Experienced Community of Practice and Knowledge Transfer in a Science/Technology Company

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Abstract

Capturing what an organization knows and effectively managing the flow of knowledge across an organization is a challenge. One promising method used to facilitate knowledge transfer is the creation and development of Communities of Practice (CoP) within the organization. This paper will focus on the relationship between organizational practices and technology tools for the development and support of "experienced" CoP – the level and type of community experienced by the individual members. We present the results from survey measures and company archival data of Technical Account Representatives (TARs) at a Fortune 500 company. Results demonstrate support of our arguments for differential relationships between subcomponents of a model of CoP and how these subcomponents differentially relate to tacit and explicit knowledge. We discuss how these results provide value to the flow of knowledge and organizations' ability to support the development of knowledge.

1. Introduction

For a company to keep a sustained competitive advantage it is critical to foster and manage knowledge within the organization [19; 31; 32]. Organizations strive to find optimal ways to facilitate the flow and transfer of the company's knowledge to individuals and to integrate an individual's unique knowledge into the company's knowledge bank. The call for a more comprehensive understanding of how to effectively exploit knowledge has led to a wave of research focusing on the knowledge-transfer process, specifically within firms and teams. For example, Griffith, Sawyer, and Neale [14] present an overarching model of the dynamics of knowledge development and transfer. A key component of their model is the role of Communities of Practice - CoP [29].

This paper will focus on the relationship between organizational practices and technology tools for the development and support of *experienced* CoP – the level and type of community experienced by the individual members. We will present the results from a field study within a Fortune 500 company, focused on the firm's Technical Account Representatives (TARs). The TARs are geographically distributed and have limited opportunity to meet face-to-face with others from their particular specialties. This paper will be building upon the definition and model proposed in Cadiz, Griffith, Sawyer [7]. First, we will give a brief overview of our definition of CoP and approach to CoP. Then we will explore the development of a CoP in the context of organizational practices and technology tools used to support the CoP. Additionally, we will explore and make arguments for the differential relationships between the sub-components of experienced CoP and how these sub-components relate to tacit and explicit knowledge. Finally, we present data supporting our arguments and discuss the impact of this research on the understanding of knowledge flows in CoPs and propose additional areas for future research.

2. Basics of Experienced CoP

2.1 Definition

Cadiz, Griffith, Sawyer [7] proposed a definition of CoP building from prior critical literature and research [e.g., 5; 18; 29]. CoP was defined as a "set of people informally bound together through common interest and language with the goals of open communication, and exchange and retention of pertinent knowledge" (p. 11).

2.2 Model

From their definition of CoP, Cadiz, Griffith, Sawyer [7] proposed that *experienced* CoP is made up of four distinct subcomponents. These include the extent to which there is perceived to be a shared vocabulary within the community, the extent to which learning from others within the community is seen as a goal of the community, the extent to which there is perceived to be open communication within the community, and the extent to

which the community is seen as a way of remembering previous lessons. Although these four CoP components have individually been identified within CoP research [4; 5; 28] they had not been put together within one comprehensive model of CoP. Below we briefly describe each sub-category and provide justification for how the component is required for the establishment and identification of a CoP.

2.2.1. Shared Vocabulary. Within a CoP, team members create a common "lingo" to interact with each other to facilitate the transfer of information. In addition, having a shared vocabulary may also be a way for the group to establish a bit of exclusivity. Having this exclusivity adds to the value and motivation for an expert to attend and interact within a CoP.

2.2.2. Learning from each other. One of the underlying reasons why a CoP is formed is for the purpose of learning from interactions with people who share the same interest. The focus of group interactions is to share and listen to other community members. CoPs not only provide a place where members can learn from previous experiences but the new information may also catalyze new ways of applying the information within the common practice.

2.2.3. Open Communication. Establishment of trust and a motivation to share information are critical to the functioning of a successful CoP. Open communication is also synonymous with freely communicating which can be established through face-to-face interactions as well as virtual methods of interaction, including email, message boards, group email aliases, etc. This sub-component is intended to measure whether or not there is trust within the community to share information and the ease of interactions within the CoP.

