontainha, 2007)

1.5.2.2 Specific definition

- Focus on a domain of shared interest, interact and learn together by engaging in joint activities and discussions, helping each other, sharing information, and developing a shared collection of experiences, stories, best practices, and ways of solving problems (Gray, 2004)
- Engage in live chats, Q&A sessions, providing asynchronous feedback on previous postings, etc (A. Ardichvili et al., 2003)
- To determine if there is a demand for the knowledge numerous members should be visiting the OCoP, using online search tools or posting questions when they search for advice or information (A. Ardichvili et al., 2003)

1.5.2.3 Operational definition

- The level of knowledge sharing through stories, examples, situations, personal experience, etc
- The level of trust in the knowledge shared
- Offline culture characteristics, such as what people think, what they do, and the materials they use and produce
- Impact of technological factors to the members in Northern Canada

1.6 THESIS OUTLINE

This work is divided into 5 chapters. Chapter 1 provides an introduction to KM and how OCoP can be used as a tool to gather tacit knowledge. In addition, it discusses the motivation, objectives and concepts in which the research project is built upon. Chapter 2

provides a detailed literature review in which the generic and empirical models have been built. Chapter 3 describes the research framework and methodology of the research. Chapter 4 describes the results of the interviews and how they relate to traditional Inuit culture and knowledge sharing. Chapter 5 provides a discussion of how this OCoP fits into a generic typology of an OCoP, the implications of the findings, the research limitations, recommendations, including the elements of success and shortcoming of the interview questionnaire, and the contributions to research and future research.

CHAPTER 2

LITERATURE REVIEW

Many online communities of practice (OCoP) that are currently in use have low levels of participation from their members due to issues such as a lack of time, technology factors, an environment or culture that does not encourage knowledge sharing, and a structure/design that is not useful for the members of the community (Baek & Schwen, 2006; Carr & Chambers, 2006). Four principles have been described to sustain an online community. These are to have a clear purpose or vision; to have a clear definition of members' roles; to have leadership by community moderators; and to have online/offline events (Koh et al., 2007).

Since participation in most OCoPs is voluntary (Rainsford & Murphy, 2005), it is not often guaranteed or made a priority by members. Lack of participation is viewed as the biggest challenge for a successful OCoP since members of the community must actively and routinely participate in the OCoP discussions to gain new knowledge and to share their existing knowledge (A. Ardichvili et al., 2003).

People are motivated by many differing factors when choosing whether or not to participate in knowledge sharing. These include organizational/personal culture of helping others in your group (collectivism), monetary rewards (egoism), personal satisfaction for helping others (altruism) upholding moral principles (principlism) and trusting that the information posted is from a reliable and objective source, and will not be misused (A. Ardichvili et al., 2003; Hew & Hara, 2007). The reasons why one member might participate in an online community could vary greatly from another member who is part of the same

community. When asked why they participate, common themes mentioned included networking opportunities, learning from others experiences, and reciprocity (Henderson, 2007; Milne & Callahan, 2006). Members who participate most often state that they do so when the discussions focus on problems they are currently dealing with and when discussions provide guidance, or demonstrate lessons learned (Milne & Callahan, 2006). Reasons for not participating include instances when discussions get off topic or lose focus, when people post overly opinionated statements, and when discussions become overly academic. Other deterrents include fear of criticism, a feeling of misleading community members, and postings that are seen as goals for personal knowledge gathering rather than as shared interests of community members (A. Ardichvili et al., 2003; Bekkers, 2004; Henderson, 2007; Milne & Callahan, 2006).

This chapter is organized into five main sections. The first section deals with the community context of use, which includes how OCoPs are currently used in organizations/businesses, for professional development, and as a tool in blended-courses. In this dissertation, context is defined as "the interrelated conditions in which something exists or occurs" or more specifically the setting (Merriam-Webster Online Dictionary, 2008). The second section describes the online characteristics/tools that are in use in OCoP including email, forums and video-conferencing. The third section describes the involvement factors that can affect member participation including time, culture and having a clear domain. The fourth section describes the technological and cost factors that can impact member participation; and the fifth section describes how involving OCoP members in the development process can affect the success of the OCoP.

2.1 COMMUNITY CONTEXT OF USE

2.1.1 Organizational/business

OCoPs are becoming a knowledge management tool of choice for an increasing number of multinational corporations, especially those in knowledge-intensive industries (A. Ardichvili et al., 2003). These companies see OCoPs as an effective way of getting the tacit knowledge within their organization into a form that can be shared without having to always talk to the people who hold such knowledge. However, managers are interested in the impact of these communities on individual performance, team effectiveness and overall productivity. This is common among all information technology investments (Millen, Fontaine, & Muller, 2002). Businesses are also seeing the value of interacting with their customers prior to product development (Dubé, Bourhis, & Jacob, 2005; Erat, Desouza, Schäfer-Jugel, & Kurzawa, 2006).

Many organizations have been downsizing and outsourcing in order to stay competitive, yet a decrease in the number of employees, results in a decrease in the amount of tacit knowledge in the organization (Hildreth et al., 2000). This has led to an increase in the number of international teams. Due to the high cost of traveling, busy schedules, and different time zones among geographically distributed communities, the need for technology to enable synchronous and asynchronous interactions and relationship building is very important (Campbell & Uys, 2007; Dubé et al., 2005). However, motivating members who are physically dispersed to participate is difficult (Koh et al., 2007).

In some parts of the world, rural communities elect one person to perform a particular job. For example, due to their geographic isolation and a lack of support it is common for the coordinators of Community Adult Learning Councils in Alberta to experience high turnover and difficulty performing their jobs. Gray (2004) describes an

OCoP to orient newcomers and provide ongoing support for the coordinators. Over the course of a year, this study involved 43 coordinators who participated in this online community which included a web site, private and public discussion forums, an interactive calendar, private mail and live chat. Much of the learning was done through sharing of stories and discussions of problems. Findings confirmed that the motivation for participation included the opportunity to learn new skills, a means of socializing with colleagues, and a mechanism to reduce the isolation. The two main reasons given by coordinators who did not participate were a lack of familiarity with the online technologies and a lack of access to the technology itself (Gray, 2004).

However, not all OCoPs are the same. Dubé (2005) performed a literature review of organizational OCoPs and developed a typology that includes 21 basic characteristics which were divided into four categories. These categories are demographics, the organizational context, membership and technological environment. Evaluating an organizational OCoP based on these characteristics can provide designers and organizations with an idea of where the challenges and the level of complexity will be in building and sustaining a successful OCoP (Dubé et al., 2005). Tremblay (2005) supports this notion of different needs for different communities as she evaluated an OCoP in the health care sector of which members worked in different locations around Canada and also the OCoP of a group in the financing sector whose members all worked within the same organization. In comparing these two OCoPs and measuring eight criteria in each group, including attaining of the OCoP's objectives, evaluating the various dimensions of participation, finding the sources of satisfaction and dissatisfaction, and the overall effect and usefulness of the community, we

see that not all OCoPs are the same. Findings show that in almost every measure, the average scores were higher in the health care sector group than in the financing sector group. There were multiple reasons given for these findings, including that there was a better perception of attainment of objectives in the health care sector than in the financing section, where over 60% of respondents indicated that the OCoP was not a success. The financing sector group also mentioned the instability in the management and leadership of the OCoP leading to a higher level of dissatisfaction (Tremblay, 2005).

2.1.2 Professional development

2.1.2.1 Organizations

Beginning in 1997, Caterpillar Inc. incorporated a number of virtual knowledge-sharing CoPs as part of their knowledge dissemination strategy. As of 2003, Caterpillar had over 600 online communities with more than 15,000 participating members worldwide. A qualitative study by Ardichvili (2003) asked the members why they were willing and alternatively, what the barriers were to sharing their knowledge in the virtual community, as well as why they were willing and what the barriers were to using virtual communities as a source of new knowledge (A. Ardichvili et al., 2003). In this study, three communities were selected purposively based on size and level of success they currently held. One community was well-established and successful with more than 1000 employees and high community traffic. The other two communities were less successful and struggling to get established. Interviews were conducted with 30 members randomly selected (with all communities being represented) from a sample of participants that had been purposively selected from a classified list of light, moderate and heavy users. Results showed that the majority of the

respondents viewed their knowledge as a public good and that the organizational culture of Caterpillar Inc. encouraged mutually supportive relationships. Only 10% of employees felt that some employees did not share their knowledge because of "information hoarding." The top two benefits stated for why employees used the OCoP were that it allowed new employees to integrate themselves into the organization more quickly and it provided geographically dispersed units a central place to work together (A. Ardichvili et al., 2003).

Millen et al (2002) interviewed 60 members from nine communities in seven firms from a broad range of industry sectors to see why these members participated in their communities. Benefits were found along the individual, community and organizational levels. Individuals stated that participating allowed them to "develop professionally, remain at the forefront of their discipline, and gain confidence in their own expertise." As a community, benefits were seen in the "increased idea creation, increased quality of knowledge and advice, problem solving, and creating a common context." The author found organizational benefits due to improved communication among successfully executed projects, increased new business, product innovation and time savings in the form of information-seeking and information-sharing (Millen et al., 2002).

2.1.2.2 Teacher professional development and support

In developed nations, government funds are being allocated to build online professional learning resources, such as OCoPs for teacher professional development (Carr & Chambers, 2006). Communications technology provides a means in which teachers can participate in communities, but as of 1999 research showed that these communities were difficult to create and sustain due to factors such as few common interests or little commitment to one another

(Goos & Bennison, 2008; Higginson, Sinclair, & Colgan, 1999). There has been much research since this time to address some of these issues. Many of the OCoPs now allow teachers to share ideas, build a professional culture, and encourage educational reform (Baek & Schwen, 2006). Different tools such as email, bulletin boards, or web-based conferencing have become common in teacher education for online discussion (Goos & Bennison, 2008).

Baek and Schwen (2006) evaluate the Inquiry Learning Forum (ILF), a teaching OCoP and consider how cultural perspectives, such as time, working practices, preference for face-to-face interaction, and lack of technological support impact its use. Teachers' school schedules rarely allow them the opportunity to see their colleagues teaching. The ILF has been developed to allow teachers to virtually visit each others' classrooms through web-based video (Baek & Schwen, 2006). This allows teachers to observe, discuss and share artifacts for teaching mathematics and science (Moore & Barab, 2002).

Goos et al (2008) reviewed a course website and bulletin board used in a pre-service mathematics course. They evaluated how it was used after the course ended and when the teachers had started their first year of full-time teaching. This research evaluated the three notions of an OCoP. Mutual engagement of the students was evaluated by counting the number of posts made, but excluded peripheral participation as it is difficult to measure. Mutual engagement was also evaluated by determining how many messages initiated a new topic - 31% - of which 22% were initiated by the students. Student to student communication made up the majority of the community at 44% of the posts. Communication between "old timers" and "newcomers" (2003 and 2004 cohort) was also measured and 35% of messages involved conversation between these two groups. The "joint enterprise" or domain of the group was related to the practice of being a university student

in the pre-service group and the practice of teaching mathematics in school for the teaching group. Some of the shared repertoire included annual internship debriefings, maintaining professional relationships and organizing social gatherings. Factors that made this OCoP so successful were the voluntary nature of the discussions as students were not required to post for grades. Secondly, pre-service teachers said the face-to-face interaction in class helped facilitate trust and familiarity which led to greater online discussion. Lastly, the tool that was used (Yahoo Group) allowed for message delivery directly to their inboxes, instead of requiring students to log into a separate system to view messages (Goos & Bennison, 2008).

When teaching students finish university they enter a new environment: from being taught to being the teacher. Many feel isolated and overwhelmed in their first year of teaching and attrition rates for beginning teachers can be as high as 50% within the first five years (DeWert, Babinski, & Jones, 2003; Higginson et al., 1999). The Lighthouse project, whose members included beginning teachers, experienced teachers, and education faculty showed an example of how new teachers were being supported (DeWert et al., 2003). By using a shared email system and a discussions thread, new teachers were able to communicate with experienced teachers and university faculty on issues such as individual students, policy and politics, classroom management, and curriculum and instruction. The results from this project were very successful for the new teachers and showed an increase of emotional support, increased confidence as teachers, more enthusiasm for work, reflection, an ability to adopt a more critical perspective, and improved problem-solving skills. It also decreased feelings of isolation (DeWert et al., 2003).

2.1.2.3 Librarians

Librarians are another group of professionals that have been using OCoPs as a knowledge sharing tool (Cox & Morris, 2003). Cox (2003) discusses a community of librarians who currently use an email list as part of their OCoP. However, they want to research how they can use richer knowledge-sharing tools to build a better community (Cox & Morris, 2003).

2.1.2.4 E-Mentoring

A study by Headlam-Wells (2006) shows how an OCoP can be used to mentor women who have been out of the workforce. Mentors and mentees were members of an OCoP which gave them access to career development, networking, personal growth and skills enhancement using online tools such as news, discussion, online meeting, mentoring guidance, resources and web links. Results from this study showed successes. When asked if mentees achieved what they expected or had hoped to achieve, 45% stated that they "mostly" did and 12% stated that they "fully" achieved what they had expected or hoped. The most commonly mentioned positive outcomes were increased self-confidence, self-awareness and self-belief (Headlam-Wells, Craig, & Gosland, 2006).

2.1.3 Blended courses

OCoPs are often used in blended-courses in high-school, secondary and graduate education. Blended-courses allow for traditional in-class instruction, while additional learning tools available online are used to supplement the in-class learning. Motteram (2006) discusses the role of blended learning for a graduate teacher's education course. The online tools used for the blended course were a website for e-learning as well as a forum for discussions and permanent record holding of the knowledge. Participants enjoyed the blended course, saying

the asynchronous communication allowed them to process and organize their thoughts before they commented (Motteram, 2006).

Henderson (2007) discusses two cases where an OCoP was used as a framework for sustaining participation in a blended professional development course for nine secondary school teachers. Teachers were separated into two groups, a group of five in the United Kingdom and a group of four in Australia. The two groups met independently in a face-to-face training session and then completed the remainder of the course using the OCoP. Although participation was sustained in both groups, the blended course was much more successful in one case where members answered posts in a timely manner, where there was a successful connection in the face-to-face social engagement, where they felt a sense of accountability to each other, and when they engaged in off-topic conversations. The other case was not as successful as none of these characteristics were seen (Henderson, 2007).

2.2 Characteristics of an OCoP

Technological developments for the Internet, particularly the quantity and quality of online tools available, have made it possible to build interactive OCoPs. No longer are online users restricted to using textual tools such as email and forums. The introduction and richness of tools labeled "Web 2.0" provide for a more interactive and enjoyable experience. The second "version" of the Web has been termed the "social Web" because its content can be easily generated and published by users. Creation of wikis, blogs and podcasts and other interactive tools have allowed people to socialize online (Kamel Boulos & Wheeler, 2007). Communicating with text is still the most common mode of communication in online communities; however, a successful OCoP site will need to include other tools such as

graphical interfaces and videos, as language anxiety can be a barrier to participation in discussions that are only text-based (Carr & Chambers, 2006; Koh et al., 2007). Developers must be aware however, that some of the infrastructure and technologies used to support these communities may be at odds with the informal nature of these groups (Ellis et al., 2004). If the logins and discussion structures are too formal, organizational members will be less likely to participate in the discussions and more likely to return to the informal discussions that had previously taken place at the water coolers and coffee rooms.

If a community is using a forum or email as the means for discussion, the length and topic of the postings are also crucial as to whether or not a posting will be read. A study done in 2006 by Milne found that in a group of over 890 participants with a 20% response rate (approximately 178 responses), 52% skim long messages, almost 5% ignore long messages and 64% only read messages where the subject is of interest (Milne & Callahan, 2006). The information in OCoPs must be organized and structured. The amount of information that can accumulate can become overwhelming, even in a small community (Jashapara, 2005).

Although there are many technological tools and methods that can be used to link remote groups of people, some have been found to be more useful than others. Campbell and Uys (2007) describe an OCoP that has evaluated the effectiveness of different technology-mediated and face-to-face meetings in a group of members in a distributed environment whose purpose was to facilitate the professional development and learning of its members. Findings from this small study (six respondents out of seven total members) showed that face-to-face meetings had the highest level of effectiveness, followed by video-

conferencing, and then tele-conferencing and email which were found to be equally effective. Shared file space and online forums were very low in effectiveness, followed by online chat (Campbell & Uys, 2007). Although the results were based on few responses, the authors believed that the findings from this study could be applicable in other situations.

Cox (2003) discusses a community of librarians who felt email lists were good for simple question and answer exchanges, however, they wanted to research how they could use richer knowledge-sharing tools to build a better community (Cox & Morris, 2003). One of the goals of a OCoP is to develop a set of shared artifacts, stories and best practices (Gray, 2004) however, this is difficult to do when using email. Therefore blogging and Wikis have been suggested as alternatives (Cox & Morris, 2003). One of the two main outcomes in a case study by Kimble (2005) was the development and importance of a shared artifact and how it was used in creating, sharing, sustaining knowledge and facilitating participation among the members (Kimble & Hildreth, 2005). The asynchronous nature of emails and forums can also be seen as an advantage as members can take part in the discussion when they have time and they can formulate their thoughts before posting their ideas (Carr & Chambers, 2006). Not all technology is seen as advantageous though. A study by Hildreth et al (2000) showed that videoconferencing was not the medium of choice for interaction due to the limited availability of the technology at the time. Members of the OCoP preferred to use a teleconference coupled with NetMeeting to share documents (Hildreth et al., 2000).

Online tools allow for anonymous postings, which can increase participation and also promote truer sharing. In a study by Sharma (2006) which involved a group of

anesthesiologists, one of the important outcomes of including the participants in the development was the desire for anonymous postings. The older systems in use required individuals to be identified through their postings, and this was thought to hinder reporting (Sharma, Smith, Rooksby, & Gerry, 2006). A study by Milne (2006) found that the group felt anonymous postings were inappropriate as it was important to know who was posting, thus giving context and authority to the comment. One group member disagreed, saying that anonymous postings showed a lack of trust and felt it should not matter who had posted the comment and that what was said was ultimately more important (Milne & Callahan, 2006).

2.3 MEMBER INVOLVEMENT FACTORS FOR PARTICIPATION

2.3.1 Time

Although an online community can be seen as a useful tool or resource for its members, a lack of time to log into the system due to the existing demands on a participant's time can be a barrier to participation (Baek & Schwen, 2006; Carr & Chambers, 2006). When participation is not set as a priority or as a part of the person's job, it is significantly affected (Carr & Chambers, 2006). Time can be measured in the frequency of visits to the OCoP and the length of each visit.

Although discussions should be focused, not all members wish to read all discussions. Postings and topics should be organized and codified in a way that makes it easy for members to find the information they are looking for on a particular topic. If one has to spend too much time searching, they are not likely to use the system (Restler & Woolis, 2007).

2.3.2 Trust

Trusting other members of the OCoP is important as some members rely on the information being posted. They must also feel secure in the information they post will be used properly, although this can be a challenge in online communications (Campbell & Uys, 2007). In higher-trust firms, knowledge flows through the communities, resulting in a "learning" organization. However, in lower-trust firms, knowledge does not flow through the communities resulting in "independent islands of knowledge" (Hung & Nichani, 2002; Hung & Chen, 2002). When members of a community already know each other, usually having met in a face-to-face environment, trust and a greater feeling of unity and common purpose is built (Gannon-Leary & Fontainha, 2007; Hildreth et al., 2000); as well as a greater confidence in the information received (Hildreth et al., 2000). Also, knowing the members of the distributed community means that one group can tailor their shared working documents to their intended audience (Kimble & Hildreth, 2005).

Not only is trust in other members important, users must also trust that the knowledge they are giving is accurate. This is one of the barriers to participation given in a 2003 study (A. Ardichvili et al., 2003). There is no such thing as instant trust. Trust is strengthened by space and time (Hung & Nichani, 2002).

Face-to-face meetings provide non-verbal cues and sound inflections that are a basic part of communication (Carr & Chambers, 2006). Many papers discuss the need for face-to-face meetings to maintain strong relationships, strengthen connections, build trust, and a greater feeling of unity (Gannon-Leary & Fontainha, 2007; Koh et al., 2007; Milne & Callahan, 2006). Face-to-face meeting does not develop trust in itself, but it facilitates relationship

building, which in turns allows trust to be built among the members (Kimble & Hildreth, 2005). According to Kimble (2001), not only were these face-to-face meetings important for relationship development, they were also very productive when the amount of work that could be accomplished in one face-to-face meeting would otherwise take several e-meetings to accomplish (Kimble et al., 2001). In addition, during the time between face-to-face meetings, members could feel momentum slowing down and not recovering until another face-to-face meeting occurred and relationships were re-established (Hildreth et al., 2000; Kimble & Hildreth, 2005). In geographically dispersed regions, those who did not participate in the OCoP also did not participate in the face-to-face conferences or regional activities (Gray, 2004).

2.3.3 Online/offline culture

As previously mentioned, the reasons why one member might participate in an online community could vary greatly from another member who is part of the same community. Regardless of why the OCoP was developed, one needs to consider the group members that will be using the OCoP (Baek & Schwen, 2006). Factors to be considered include the influences of the participants online and offline culture, including their offline work environment (A. Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006; Baek & Schwen, 2006; Carr & Chambers, 2006) and comfort level with computers/Internet tools (A. Ardichvili et al., 2003). Although many communities share common features, there are many characteristics that need to be considered which make each community unique (Dubé et al., 2005).

2.3.3.1 Individual's offline cultures

Since cognitive styles differ by national and ethnic cultures (A. Ardichvili et al., 2006), the offline culture of the members of an OCoP need to be addressed. Cross-cultural differences in knowledge sharing patterns have been researched and can affect how members of different cultures share their knowledge (A. Ardichvili et al., 2003; A. Ardichvili et al., 2006).

In an individualistic culture, people tend to place personal goals ahead of the goals of a larger social group. They also value information in written and codified form, so that there is a preference to low media-rich tools such as email or online discussion groups. In a collectivistic culture, there is a priority to meet the goals of the larger group they belong to rather than their personal goals. They tend to disregard information in writing and therefore prefer high-media richness such as face-to-face communication or telephone calls. Collectivistic cultures also make more of a distinction between in-group and out-group members and are more likely to share with in-group members attempting to serve the interests of the group (A. Ardichvili et al., 2003; A. Ardichvili et al., 2006). Out-of-group members are seen as less honest, less reliable and less trustworthy than those in the group (Campbell & Uys, 2007).

In addition to individualistic and collectivistic cultures there are also the achievement-oriented and ascription-oriented cultures. In an achievement-oriented culture status is derived from past achievements and talents need to be proven all the time. Members who belong to an achievement-oriented culture are also less likely to post if they feel they have not "earned the right" to do so. In an ascription-oriented culture, status is usually based on age, gender and wealth (A. Ardichvili et al., 2003; A. Ardichvili et al., 2006).

2.3.3.2 Organizational/work culture

Not only does the individual's offline culture impact participation in knowledge sharing, the organizational culture to which they belong also plays a role. One of the main findings in Ardichvili (2003) showed that if an employee viewed his or her knowledge as a public good, they were more likely to share with other employees, believing that the knowledge does not belong to them but to the entire organization. Employees of this opinion expressed that it stemmed from the organizational culture (A. Ardichvili et al., 2003).

Similarly, the working culture of a group of individuals can influence the level of participation. Baek (2006) reviewed an online tool for teachers' professional development, called the Inquiry Learning Forum (ILF) and the findings showed that teachers often worked in isolation while preparing their lesson plans and evaluations. Also, there was a preference for face-to-face interactions. This study showed an example of how working cultures can be a barrier to participation (Baek & Schwen, 2006). This is further supported by Carr (2008), where the culture of sharing was in place in only three of the 12 schools that were part of the study (Carr & Chambers, 2006).

2.3.3.3 Comfort with online tools

Another requirement that is essential for a successful OCoP is that members need to be comfortable with participating in a computer mediated Internet based CoP (A. Ardichvili et al., 2003; Dubé et al., 2005). This type of community means that there is little face-to-face communication, which offers much more richness than computer-mediated communication, even with the use of web-cams and video-conferencing (Campbell & Uys, 2007). Members must also be comfortable in using the technology or identifying the technology as easy to

use (Hew & Hara, 2007). For example, classroom teachers, who do not often use email as part of their daily routines, can find it difficult to use computer-mediated tools (Carr & Chambers, 2006).

2.3.4 Demand for knowledge

There must be a demand for the knowledge from members of the community and the knowledge is only useful if members are willing to use it as a source of new knowledge (A. Ardichvili et al., 2003). People are also more motivated to share their knowledge if there are people who ask for it (Hew & Hara, 2007).

2.3.5 Member roles

Roles have been studied since the 1930's and have been defined many different ways, formally and informally. In an OCoP, roles are not usually officially defined and therefore, user roles may not be obvious (Tang & Yang, 2005). In addition, communities need to be able to "self-govern" and assign leadership roles as they see fit (Restler & Woolis, 2007). Member roles also impact who is contacted when building the OCoP. Findings by Tang (2005) show that it is very important to get the requirements from the core members during the design stage of the OCoP (Tang & Yang, 2005). Ardichvili (2003) classified the members who were part of a typical organizational community as the "manager" who is usually senior and respected by other members, the "delegates" who can run the community if the manager is unavailable or who run a certain part of the community, the "experts" who are known for their skills in certain areas, and the "subscribers" who include the rest of the members of the OCoP (A. Ardichvili et al., 2003). Gray (2004) evaluated the role of the

moderator/manager and reported that the members of the community found the role to be "absolutely critical" as they helped enhance the community by providing technical support, managing the flow of the discussions, encouraging participation, playing a key role in developing a sense of community, and facilitating learning (Gray, 2004). Henderson (2007) showed that the facilitator can be effectively used by emailing a summary of the most recent activity for a member who had been absent from the course for a period of time. The facilitator was also seen as a force for motivation and encouragement, but only when participation levels decreased. In the case where members were more participatory, only 28% of the posts were made by the facilitator in comparison to 42% of the posts in the less successful case (Henderson, 2007). Facilitators/coordinators can play an essential role when encouraging participation by building connections between the members. If there is no one to perform this task, an OCoP may fail (Carr & Chambers, 2006; Cox & Morris, 2003; Gray, 2004). However, a healthy community cannot count on one member to be the leader, therefore, it is important to have a sense of shared leadership (Lamontagne, 2005).

Communities have members who participate at different levels: the core members and those who participate peripherally (Campbell & Uys, 2007). Lave and Wenger (1991) describe legitimate peripheral participation as the relations between newcomers and old-timers and the process by which newcomers become a part of the CoP (Lave & Wenger, 1991). Peripheral members are sometimes called lurkers. Lurkers do not participate in discussions, but use the knowledge to learn. Once they become familiar with the community they will then start participating in the discussions. This is seen as a normal role in a CoP, but can also be harmful to the community (Carr & Chambers, 2006). For example, in the National

Quality Schooling Framework (NQSF) Pilot Project, a member had posted a document online for comments and suggestions. Although the document was downloaded 41 times, no comments or suggestions were ever provided (Carr & Chambers, 2006).

2.3.6 Clear purpose/vision

As Lamontagne stated, "the most successful communities of practice thrive where the goals and needs of an organization [or of the collective community] intersect with the passions and aspirations of participants" (Lamontagne, 2005). As it is part of what defines it, a CoP must have a sense of commitment to an idea or shared sense of purpose or well-defined domain of interest in order to be successful. If it does not, members may not see the value in participating (Carr & Chambers, 2006; Goos & Bennison, 2008). If the members of the community are doing similar jobs, the possibility of a shared domain is more likely (Hildreth et al., 2000).

2.4 TECHNOLOGICAL AND COST FACTORS FOR PARTICIPATION

2.4.1 Technological factors

OCoPs need to make use of what the Internet can provide, but frustrations with technical issues such as slow bandwidth and unreliable networks can limit why an OCoP is used (Carr & Chambers, 2006; Gray, 2004). Freezing screens while playing videos, downloading software to play videos, and navigation problems are all causes of frustration and some members are not willing to give the technology another chance once it has failed (Baek & Schwen, 2006; Campbell & Uys, 2007; Carr & Chambers, 2006). In addition, technological support must be available anytime and anywhere users can access the OCoP (Baek &

Schwen, 2006). An e-mentoring OCoP found that providing a seminar training session of the system and having technical support available decreased the anxiety of the members who were less comfortable with computers (Headlam-Wells et al., 2006).

Community members who have access to the Internet at work or at home have an advantage over those members who need to go to their local library or learning resource centre to access the Internet (Headlam-Wells et al., 2006).

2.4.2 Costs

Costs are important to consider when building and maintaining an OCoP. These costs include the technology investment, costs for participation (opportunity costs, including time costs, salaries, and incentives), meeting costs, and costs for building and maintaining the infrastructure (Millen et al., 2002; Zboralski & Gemunden, 2006). Millen (2002) explored the community costs among six groups and found that on average, the groups allocated 52% of the community budget to pay for salaries for community workers, 32% to pay for meeting expenses, 10% for technology and 6% for publishing and promotion expenses (Millen et al., 2002).

2.5 MEMBER INVOLVEMENT FACTORS IN THE DEVELOPMENT PROCESS

There has been minimal research to date that discusses the involvement of participants of the OCoP in the development of the design and choice of online tools. However, if knowledge management systems "are used by people with professional or national culture backgrounds which differ from those of the designers, features intended to support knowledge generation and sharing may actually inhibit these processes" (A. Ardichvili et al., 2006). One way to

partially solve this issue is for the designer to have an in-depth knowledge of the participants' offline culture (Baek & Schwen, 2006). Neither the members of the OCoP nor the developer can design an appropriate website individually. It requires co-development by everyone as a community of members (Baek & Schwen, 2006).

Alternatively, creating a framework and allowing participants to build the space, rather than imposing a design in advance, is also preferable (Goos & Bennison, 2008). This has been successful where midwives from the steering group participated in the layout and appearance of the OCoP that was to be used as part of the study (Brooks & Scott, 2006). Sharma (2006) has also successfully used this concept: data were collected in interviews then the prototype of the system was shown to users before implementation in a validation workshop. Suggestions for improvement were gathered and then a final workshop was held to help present the final design of the system. Important design features decided upon by members included that the site be secure, with a login and password; that postings be anonymous, if desired; and that an online notice board presentation was considered the most workable option. An interview 10 to 12 months later allowed participants to share how well they felt the system worked (Sharma et al., 2006).

2.6 Conclusion

Using the findings in the published literature, we see that there are many factors that can have an impact in the degree of participation in an OCoP. Chapter 3 will address the research framework including the generic model built from the literature review and the empirical model that was used to develop the interview questionnaire.

CHAPTER 3

RESEARCH FRAMEWORK & METHODOLOGY

In the previous chapter, the literature review allowed for the organization of the findings into five main determinants that seem to impact the degree of participation in an OCoP. The literature review examined the context in which the OCoP was used, what characteristics/tools were used in the OCoP, the member involvement factors for participation, the technological and cost factors, and the member involvement in the development process and how all of these could possibly impact participation in OCoPs.

The first section of this chapter begins with the research framework including the generic model that has been built based on the literature review (Figure 1). The research rationale is then presented, followed by the empirical model (Figure 2) that has been used to develop the interview questionnaire. Lastly, the hypotheses are presented. The second section of this chapter covers the methodology of the research, including how the literature search was performed, a description of the instrument, how the interviews were scheduled, how the participants were selected, how the interviews were conducted and how the instrument and data were validated. Ethical considerations are also addressed.

3.1 RESEARCH FRAMEWORK

3.1.1 Generic model

Prior to creating the generic model, a brief literature review of OCoPs used in organizations were retrieved (see section 3.2.1 for more detail) and read. For each article we highlighted where and why the OCoP was developed and used, as well as the main results of the paper.

Main results included measuring levels of trust, tools that were being used in OCoPs, and motivators and barriers to OCoP use. The original review included 20 articles and the following sections were developed:

- Motivation for participation
- The multiple uses of OCoPs (i.e. organizational, educational and geographically dispersed)
- Factors to keep in mind (i.e. costs, access to Internet, impact of face-to-face meetings)
- The roles of actors/moderators
- The influence of Web 2.0, or more broadly, online tools

As we read a more comprehensive list of published literature, clearer themes emerged and we decided that a reorganization of the results from the literature review was needed. Each paper was classified on where it was used (i.e. in organizations, for teachers, etc), what was the purpose of the research or the research question being answered and the main results. Modifying and adding to the original groupings, the generic model was then designed based on five distinct categories on what affected the degree of participation in OCoPs. These being the context of use (where OCoPs are used), the characteristics/tools used in the OCoP (all online tools including "Web 2.0" tools), the member involvement factors for participation (the factors the members can have some control over), the technological and cost factors for participation (the factors the member cannot control), and the level of member involvement in the development process (Figure 1).

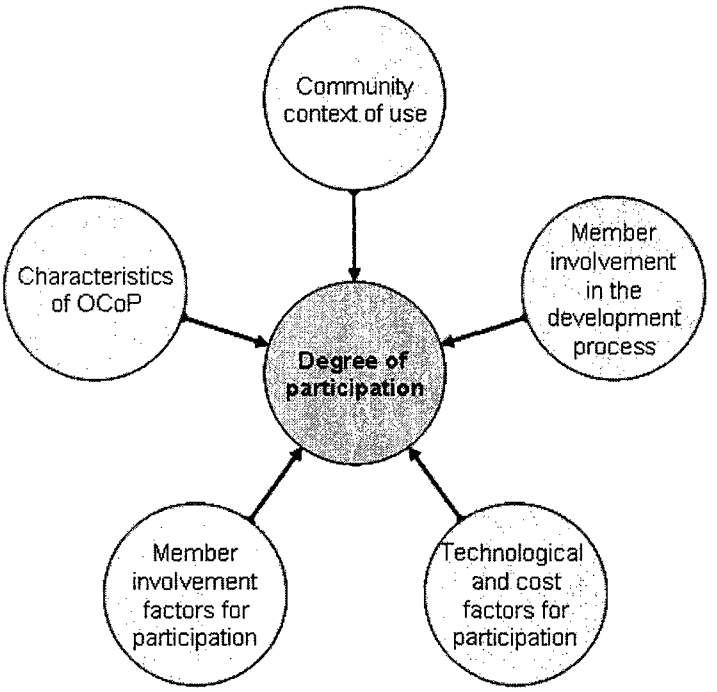


Figure 1 – Compact generic model

3.1.1.1 Community context of use

In this research project, we define context as "the interrelated conditions in which something exists or occurs" or more specifically the setting (Merriam-Webster Online Dictionary, 2008). This includes, but is not exclusive, to OCoPs that are used in organizations, as aids in blended courses and for professional development in any industry.

3.1.1.2 Characteristics of OCoP

The characteristics of the OCoP include the tools used to communicate, such as forums, social networking websites and video, including online videos and video-conferencing. The use of these tools can be greatly impacted by the speed of the Internet connections and the comfort with the tools.

3.1.1.3 Member involvement factors for participation

The involvement factors for participation include factors that the members can control such as the time they have to participate, trust in the information on the OCoP and the information they provide.

3.1.1.4 Technological and cost factors for participation

Factors that are out of the control of the members, such as the costs associated with the OCoP and the speed of the Internet where they live also play a role in the level of participation.

3.1.1.5 Member involvement in the development process

This includes the members of the OCoP having input on what characteristics will be used and also allowing the members to have input in the design of the OCoP.

Refer to appendix 2 for a full list of what criteria fall under each category.

3.1.2 Empirical model

Based on the generic model, the empirical model (Figure 2) has been modified to include only those factors and processes that we felt were relevant to this OCoP, which will now be explained in greater detail.

The OCoP context of use has been removed from the empirical model because the members of this community do not fit into any of the previously studied contexts. In addition, the members of this community work for different organizations in different jobs.

For example, there were nurses, coordinators and student interns. We looked at the community solely of being one that was the "trained Inuit cohort" regardless of where they lived and where they worked. This was done to reduce the number of questions that would be included in the interview questionnaire, but could be included in future work to see how these issues impact the degree of participation in the OCoP, as the level of support a member receives from his/her employer to take the time to participate in an OCoP has been shown to positively impact participation.

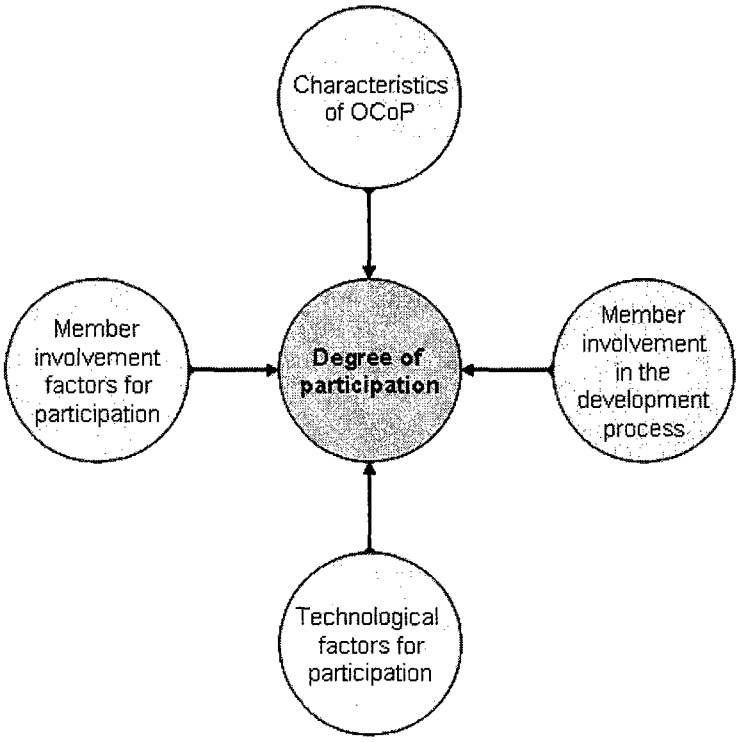


Figure 2 – Compact empirical model

Some of the involvement factors for participation have been removed. Member roles have been removed since the members of the OCoP are those who took part in a training course in epidemiological research methods and community based research initiatives. None of the members were considered experts, managers or subscribers, but they were all using

the OCoP to learn and communicate with one another. The demand for the knowledge has also been removed, as we know that all members of the community were participating to reach a common goal.

Cost was removed from the technological and cost factors because the forum was housed at the organization of one of the members and the OCoP was developed quickly to keep the momentum going after the training. The opportunity cost of the member's time was included in the member involvement factors for participation under the "time" factor.

Refer to appendix 3 for a full listing of the criteria included in the empirical model.

3.1.3 Research rationale

3.1.3.1 Observation

To date, many OCoPs are in existence in many different industries, often for professional development or for learning. Although they are numerous, many of them report a low degree of participation from their members.

3.1.3.2 Thesis

The degree of participation varies greatly from one member to another within a community.

3.1.3.3 Research purpose

The purpose of this research is to evaluate the participation in an OCoP that involved members of an Inuit cohort who were trained in Ottawa, Ontario, Canada in

January/February 2008 in epidemiological research methods and community based research initiatives. Specifically this research sought to:

(i) ascertain how many members of the community were actively involved in the OCoP;

(ii) determine why members did or did not participate in the OCoP;

(iii) establish what characteristics/tools could be added to improve the usability of the OCoP;

(iv) learn about the levels of trust in the information received and provided;

(v) define the members' offline culture to see how it could impact sharing knowledge;

(vi) see how comfortable participants are with the Internet and its tools and if they had access to the Internet; and lastly

(vii) find out who had participated in the development and how their use of this OCoP compared to those who had not participated in the development.

3.1.3.4 Research questions

Based on the results from the literature review, four main research questions were developed. The interview questionnaire will try to provide answers to these questions.

1. Do the online characteristics/tools available in an OCoP influence the degree of participation from its members?
2. Do member involvement factors influence the degree of participation in an OCoP?
   (a) Does the amount of time a member has influence his degree of participation in an OCoP?

(b) Does the level of trust in the information influence the degree of member participation in an OCoP?

(c) Do offline cultures influence the degree of participation in an OCoP?

(d) Does having a clear domain influence the degree of participation in an OCoP?

3. Do technological factors influence the degree of participation in an OCoP?

(a) Does infrastructure, including availability of computers and Internet access, influence the degree of member participation in an OCoP?

4. Does the level of member involvement in the development process in creating an OCoP influence the degree of participation?

(a) Does input from members in the online characteristics influence the degree of participation in an OCoP?

(b) Does input from members on design influence the degree of participation in an OCoP?

3.1.3.5 Research method

In order to respond to the research questions, we (i) developed an interview questionnaire, based on the empirical model, that contained open-ended questions that allowed for an in-depth qualitative evaluation of the different factors of involvement for the OCoP and how these factors impacted the degree of participation; and (ii) used the interview questionnaire to conduct a telephone interview with six members of an Inuit cohort of researchers in order to better understand how online characteristics/tools of an OCoP, member involvement factors for participation, technological factors for participation and member involvement in

the development of an OCoP impact the degree of member participation for a group of geographically dispersed members.

3.2 METHODOLOGY

3.2.1 Literature search

The literature search was completed in two stages. For the thesis proposal an initial search was done on ProQuest for relevant articles with keywords "communities of practice" and "online" or "virtual". Based on these results, the thesis proposal was written and a draft interview questionnaire was developed. In May 2008, a literature search of five databases [ABI/Inform, ERIC, Communications Abstract, Sociology Abstracts], with some having multiple databases [OVID (Medline, CINAHL, AMED, EMBASE and PsychInfo)], and a Google search was performed. Keywords used to search for relevant articles included communit* of practice* and virtual or online or cyber*, and participation. Asterisks were used to include all forms of spelling for example community of practice, communities of practice, and so on. All dates were searched and only English language articles from peer-reviewed journals, books, and book chapters were retrieved.

Abstracts were reviewed to see if the papers were relevant. To be included, the study had to have been about a virtual or online community in almost any setting that was used for career development or knowledge sharing for organizations. Excluded studies included those that focused on one type of tool for an OCoP and those about informal communities that developed on the Internet such as a programming site, and those that included OCoP for personal knowledge sharing and learning. In total, 460 abstracts were reviewed, 48 full articles and book chapters were retrieved of which 37 articles were used in the final

literature review. Articles or book chapters excluded from this part of the review were done so because they provided no additional information that had not already been provided in previous articles. The baseline interview questionnaire (Appendix 4) was developed based on the methodology and findings of these articles.

Database	Original # of abstracts
ABI Inform	265
ERIC	54
Communication Abstracts	13 (4)*
Sociological Abstracts	47
OVID	131 (88)*
Google search	2
Total	**512 (460)***

Table 1 - Literature Search Results

* Note: The number in the brackets is the original articles from the search, excluding duplicates

3.2.2 Instrumentation

An interview questionnaire was developed based on the findings in the current literature on participation in OCoPs. Using the categories and factors found in the empirical model, we built criteria that a question was built around. For example, if the category is "degree of participation" and the factor is "time", one criterion would be "frequency". So a question for this would be "How frequently do you currently participate in the Inuit Winter Institute forum?" This was repeated in each category and factor (Appendix 4).

The method of questioning used for this research was an open-ended structured interview. The advantage of using an open-ended structured interview was to get more details from the participants and to not direct them towards a list of previously determined answers. Due to the small size of the group we felt that detail was important.

In order to recruit members to take part in the interview, they were contacted by email (Appendix 5). The email included a detailed letter (Appendix 6) informing each

member of the purpose of the interview and the tentative schedule for interviews to take place and the consent form (Appendix 7) that provided additional details about the project. Members were asked to participate in the interview regardless of whether they participated in the OCoP or not. If members did not reply to the email within two weeks a follow-up email was sent. Participation in the interview was voluntary. If a member agreed to participate, a time was set up that was convenient for the member. At the start of the call, the consent form was read and signed by the interviewer before the interview began stating that the member had consented to participate in the interview and that the interview could be recorded and transcribed. Interviews took place in the winter of 2009. Based on the results from the pilot test interview, we generously estimated the time of the interview to be between 20 and 40 minutes, depending on whether or not they participated in the OCoP and on the detail the interviewee gave. Some questions were not relevant if the member did not participate in the OCoP and were therefore not asked.

Most of the data was qualitative, as questions were open-ended. Control variable questions were mostly close-ended and were useful to see if there were sub-groups within the larger group that might prefer one type of tool (email, forum, etc) over another (video, audio, etc), or used the OCoP more than others. Control questions included age and level of education.

3.2.3 Interview schedule

A pilot interview was performed in October 2008 with one member of the group. This was the individual who had been involved in the setup of the forum. This allowed for testing of the questions to assure we would get the types of answers we were looking for. Any

comments made by this individual were used in an updated version of the interview questionnaire. This data has been included in the final analysis. An email was sent to members on January 8, 2009. A follow-up email was sent January 21, 2009 as a reminder and one last email was sent February 16, 2009. If a member replied showing interest in participation, they were scheduled for an interview at their convenience.

The interview schedule was built as members answered the email sent to them. All members received the first email on the same day. All of the members who did not reply received the second email on the same day, and the same for the third email. The researcher allowed the interviewee to schedule the interview for the most convenient time for them. The final interview schedule can be seen in Table 2.

Member	Date and Time
1	October 7, 2008 at 10:30
2	January 13, 2009 at 20:00
3	January 23, 2009 at 17:30
4	January 25, 2009 at 10:00
5	February 17, 2009 at 10:30
6	February 19, 2009 at 9:00

Table 2 - Interview Schedule

3.2.4 Participant selection

In January and February 2008 a group of 20 researchers assembled in Ottawa for two weeks to learn about Inuit health research and planning. All 20 students were Inuit (referred to as the Inuit cohort), as was required to register for the training, and came from all four Inuit regions being Nunatsiavut in Newfoundland & Labrador, Nunavik in Quebec, Nunavut, the North West Territories (Appendix 1) and Ottawa. Throughout the training, the Inuit cohort was taught epidemiology, statistics, community based research, and research ethics among other topics. The age range of the sample was unknown prior to the interview, but was

collected to determine the differences between younger and older participants. The youngest potential participant was 18.

3.2.5 Content validation

3.2.5.1 Validation of instrument

To ensure that the questions were straightforward and were likely to obtain the types of responses we were looking for, one expert in questionnaire development and a professor in e-learning and management information systems was asked to review the questions. In addition, to ensure that the questions were understandable to non-experts, one member of the OCoP was used in a pilot test and interviewed with the questionnaire. The responses from the interview were recorded and used in the analysis, however, after the pilot interview, the member was also asked to provide feedback on the questions. This included anything from the way questions were worded, whether or not they were appropriate and also feedback on anything else of interest. Most of the comments concerned the manner in which some of the questions were worded. Thus, a modified interview questionnaire was used for the remainder of the interviews.

3.2.5.2 Validation of data collection

Biases in the data collection were kept to a minimum. The order of the interviews was determined by the availability of the OCoP member. The interviewer read each question in the same order and tried not to influence answers.

3.2.6 Conducting the interview

We made telephone calls to ensure that members were not charged any long distance telephone fees. The letter of consent was read (Appendix 7) and once the member gave his or her consent the recorder was turned on and the interview began. An explanation of what an OCoP is and the purpose of the interview was reiterated. Questions were asked in the same order to each member. Some questions were skipped if they were not applicable due to non-participation in the OCoP. At the end of the interview, members were asked if they had any additional comments which allowed for non-structured dialogue. The length of the interviews was much shorter than originally expected, although we were generous with the time suggested for each interview. This is discussed further in Chapter 4.

3.2.7 Organizing the data

We collected data from recorded telephone interviews. Interviews were held one-on-one with the recordings transcribed verbatim using Microsoft Word 2003. Using the qualitative software NVivo, interview transcripts were imported and analyzed.

The original idea for coding this research was to code the transcripts as they were read. We had an idea of what themes might emerge based on recollections of interview responses. Due to the smaller amount of data collected, we used directed qualitative content analysis. Content analysis is a flexible method for analyzing text data. The goal of directed content analysis is to "validate, or extend conceptually, a theoretical framework or theory" (Hsiu-Fang & Shannon, 2005).

3.2.8 Ethical considerations

When working with any living organism, one needs to consider research ethics. As working with people was a significant part of this research, ethics were addressed.

1. Ethics approval was attained by the Research Grant and Ethics Services at the University of Ottawa (Appendix 8).
2. All interviewed members were read a consent form prior to the interview. To ensure confidentiality, no names were written on the form. The interviewer entered an alphanumeric code to represent the member and signed and dated the consent form prior to the interview. Also, all members were sent the consent form for their records.
3. The copy of the alphanumeric codes with the names is kept in hard copy in a locked drawer that only the graduate student and supervisor have access to.
4. All electronic files are stored on a personal computer that is password protected.
5. The data will be kept for a maximum of five years in order to complete the dissertation, present the research results, and submit an article to a journal. In addition, data will be retained to present the findings to the members and answer any questions they have on the results. Once the dissertation has been approved, an article will be submitted to a journal. Once all presentations and questions have been addressed by the members and the journal, the data will be disposed.

CHAPTER 4

RESULTS

The previous chapter discussed how the literature review was performed, how the interview questionnaire was developed and the methods used to select members. It also discussed ethical considerations. In this chapter, the results from the interviews will be discussed and how they relate to traditional Inuit culture will be examined.

4.1 ANALYSIS

4.1.1 Interviews and participants

The members of the Inuit cohort that agreed to take part in the interview questionnaire were excited to take part and have their voices heard. This was important as their input was going to be used to develop the updated OCoP. For most native people, associating their ancestral language with computer technology is a source of pride and brings a sense of inclusion with modern practices (Gearheard, 2005).

Almost all members had read the letter and the consent form that they received in January 2009. Members were encouraged to give as detailed responses as possible. This was to ensure that the data was analyzed properly and no interpretation into the responses could be made.

We had originally estimated that an interview would take between 20 and 40 minutes, depending on the length of the responses. The interview questionnaire was completed by

telephone interview with six of the 20 members of the cohort and was performed over four weeks. The length of time of each interview was recorded with a mean time of 12 minutes 21 seconds to complete a full interview, a minimum of seven minutes 30 seconds, and a maximum time of 15 minutes and 42 seconds.

Three male and three female community members took part in the interviews. Four members were between the ages of 35-44 years, one member was 18-24 years and one member was 45-54 years old. Five community members had taken some university courses or completed their university degree. The sixth community member had completed a college diploma. All six community members where employed full-time at the time of the interview, many in the health industry (Inuit health research and planning, full time Public Health Nurse, Regional Director for Health and Social Services, Consultant, Health Projects Coordinator and an intern). Due to the small number of interviews, we did not compare responses by sex, level of education, or age.

4.1.2 Do member involvement factors influence the degree of participation in an OCoP?

4.1.2.1 Time and reasons for using and not using the OCoP

The Internet is now being used for Aboriginal knowledge sharing initiatives, such as storytelling. In an article by Andrews Miller (2008), Elders were interviewed by youth to learn stories and teachings that could later be posted online in mp3 format. Not all Elders wanted their stories online, but many saw the value of using the Internet as a tool for teaching and sharing their culture (Andrews Miller, 2008). With more Inuit having access to

the Internet and technologies that are allowing traditional knowledge to be placed thereon, Inuit are becoming more comfortable with the Internet and its tools.

We asked the community members how often and the reasons why they did or did not participate in the OCoP. The responses differed greatly as two members stated they had not used the OCoP at all, two reported that they had not used it frequently, and two members reported use around once a month. For those members who reported using the OCoP, the time spent on the site ranged from 2 to 15 minutes. Reasons why members used the forum were mainly to keep in touch with their contacts, networking and to share information on events that were going on.

> "Basically it's just to keep in touch, to see what everyone else is doing. Just to keep updated I guess." (Member 3)

> "...I use it to pass on stuff that comes through email. It's an easy little group to send stuff to because they're all grouped together." (Member 4)

There are many different reasons why members did not use the forum, including that they were too busy with other work priorities; they had already received the information through other means such as email; slow internet connection in Northern Canada; the information provided on the OCoP was not current or not Inuit specific; and they were unaware of its existence.

> "Computer systems up here are extremely slow. Like the Internet service we have up here in the North are very slow compared to what you have in the South." (Member 3)

> "Not knowing about it would be one. If I saw the web page I might be able to sight some other things. <Member> might have sent me an email, but works been kind of crazy here lately, so I mean, it might be on my own fault that I didn't

> participate or wasn't able to participate, so I think that could be one deterrent, is the communication about it, but my email has also changed. So it's just a communication and dialogue between the participants within the group. I think that's one of the primary concerns right now." (Member 6)

One member confirmed the research that stated that once a face-to-face meeting occurs, participation is more active shortly afterwards with a slowing down effect as time passes between meetings (Hildreth et al., 2000; Kimble & Hildreth, 2005). When asked how often they used the forum, one member stated:

> "Probably a lot more after the course and it kind of petered out at the end. I go to it maybe once a month." (Member 4)

4.1.2.2 Trust in the knowledge

Members were asked if they trusted the information/knowledge that was provided and if they trusted the information/knowledge that they provided on the OCoP. All members who used the OCoP trusted the information that was provided, although they did double-check the information before passing it on to others.

> "I would like to think that people are honest. When I say I trust the information on there, like when I see something on the forum that is of interest to me, I do double-check, like I try to find a way to confirm the information that's on the forum before actually putting it to use." (Member 3)

Those members who shared their knowledge on the OCoP were confident that the information they provided was accurate and tended to make sure the information was correct before posting it online for others to view.

> "Any information that I would be putting on the forum or any comments that I would be making would be very honest." (Member 3)

> "I generally wouldn't pass it on if I wasn't sure it was from a good source. That's something you know you always have to consider before passing on information." (Member 4)

4.1.2.3 Offline/online culture and sharing

Inuit culture differs from each region, each community and can vary in practice from Inuk to Inuk (Pauktuutit Women of Canada, 2006). For many indigenous cultures, knowledge is passed down orally and not through writing (Gearheard, 2005). Storytelling is one of the ways the Inuit share their knowledge and the accuracy of these stories is taken seriously. "Someone wishing to learn the legends and stories must apprentice themselves to an Elder and speak back the story, word for word, to the Elder, before they are allowed to pass on the teachings to others" (Andrews Miller, 2008).

We asked community members if they felt that the Inuit culture was traditionally one that encouraged sharing knowledge. As previously mentioned, the OCoP was mainly used for keeping in touch with contacts. This is consistent with their offline culture, which all six members stated is traditionally a knowledge sharing culture.

> "Traditionally, yes the Inuit. As for business, politics, no." (Member 1)

> "Yes we do, simple because if there was no knowledge sharing, we as a people would have stopped existing a long time ago." (Member 3)

> "Because it's our identity, it's our pride and it tells of who we are. ...And knowledge translation is very much key to informing participants or community members of whatever events there are." (Member 5)

> "Oh yes, definitely, especially amongst other Inuit too. I mean, that's how the culture started; was people from Northern Labrador all the way up to Alaska spreading their culture and what they knew and this was all done by word of mouth. So to have that kind of geographic extent and have them communicate what they know it was very much part of the culture and sharing information and to let everyone know what was going on." (Member 6)

Although the Inuit culture is one that shares knowledge, members of this OCoP said that it is one that tends to share it in a hierarchical way. Inuit validate knowledge largely based on the experiences of the knowledge-holder, although in some instances, personal biases can impact opinions (Gearheard, 2005). Hierarchies have appeared in different ways within communities.

> "...there are classes even within a community. For instance, in my community there are about seven tribes and there one tribe can be seen as lower class compared to another tribe." (Member 1)

Two members mentioned that the hierarchies are mostly setup in a top down way, where older members are more likely to share their knowledge and younger members listen to them.

> "It's definitely a top down knowledge sharing. I would be more inclined to listen to somebody who was older and been there, been through it all. Likewise I would expect that somebody who was younger or less experienced would have to find out what I've got to say." (Member 2)

This top down hierarchy can also be seen as a problem in government relationships with the Inuit, as many of the older Inuit are not as well educated as younger Inuit and although they have been there the longest, one member said that it may not be the most helpful contribution.

> "...it's mostly people who have been there the longest that have the most say within the <association> and that's kind of been a problem because these people are not well educated, the people who have the hierarchy, who are at the top of the list, who have the say in all these agreements that have been coming out and that's how the hierarchy's developed and it's who's been there the longest and who may have been participating within the government, like within the local/regional governments, that's always a big factor as well. Though that may not be the most helpful contribution, the most helpful criteria of becoming a leader." (Member 6)

Inuit workplace values include teamwork, cooperation, and consensus-based decision making and competitive behaviour is considered "ill mannered" (Pauktuutit Women of Canada, 2006). One member mentioned that he/she found it difficult in an organizational setting because typically knowledge is seen as power and they are less inclined to share it, even with team members. When asked if the Inuit culture encouraged knowledge sharing from all members regardless of hierarchy, his/her response was:

> "For sure, I think we naturally do it. It makes it hard, like I've been in the workplace where they say they're a team, but there's always, even within the organization, there's a culture of knowledge is power and they don't share information and it kind of shocked me when I saw that because I was freely sharing information. I thought that we were working towards one goal but people get stuck in their little bureaucracies and competitions within the organization and I know that's not the Inuit way and I've seen it with non-Inuit mostly. So it's kind of discouraging when you run into that, because you know we naturally want to help each other." (Member 4)

Traditional food sharing, natural resources, and one's labour was and is still traditionally very important culturally and socially to Inuit (Pauktuutit Women of Canada, 2006)(Furgal, Martin, & Gosselin, 2002), as was mentioned by one of the members:

> "And sharing of traditional foods is still practiced today ... they share as much traditional food as they can and that's

> helpful because the younger generation are consuming less traditional foods as their ancestors did. So sharing in any aspect is solid and valuable to us Inuit." (Member 5)

When asked how members share their knowledge, they had many different methods, including the written word (email, blogs, and forums) and verbal communication (at meetings, face-to-face, and at conferences).

> "Through email, through groups, for instance I coordinate the Inuit professionals' network of <city>; group meetings and forums where it is necessary." (Member 1)

> "The written word, verbal, that's about it." (Member 2)

> "It would depend. There are so many opportunities given to people in which you could pass on knowledge, whether it be public forums, through meetings, conferences, even just person to person emails. So it's a little hard to answer that one." (Member 3)

> "Usually through email and talking to people, you know trying to discuss social and political issues with other Inuit's. Asking and finding out what they know about what's happening and how we can change things. So a lot of face to face when we can, not as often, and then just sharing information through email." (Member 4)

> "I blog, I Facebook a lot. I try to write and edit as much as I can. I'm working with Google Earth right now a lot and putting data and relaying it on there and I think that's the best way I've been relaying my information. And writing, just like personal writing too. That's always been a very important way, very easy way to send out information about what's going on within the Inuit populations. Expressing how you feel and getting it written down and sending it out to as many people as you can and getting that kind of message. I think that's the most important, and that's the easiest way too. Conserving tools that most people don't know how to use that are very difficult to use. Just writing and relaying what you

> know and what you care to know about and what you do care about and what you're going to care about in the future." (Member 6)

The majority of the members were very comfortable with the Internet. Member 3 rated his comfort as somewhat comfortable (2 out of 5) and said that he would have used the OCoP if he was comfortable and trusted the technology.

> "I could see it increasing my participation by quite a bit, simply because in the area where I'm working, there would be areas where I could take knowledge from the forum and actually apply it in work." (Member 3)

Indigenous learning creates knowledge through watching, doing, and listening and combining these with peoples' own experiences and their environment (Gearheard, 2005). Although most members were comfortable with online tools, when asked if they would like to participate in a training session once an updated OCoP is built, each member said that they would like to.

> "Depending on what the program would be, like if I already know it, then no. But if it's something that's new and interesting, then sure." (Member 4)

> "That would be interesting. I'm always open to new ideas because we get fatigued of old systems at times, so yeah, I'd be open to it." (Member 5)

Member 2 said that he/she would increase her use of the OCoP depending on its usefulness.

> "...I'm on a listserve that I use a lot right now because it applies to my work, so I use it daily. But then I'm on another list serve that I probably only pay attention to the messages half the time because they don't apply as much." (Member 2)

4.1.2.4 OCoP topics of discussion/domain

We asked members what their preferred topics of discussion were on the OCoP. The topics discussed on the forum included health and social services, and social and political issues.

> "A lot of the topics that I'm interested in have to do with I guess health and social services, and that covers a really broad area, so like housing would be of interest to me, health would be of interest to me. Anything to do with research and health issues I guess would be of interest to me." (Member 2)

> "Inuit social issues and political issues and how policies end up with these social demographic indicators, why it's there and try to make it into government policy, colonization and come up with ideas I guess." (Member 3)

Members found that the discussions on the forum rarely went off topic while one member found discussions often went off topic. The average was 2.67 (0 is never and 5 is always).

Member	Share knowledge	Use knowledge	Internet comfort	Off topic
1	5	4	5	2
2	-	-	5	-
3	1	2	2	4
4	4	3	5	2
5	-	-	4	-
6	-	-	5	-
Mean Score	**3.33**	**3.00**	**4.33**	**2.67**

Table 3 - Knowledge, Internet comfort and remaining on topic
Note: Missing data is from members who did not participate in the OCoP

4.1.3 Do the online characteristics/tools available in an OCoP influence the degree of participation from its members?

Research shows that technology has had a negative role in language and knowledge shift in the North. It introduces new ideologies and different lifestyles that are very different from

traditional Inuit lifestyles. Conversely, technology has also helped in resisting outside influences. The Inuit have used media technology as a tool to encourage Inuktitut language learning (Gearheard, 2005). This shows that they are accepting these new tools and actually using them to their benefit.

Members were asked what characteristics/tools they thought would be beneficial to the community if they were added to the OCoP. Examples were given to them before they provided their ideas, but the list of examples was not comprehensive. The limitation of this question is that members could only provide tools that they were familiar with and aware of. Video, for demonstration purposes was suggested as a useful tool. Video allows members to see important elements such as facial expressions, emotions, voice intonations, body movements and hand gestures (Gearheard, 2005). However, it was also suggested as a non-useful tool due to lack of Internet bandwidth in Northern Canada.

> "I would prefer video anytime, but I know the North, that's not going to work, they don't have enough bandwidth. So it would have to be text for them." (Member 4)

OCoP members would also like real time interactivity and synchronous information exchanges through chat rooms or a similar tool where they could meet online and have real time communication.

> "I think it would be very useful where you can get interaction, i.e.: where if you have 2 or 3 people on the forum at the same time that could actually email back and forth, or, you know, have a discussion online." (Member 3)

> "Some kind of forum where people can in real time, like chat rooms or something like that, but nothing as simple as a chat room, something a little more substantive I guess. I don't know what it would be, but you know what I mean. Something that's in real time, that we could agree to meet or

> go on the Internet at a certain time and we could all get on." (Member 4)

Two of the members mentioned the use of FaceBook.

> "Facebook for sure because I get on my Facebook regularly and I know <another member> does too, so that would line up most of us because we have at least 4 or 5 trainee members who were at the Institute last year and whom are on the Facebook, so that would be my first preference, though Facebook." (Member 5)

One interesting suggestion was the use of radio and how it is used as a strong mechanism for communication in the North. This would have to be examined in greater detail to determine how it could be built into the OCoP.

4.1.4 Do technological factors influence the degree of participation in an OCoP?

It is important to address whether or not community members have access to not only a computer, but the Internet. In October 2008, the Kativik Regional Government signed a deal with Telesat Canada to use satellites to provide broadband to several communities in Arctic Quebec, 14 communities in Nunavut, 13 communities in Northwestern Ontario and 16 communities in Northern Manitoba, at a cost of $50 per month for 128 Kb/s and $70 per month for 256Kb/s in Nunavut (Ruffolo, 2008). This addressed part of Northern Canada, but left much of it to be dealt with.

We asked members if they had easy access to the Internet and where they were most likely to use the forum. All members had easy access to the Internet either at work, home or at school. Members gave the same answers to where they were most likely to use the forum.

Member	Access to Internet	Use forum
1	Work or home	Work
2	Work	n/a
3	Work and home	Work
4	Home and school	School
5	Work	n/a
6	Work and home	n/a

Table 4 - Access to Internet and Forum Use

Members were on the computer and Internet from 4 to 16 hours a day. Most stated that if they were on the computer, they were likely on the Internet too.

> "Approximately 8 to 9 hours. That's during the work days. I have fewer hours on the weekends because I like to commit it to my family." (Member 5)

Internet is used typically for research for their jobs or for school, email, reading articles and for personal reasons.

> "Usually when I get home I check my personal email, I use it for my studies to practice tests, check my FaceBook and Bibo, email and at work for email and whatever search I need to do that's related to my work. I think that's it." (Member 1)

> "Looking for information. Reading articles and receiving information from other people on things that interest me. News and new articles. That kind of thing" (Member 4)

> "Work related and not work related too. I'm always on the Internet communicating with people." (Member 6)

4.1.5 Does the level of member involvement in the development process in creating an OCoP influence the degree of participation?

Only two members reported that they took part in developing the forum (Members 1 and 4). When asked how they contributed to the OCoP, member 4 stated:

> "Just talking about ideas for the site and what kind of content should be in there." (Member 4)

Members who did not participate in the development of the OCoP were aware of the opportunity to do so.

> "I did see a whole bunch of emails going back and forth when it was being discussed initially." (Member 2)

> "I was invited to attend the forum development meetings, but as I mentioned earlier, we're busy with meetings and travels being a national organization, so the timings were off with me and the meeting, so I didn't participate." (Member 5)

Three of the four members who did not take part in the development said that they would have been more involved in the OCoP if they had contributed to the development (Members 3, 5 and 6).

> "Yeah, I think I would. I would contribute as much as I can. Time has been very dear right now or very hard to come by. Like having time to do other things besides work, so I mean I would have contributed for sure, most definitely I would." (Member 6)

The fourth member said that he/she chose not to be involved in the development.

Two members had participated in the development of other OCoPs and they said that they were more likely to take part in those they helped develop.

In the Inuit culture, teaching and learning involves watching, listening, following, speaking, reciting, practicing and trial and error (Gearheard, 2005). This shows that it is very important for the Inuit to be a part of the teaching and learning process. Although all members were busy and this was a big reason for not using the OCoP, five of the six

members stated that they would be very interested in being a part of the group who develops the updated OCoP.

> "I would want to be one of the people that they ask questions. Like, if there are people developing it and they want guinea pigs so to speak, I'd be more than willing to participate, to see how good it becomes." (Member 3)

> "Sure, sure. If there's more participation and ownership, yes, then I'll feel more obliged to participation." (Member 5)

4.1.6 Additional comments

Only two members provided additional comments at the end of the interview. The one member who was not aware of the OCoP asked to be sent the link so that he/she could participate. Another member stated that he/she liked the idea of the OCoP.

> "I think the site is a really good idea, it's neat, but maybe we need to expand its roll to invite other people to join later on once the content is developed." (Member 4)

4.2 SUMMARY OF FINDINGS

Research demonstrates that the use of OCoP has been largely unsuccessful due to barriers such as lack of time, technology factors, an environment or culture that does not encourage knowledge sharing, and a structure/design that is not useful for the members of these communities (Baek & Schwen, 2006; Carr & Chambers, 2006). The findings from these interviews showed that a lack of time was one main reason why this OCoP was unsuccessful. This factor is difficult to address or change, but if the topics of discussion were up to date, organized and relevant to issues that were happening to the Inuit, we believe that it would be easier to log into the OCoP and spend little time while adding

valuable knowledge. Comfort with the Internet and its tools were not seen to be a barrier to participation. Online characteristics/tools that were found to be most useful for this group were text tools that allow for synchronous communication. Video was suggested as a useful communication tool, but not practical for members residing in Northern Canada, due to Internet connection speeds. Members who had participated in the OCoP had similar interests in the topics that were discussed and trusted the information that was posted and that they posted. All members recognized Inuit are a knowledge sharing culture and were used to sharing their knowledge. A hierarchical knowledge sharing structure was discussed in the interview, and we will see how this can be incorporated into an updated OCoP in the form of a moderator or leader. Additionally, all but one member showed interest in becoming part of the development group for an updated OCoP.

Although there were many factors present that would indicate that this OCoP should be successful, time seemed to be the biggest factor for not participating. The crucial goal of the development group will be to create an online tool that will allow for timely knowledge exchange.

CHAPTER 5

DISCUSSION

The aim of this research was to develop an interview questionnaire that could be used to interview members of an OCoP to evaluate what factors influenced participation. Building on the literature, the interview questionnaire evaluated the online characteristics/tools, the participant involvement factors, such as time and online/offline cultures, technological factors, and involvement in the development process. In the previous chapter we discussed the results and how they related to traditional Inuit knowledge sharing and learning. In this chapter we will discuss a typology of OCoPs that has been developed and where we can see the challenges in building a successful OCoP. We will also discuss the implication of the findings, research limitations, recommendations including the elements of success and the shortcomings of the interview questionnaire, contributions to research, and how they can be built upon for future research.

5.1 IMPLICATION OF FINDINGS

The Inuit culture is one that not only shares knowledge, but exists today because of its sharing. Therefore, an OCoP is a tool that can be successful with these members under the proper circumstances. We must use this to the advantage of the members and build an OCoP that will allow members to logon and continue sharing their knowledge.

As an OCoP is dependent on technology, we must consider access to computers, access to the Internet and bandwidth capabilities when updating the OCoP. All members interviewed had easy access to computers that had Internet connections, but the members of

the OCoP residing in Northern Canada discussed how bandwidth must be considered. When developing an updated OCoP, we know that large images, fancy tools such as Flash animations and online videos will not appropriate for this OCoP.

An updated OCoP will be created based on the results from this research and all members of the Inuit cohort, including those who did not participate in the interview, will be invited to take part in the development group. Based on the results from this research and results from published research, we believe that including OCoP members as part of the development team will create more ownership and encourage participation.

The small number of participants and the fact that we were trying to get the population of this OCoP, did not allow us to do inferential statistics, but the interview findings did answer most of our research questions. We must also keep in mind that the results are specific to this purposely selected OCoP and cannot be considered representative of any other OCoP.

Do member involvement factors influence the degree of participation in an OCoP?

(a) Does the amount of time a member has influence his degree of participation in an OCoP?

(b) Does the level of trust in the information influence the degree of member participation in an OCoP?

(c) Do offline cultures influence the degree of participation in an OCoP?

(d) Does having a clear domain influence the degree of participation in an OCoP?

The amount of time a member had was found to be the most influential factor in whether or not they participated in the OCoP. In this OCoP trust, offline cultures, clear domain, and infrastructure did not play a role in the lack of participation. Members who used the forum trusted the information that was posted and trusted the information that they posted.

Do the online characteristics/tools available in an OCoP influence the degree of participation from its members?

There was no evidence that the forum caused members to not participate in the OCoP. However, when given the opportunity to select which characteristics they would find useful, many members stated they liked tools that provided synchronous communication and social networking sites such as FaceBook. Video was also suggested, but it was also recognized that it would not be beneficial to those members in Northern Canada due to low bandwidth.

Do technological factors influence the degree of participation in an OCoP? (a) Does infrastructure, including availability of computers and Internet access, influence the degree of member participation in an OCoP?

Infrastructure did not impact the level of participation either. All members had access to computers and the Internet. Although bandwidth must be considered in Northern Canada, the use of a forum was not likely to impact the level of participation, as it required low bandwidth.

Does the level of member involvement in the development process in creating an OCoP influence the degree of participation? (a) Does input from members in the online characteristics influence the degree of participation in an OCoP? (b) Does input from members on design influence the degree of participation in an OCoP?

Most members did not participate in the development process, but said they were more likely to participate if they had. They felt it would give more ownership and encourage

participation. The two members who were involved in the development process used the OCoP, but no more than those who did not participate in the development group.

5.2 RESEARCH LIMITATIONS

All 20 members of the Inuit cohort were invited to participate in the interview, however only six members were able to take part. We believe this is sufficient and achieved data saturation as there have been some qualitative studies using small numbers of participants that have been useful for studying information systems (Gennari, Weng, Beneditti, & McDonald, 2005; Kushniruk & Patel, 2004; Kuziemsky, Weber-Jahnke, Lau, & Downing, 2008). The six members who participated did provide a variety of answers and we do not believe additional interviews would have provided much additional information. At the same time the emails were sent to cohort members, additional emails were being sent to participate in the 2009 Summer Institute. A few of the members who answered thought the emails were concerning the 2009 Summer Institute. This obviously caused some confusion and may have impacted the number of members who responded. One person who stated her interest to participate was contacted by telephone twice but then said he/she was too busy to participate in the interview at that time. Two other members said that they would do it but never got around to participating even after follow-up emails were sent and voice messages were left on their work telephones. Additionally, members who agreed to take part in the interview questionnaire might also be the type of person who would be more likely to participate in the OCoP. It would be interesting to know how many members who did not participate in the interview questionnaire participated in the OCoP, and why they did not participate in the interview questionnaire.

5.3 RECOMMENDATIONS

Based on the results from the interviews, we found that there were some successes, as well as some shortcomings in the interview questionnaire. The most interesting finding was that these members all belonged to a culture that was built upon sharing knowledge. This makes us hopeful that with the right online tool, an OCoP can be successful.

5.3.1 Elements of success

The members who participated in the interview were happy that their voices were heard. Five of the six members confirmed that they would like to be involved in the development group for an updated OCoP. Although the results from the interviews only gave an idea of what the entire group might want, it does provide a starting place to have meetings with the development group. It also lets us know that there is interest to build a better OCoP and that there are members would like to participate in the development group.

5.3.2 Shortcomings of the interview questionnaire

Having only pilot tested the interview with one member, some issues were overlooked. The length of time it took to finish the interview questionnaire was much shorter than originally expected. We now believe the interview questionnaire could have been longer. Perhaps asking more questions without being redundant would have provided richer data. We could have developed the interview questionnaire based on the generic model, adding questions for the sections we excluded in the empirical model (context of use, the demand for knowledge, leadership roles and cost to users). Adding the question under the context of use "If your employer was aware of the OCoP, would they designate time during working hours

for your participation?" would inform us if members had additional time at work to participate in the OCoP. Also related to the member's organization, it would be interesting to find out if they work in an organization that supports knowledge sharing or if they are hierarchical in nature. This could affect the working habits of individuals and may even take precedence over personal culture while the member is at work and in that frame of mind.

Three other questions that could be added are "How much do you pay to your internet service provider for access to the Internet?", "How much time do you feel you would need to participate in the OCoP at a level you would find beneficial for yourself and other members?" and lastly, "What would you have to give up in order to have this time to participate? This would cover the cost factors of the generic model and cover the monetary costs as well as the time and opportunity costs.

Although there was no direct mention that a leader/moderator would help the OCoP, there were comments that could be addressed if there was a leader to set up online discussions and to keep information current and interesting to the OCoP members. We have excluded the role of a leader or moderator in the questioning because all members took the same course and none would have been seen as a leader. Based on results found in published literature, we believe that if there was a member of the Inuit cohort or someone else involved with the cohort in this role, it would have kept discussions current and on topic. We must remember that Inuit leaders typically lead by example and not by delegating tasks to other members. They are also only considered to be the leader for a particular event thus, when the event is over, so is their leadership. People who state their views too strongly would be considered bossy or pushy and would be dealt with appropriately by other

members (Pauktuutit Women of Canada, 2006). For this reason we believe a moderator would be beneficial in keeping conversations active and discussions on topic.

Not only could we have added questions relevant in the generic model, but additional questions could have been added that fit under the empirical model. One question that could have been asked at the start of the interview was what the members thought the goal of the OCoP was. This would have shown if they were participating in the OCoP for the same reasons. Some of the questions could have used a follow-up prompt for additional information such as what speed of Internet connection they have access to. This could help determine what tools to use, although this can be determined in a development group meeting. Additional pilot testing could have helped with this but because the total population was small to begin with, we did not want to do too many pilot interviews. Unstructured follow-up prompts were not used during the interviews because we had decided to use a structured interview so that each member was asked the same questions. We undertook this route in order to minimize interview bias.

5.4 TYPOLOGY OF AN OCOP

In 2005, Dubé et al (Dubé et al., 2005) created a typology of OCoPs that discussed the different structuring characteristics of an OCoP and the level of difficulty the OCoP would encounter based on these characteristics (Appendix 9). We took this typology and applied it to the Inuit cohort OCoP to see where the challenges would be in creating the OCoP. Detailed information can be found in Appendix 9, but we provide a summary of the results.

The first structuring characteristic was the demographics of the OCoP. Demographics include the orientation, life span, age and level of maturity of the OCoP. The level of difficulty for the Inuit cohort OCoP was found to be difficult as the OCoP was new,

the OCoP would be permanent and the level of maturity was low, since the group was relatively new and had recently been established.

The second structuring characteristic was the organizational context. The organizational context encompassed the creation process, boundary crossing, environment, organizational slack, degree of institutionalized formalism and leadership. This section had to be interpreted because not all members of the OCoP worked for the same organization. This structuring characteristic was found to be easy to address because the updated OCoP will be created for the cohort. The original OCoP was created by members of the cohort but the updated OCoP will have some external help so it can include more tools that they need. The only difficulties we can perceive are that since the members work for many organizations, it will be more difficult to have set times for online meetings and other synchronous communication. The other difficulty is that there is currently no leadership, but this will be discussed with the development group when the updated OCoP is created.

The third structuring characteristic is the membership characteristic, including the size, geographic dispersion, members' selection process, members' enrollment, members' prior community experience, membership stability, members' ICT literacy, cultural diversity and the topic's relevance to members. This structuring characteristic was viewed as easy to medium. The easy characteristics are the small size, the fact that the members are a part of a group, and that not just anyone can join. The members are also likely to be permanent, with very few new members being added. The easiest characteristic is that the members are the ones who choose which topics they will discuss. This allows total freedom to discuss what is going on at the time.

The last structuring characteristic is the technological environment which is one of the more difficult characteristics to be addressed. This includes the degree of reliance of ICT and ICT availability. This is seen as difficult because the reliance of ICT is 100%, with very little face-to-face communication (2 weeks each year). The members of the OCoP stated that they would like to use mostly text based communication due to the slow Internet connections in the North.

5.5 CONTRIBUTION TO RESEARCH

The contribution to research is a questionnaire built from published research that was used to interview the members of this OCoP. This interview questionnaire can be used as a template or model for future research. It has the dimensions that are relevant to the empirical model for this research project, though it can be modified to satisfy different models.

In addition, content directed qualitative analysis was performed based on the results of the interviews to see what factors and processes increased the degree of participation for this particular OCoP.

5.6 FUTURE RESEARCH

Building on the results from the questionnaire, a development group will be formed to create an updated OCoP. This updated OCoP will include the characteristics/tools that were suggested by the members who took part in the interview. However, since a majority of the members of the Inuit cohort did not participate in the interview, new tools may be added. The tools suggested by the members who participated in the interview will be used as suggestions and guidance in the development meetings. The development group will create

the OCoP, will help make sure everyone knows that the OCoP has been developed and why it should be used, and the benefits to using it. A focus group setting could be useful as a follow-up tool to the individual interviews. One reason for this is that different members may be aware of alternative online characteristics/tools that may be of interest to other members who are unfamiliar with that particular tool. In addition, having an open discussion could create renewed excitement for development and online discussions. This could be the result of the development group meetings.

This interview was done nearly a full year after the initial training and development of the OCoP. After the updated OCoP is developed, a follow-up interview will be done six months after its launch to evaluate its success. This interview will be done with additional or reworded questions to ensure that we obtain the types of answers we are looking for and enough detail to provide good results.

We believe a doctoral research thesis would involve developing a validated standardized tool that could be used by anyone who wanted to evaluate the determinants of participation in any OCoP. This would involve statistically analyzing, through factor analysis, the validity of each individual question.

5.7 A CHECKLIST FOR SUCCESSFUL OCOPS

Having done this research and based on findings from the literature review, we have developed a rudimentary checklist (Figure 3) of factors that could contribute to a successful OCoP, keeping in mind that there may always be outside factors that could render an OCoP

unsuccessful. This could be modified in the future to include questions found in the generic model interview questionnaire.

Do members have the time to participate in the OCoP?	❒ Yes ❒ No ❒ Not sure
Do members trust the information/knowledge available and given?	❒ Yes ❒ No ❒ Not sure
Do members belong to a culture that encourages sharing knowledge?	❒ Yes ❒ No ❒ Not sure
Does the OCoP have a clear domain (topic)?	❒ Yes ❒ No ❒ Not sure
Do members have access to infrastructure (computers and Internet)	❒ Yes ❒ No ❒ Not sure
Do members have access to the Internet with bandwidth that is sufficient to support tools used in the OCoP?	❒ Yes ❒ No ❒ Not sure
Have members been involved in selecting the tools used on the OCoP?	❒ Yes ❒ No ❒ Not sure
Have members been involved in the design/appearance of the OCoP?	❒ Yes ❒ No ❒ Not sure
Does the OCoP use the appropriate characteristics/tools required for discussions and member access?	❒ Yes ❒ No ❒ Not sure

Figure 3 – Rudimentary checklist

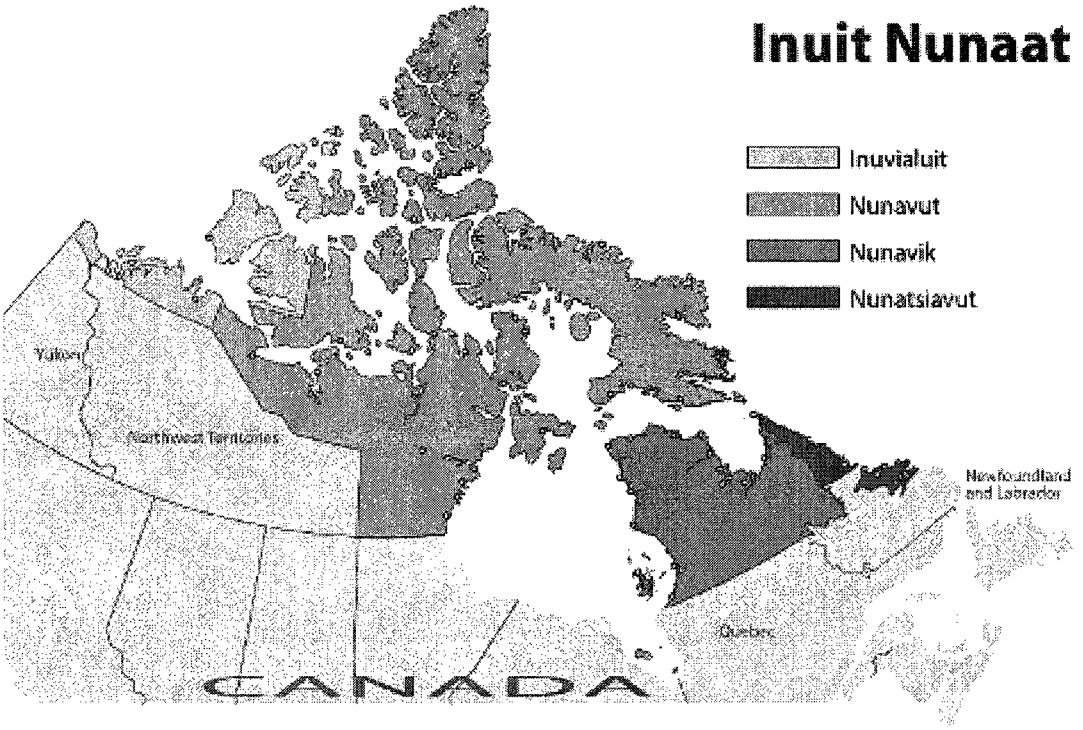
5.8 CONCLUSION

Although there were few members who participated in the interviews, the results from the research provided a foundation to build a better interview questionnaire, build an OCoP development group, and ultimately build an updated OCoP. A certain level of success can be

found in the fact that all but one of the members who participated in the interview agreed that they would like to be a part of the development group that creates the updated OCoP. This sets the next steps in motion. Lack of time was the main factor in why members were unable to participate in the OCoP. This is a difficult issue to resolve; however, if the OCoP had been organized in a way that allowed members to input their valuable knowledge in a timely manner, it could impact the level of participation. As was found in many published papers, as well as was mentioned by one of the members, the need for face-to-face communication is still necessary to develop relationships, build trust and revive energy for online discussions. The group is meeting in Ottawa in June 2009 and the findings will be presented and the development group formed. This face-to-face meeting should energize the process and hopefully we will be able to accomplish our goals quickly and efficiently.

APPENDICES

APPENDIX 1 – MAP OF INUIT REGIONS



APPENDIX 2 – GENERIC MODEL

Category	Factor
Community context of use	▪ Organizations/business o Customer interaction o Geographically disperse o International teams ▪ Blended courses o High school, university and graduate level ▪ Professional development o Organizations o Nursing o Teaching o Librarians o E-mentoring
Characteristics of OCoP	▪ Forums ▪ Emails ▪ Blogs ▪ Video ▪ Social networking ▪ Wiki's ▪ Social bookmarking ▪ Podcasts ▪ Chat rooms ▪ Video-conferencing ▪ Q&A
Member involvement factors for participation	▪ Time ▪ Trust o Willingness to use OCoP as a source of new knowledge ▪ Online/offline cultures o Comfort with online tools, Face-to-face meetings ▪ Demand for the knowledge ▪ Member roles ▪ Clear purpose or vision (domain)
Technological and cost factors for participation	▪ Costs ▪ Technological factors o High-speed, ease of use, access to Internet, quality of equipment
Member involvement in development process	▪ Members who have input on what characteristics will be used ▪ Member input on design

APPENDIX 3 – EMPIRICAL MODEL

Category	Factor
Characteristics of OCoP	▪ Forums ▪ Emails ▪ Blogs ▪ Video ▪ Social networking ▪ Wiki's ▪ Social bookmarking ▪ Podcasts ▪ Chat rooms ▪ Video-conferencing ▪ Q&A
Member involvement factors for participation	▪ Time ▪ Trust o Willingness to use OCoP as a source of new knowledge ▪ Online/offline cultures o Comfort with online tools, Face-to-face meetings ▪ Clear purpose or vision (domain)
Technological factors for participation	▪ Technological factors o High-speed, ease of use, access to Internet, quality of equipment
Member involvement in development process	▪ Members who have input on what characteristics will be used ▪ Member input on design

APPENDIX 4 – INTERVIEW QUESTIONNAIRE

A Community of Practice (CoP) is a "group 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".

Category	Factor	Criteria	Questions
Degree of Participation	Time	- the frequency - the session length	1. **How frequently do you currently participate in the Inuit Winter Institute forum?** 2. When you go to this forum, how much time do you spend there?
	Knowledge	- sharing - receiving	3. On a scale of 0 to 5, where 0 is never and 5 is very often, how often do you share your knowledge on the forum? 4. On a scale of 0 to 5, where 0 is never and 5 is very often, how often do you use the knowledge provided from the forum?
		- identify the general motivations and barriers to contributing and using knowledge to an OCoP	5. What are the reasons you use the forum? 6. **What are the barriers to using the forum?**
Online CoP characteristics	Forum, Emails, Blogs Video, Social networking, Wiki's, Social bookmarking, Podcasts, Chat rooms, Video-conferencing, Q&A, Anonymous postings	- the variety of online tools such as email, blogs and videos	Give a list with a description of tools, then ask: 7. **In addition to Blogs, what other 3 tools, if any, do you think would be useful to have implemented on the OCoP?**
Participants usage			
Member involvement	Trust	- the level of reliability and trustworthiness of the knowledge shared and received	8. Do you trust the knowledge provided on the forum to find answers to questions you might have? Why or why not? 9. Are you confident in the knowledge that you share with other

Category	Factor	Criteria	Questions
			members of your community? Why or why not?
	Online/Offline cultures -Personal culture	- the level of knowledge sharing through stories, examples, personal experiences, etc. - offline culture characteristics, such as what people think, what they do and the materials they use and produce	**10. Do you consider the Inuit culture as one that encourages sharing knowledge?** If yes, ask question 11. 11. Does your culture encourage knowledge sharing from all members regardless of any hierarchy? **12. In what ways do you typically share your knowledge?**
	-Comfort with online tools	- the level of comfort with the Internet - the level of comfort with computer-mediated discussions	**13. On a scale of 0 to 5, where 0 is not comfortable and 5 is very comfortable, how comfortable are you using the Internet?** **14. Would you participate in a training session to see how the OCoP works?** 15. **If you were comfortable with how to use this online community, do you think it would increase your participation? Explain.**
	Clear purpose/vision	- the level of clarity of the topics discussed in the OCoP - the focus of the discussions on these topics	16. What are the topics you prefer to discuss on the forum? 17. On a scale of 0 to 5, where 0 is never and 5 is always, how often do the discussions go off topic?
Technology	Technological factors - high speed access - access to Internet - quality of equipment	- the level of technology available to the participants - geographic location - social context	**18. Is it easy for you to get access to a computer with an Internet connection?** **19. Where do you use the Internet most of the time?** If answer to 19 is not home, then ask 20 20. Do you have access to the Internet at home? 21. Where do you most often use the forum?

Category	Factor	Criteria	Questions
Participants Involvement in the development process	- Input on OCoP characteristics - Input on design	- the level of member involvement in choosing online tools - the level of involvement in the design of the OCoP	**22. Have you participated in the development of this forum? In what capacity?** If no, ask question 23 23. Do you think you would be more involved in the forum/OCoP if you had participated in its development? **24. Have you participated in the development of any other OCoPs?** 25. Do you participate more in the ones you have been involved in the development? **26. If there was an update to the forum/OCoP, would you like to be a member of the group who designs the layout and appearance?**
Demographic Information	Control	- control variables	**Are you male or female?** **What is your current age?** ❒ 18-24 ❒ 25-34 ❒ 35-44 ❒ 45-54 ❒ 55+ **What level of education have you completed?** ❒ Some high-school ❒ high-school ❒ college ❒ university ❒ graduate degree **What is your current employment?** **In minutes or hours, on average, how often do you use a computer in a day?** **Why do you typically use the computer? (for work, email, browse the Internet, etc)** **In minutes or hours, average, how often do you use the Internet in a day?**

*Bolded questions where asked to each member. Non-bolded ones where asked only if appropriate.

APPENDIX 5 – EMAIL TO MEMBERS OF INUIT COHORT

Hello <name>,

As part of the follow-up to the Winter Inuit training and in order to complete my graduate degree we are doing an evaluation, by telephone interview, of the forum that has been in place over the last ten months. Please find attached a letter that provides more details as to what we are planning on doing.

Once I have received your confirmation for participation, I will be contacting you to set up a time for the interview. If you have a preferred day of the week or time of day that you are available for the interview, please let me know in your confirmation response.

I have also included the Oral consent script that I will read to you prior to the interview that describes the purpose of the study for my graduate degree.

If you have any further questions, please contact me (chamel@ciet.org) or <member> at any time and we will be happy to answer any of your questions.

Sincerely,

Candyce Hamel

APPENDIX 6 – LETTER TO MEMBERS OF INUIT COHORT

Dear ,

We hope your winter is going well. As you may already be aware, a web-based forum has been created by one of the Institute members for participants to share ongoing research and educational activities, questions and opportunities. This forum, coupled with an effort to ensure continuity of the annual institute, may facilitate the sharing of research and opportunities with various audiences including: Inuit-representative organizations, regional governments, related research organizations and academic programs, grassroots initiatives, Indigenous researchers and students.

As a follow-up, we would like to interview each member of the Winter Institute individually to get an idea of who is and who is not participating in this web-based forum and what are some of the motivations and barriers to participation. The ultimate goal behind these interviews is to see what we can do to help build a comprehensive web-based tool that encourages participation.

Interviews will be done on an individual basis over the telephone. Participation in the interview process is 100% voluntary, but will be greatly appreciated. Estimated time of the interviews will be between 20 to 40 minutes, depending on the length of responses you provide. Whether or not you have been participating in the web-based forum, any information you provide will be helpful to see how we can help provide a more complete online sharing and communication tool. Interviews will be scheduled in order to be completed for May 2009, with results to be made available for the Summer Institute.

Interviews will be 100% confidential and will be recorded, transcribed and aggregated for qualitative analysis purposes. An oral letter of consent will be read to interviewees prior to the interview and full University ethics has been obtained.

If you are interested in participating in this initiative or if you require further information on the interview, or the information being collected, please contact us by telephone at (613) 562-5393 or by email chamel@uottawa.ca. Thank you in advance for your consideration.

Sincerely,

Candyce Hamel

APPENDIX 7 – CONSENT FORM

Oral Consent Script

Determinants of participation in an online Community of Practice (OCoP)

Purpose of the study

We want you to answer the interview questionnaire orally through telephone interview. It includes approximately 25 questions, but you should be able to finish it in between 20 and 40 minutes depending on the length of your responses. To keep your answers confidential, we will not put your name anywhere on any forms, or electronically.

It is your choice to answer the interview questionnaire or not. You don't have to answer all of the questions and can stop any time you want.

The graduate student and her supervisor are the only people who will see or hear the completed interview.

The graduate student will enter the information from the interview into a qualitative software called NVivo and then put the recording of the interview into a locked cabinet. The interview recordings will be kept in a locked cabinet for as long as is necessary for the dissertation to be approved, defended and any comments from reviewers are addressed and then they will be destroyed.

Thank you!

Candyce Hamel

****

CONSENT:

I read this form to the participant(s) and they gave their verbal consent for their participation.

Identification code of participant: _____

Name of person who obtained consent: _____

Signature: _____

Date: _____

APPENDIX 9 – TYPOLOGY OF AN OCoP

Structuring Characteristics	Explanation	Level of Difficulty (Easy/Medium/Hard)
Demographics		
Orientation (operational ↔ strategic)	This one would fall half-way between operational and strategic. There is a strategic purpose to setting up this OCoP, but much of the communication will be answering everyday questions.	Medium
Life Span (temporary ↔ permanent)	The life span of this OCoP is closer to being permanent than temporary. The purpose is to have a tool for communication and education during the periods where there is no training.	Hard
Age (young ↔ old)	This OCoP is young, it was developed in February 2008, but participation was very small. The updated OCoP will basically be starting over.	Hard
Level of Maturity (transformation stage ↔ potential stage)	The level of maturity is level 2 coalescing, meaning the OCoP is officially launched. The OCoP activities are starting and that main focus is on establishing value.	Hard
Organizational Context		
Creation Process (spontaneous ↔ intentional)	This OCoP was created spontaneously by a few members of the cohort to encourage and facilitate ongoing communication and learning.	Easy
Boundary Crossing (low ↔ high)	There is a high level of boundary crossing since many do not work in the same organization, although they have already been a cohort and have been trained together.	Hard
Environment (facilitating ↔ obstructive)	There personal culture encourages sharing and communication. Participants were each given two weeks off from their organization to participate in a community-based epidemiology training course. Therefore, organizational support does exist to some degree. Not all members participate in the OCoP at work, they still access it at home and school.	Medium

Structuring Characteristics	Explanation	Level of Difficulty (Easy/Medium/Hard)
Organizational Slack (high ↔ low)	The level of organizational slack is high. Due to the context of this OCoP, organizational slack would be the resources that we will supply as part of the OCoP. We plan on having full support of experts and technical staff, as well as tutorials, FAQs and other online support resources.	Easy
Degree of Institutionalized Formalism (unrecognized ↔ institutionalized)	This OCoP would be considered unrecognized by the organizations.	Easy
Leadership (clearly assigned ↔ continuously negotiated)	There currently are no leaders assigned. This can be one of the reasons why there have been difficulties getting the OCoP up and running. A moderator may be considered in the updated OCoP.	Hard
Membership Characteristics		
Size (small ↔ large)	The size of this OCoP will be relatively small. It is targeted to a cohort of approximately 20 members with additional "expert" members who will be involved.	Easy to medium
Geographic Dispersion (low ↔ high)	The geographical dispersion can be considered medium to high. Cohort members live in 2 provinces and 3 territories across Canada. Expert members live in additional 2 or 3 provinces across Canada. These areas include multiple time zones.	Medium to hard
Members' Selection Process (closed ↔ open)	This will be a closed membership OCoP. New members may be invited or allowed in the future, but at the time of creation it will be closed to this cohort and experts.	Easy
Members' Enrollment (voluntary ↔ compulsory)	Although members where part of a training cohort, membership will still be voluntary.	Easy
Members' prior community experience (extensive ↔ none)	The group will have worked together, but not using an OCoP.	Medium
Membership stability	Membership will be fairly stable as the core members should remain	Easy

Structuring Characteristics	Explanation	Level of Difficulty (Easy/Medium/Hard)
(stable ↔ fluid)	over time, with few new additions.	
Members' ICT literacy (high ↔ low)	Members comfort with ICT is very high.	Easy
Cultural diversity (homogeneous ↔ heterogeneous)	National culture of main members is homogeneous. All members do speak and write in English. Professional culture is deemed to be heterogeneous as members range from community health nurses, community coordinators, epidemiologists, community based researchers, etc.	Medium
Topic's Relevance to Members (high ↔ low)	Topics and discussions will be directly related to the main member's interests. They are the ones who came up with the topics at the training sessions.	Easy
Technological Environment		
Degree of reliance on ICT (low ↔ high)	The degree of reliance on ICT will be high since the group is spread out across Canada. There are members who live in the same community as others, however, as a complete group, much of the communication and interaction will be done online. There is work being done to ensure that these members will be able to meet at least once a year for additional training and face-to-face meetings.	Hard
ICT Availability (high variety ↔ low variety)	The members of the OCoP prefer mostly text tools, but are looking for something more synchronous. So this would make it a medium variety of tools.	Medium

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