2.2.4. Remembering Previous Lessons. An additional common component of a CoP and common reason for why they are set up is to establish a place where best practices and lessons can be shared and passed on to peers that will benefit from the new information. In fact, standards and processes can be established within a CoP that allow new community members to learn from the expertise and previous lessons of others, resulting in less relearning.

To the extent that people feel there is shared vocabulary, learning from one another, open communication, and strategies for remembering – there is greater experienced CoP.

3. Exploring CoP Development

Some CoPs spontaneously evolve, other CoPs are supported by planned organizational action. Here we are focused on practices and technology tools that organizations provide to support formal organizational CoPs, the initial origin is not considered. The existence of the CoP we studied is an organizational fact, these are institutionalized CoPs. What we are interested in however, is the development of *experienced* CoP – the community experienced by official members and non-members. We believe that the four-factors of experienced CoP will be differentially affected by CoP-related organizational practices and technology tools.

For example, a CoP can be developed via face-to-face interaction [28; 30] such as formal organizational meetings; or via more virtual means [16] such as CoP focused websites or other communication modes. Learning from each other and shared vocabulary are the keys to developing communal sense-making. Communal sense-making is one of the underlying social structures of a CoP [5]. Therefore we believe that face-to-face interaction will be more critical for what we consider the core social foundation of a CoP: The extent to which learning is seen as the goal of the community, and the extent to which a specialized vocabulary is perceived.

Learning from others is a large motivation behind the creation of a CoP [e.g., 6; 29]. Learning is recognized as having a collective and social nature [6; 29, p. 10]. Lave and Wenger [17] proposed a situated learning theory where they argued that learning is a social construction where knowledge needs to be introduced in the contexts in which it can have meaning. Face-to-face interaction provides an extremely effective and robust medium for this socialization component of learning. Face-to-face interaction is inherently synchronous which allows live discussion, clarification and eventually a clear understanding of the knowledge being exchanged which fosters greater learning. Members of a CoP that are co-located are able to provide a contextual component of communication focused on the application and practice of this periphery knowledge through story-telling, narratives, etc.

For example, if a CoP member A tells another member B a story about a unique way he was able to implement a new technology feature for his client, member B is not only able to learn more about the technology feature itself but also the intricacies of how member A applied the technology in practice -- which could trigger member B to consider additional uses for his or her clients. In fact, researchers have shown support for the notion that interaction and development of strong social ties are positively related to community learning [3].

The above example supports the notion that virtually attending members of a CoP may not have the same

opportunity to share narratives and other contextually-based interaction methods. Individuals are more likely to connect learning as a goal with the CoP if they perceive dynamics of learning as they associate with the CoP. Non-attenders may see the community as more of a static information source.

Hypothesis 1: Face-to-face CoP attendance is positively related to the extent to which learning is perceived as the goal of the community.

Figure 1 shows our overall hypothesized model of experienced CoP development and relationships to knowledge flows, including indicators for each of the hypothesized links to be tested below.

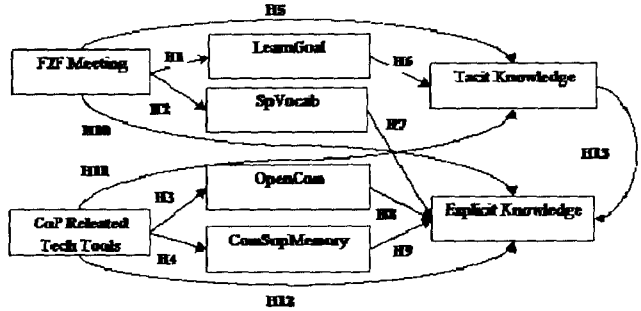


Figure 1. Hypothesized model

Establishment of a specialized, shared vocabulary is a key social structure that facilitates learning from others. Work by Hardy, Lawrence, and Grant [15] focusing on interaction and the formation of common "constructions" supports this argument. Attendance at live meetings provides a great forum for shared languages to be developed and advanced which creates the foundation of the social structure needed to support future learning. If we go back to the example above, during the story-telling, the words and descriptions used by member A in his or her interaction with member B solidify the common language of the community. Therefore, we argue that attendance at the CoP meetings allows the best opportunity to develop a shared vocabulary because the new vocabulary is not only introduced but it is given greater meaning from the context established by live interaction and discussion.

Hypothesis 2: Face-to-face CoP attendance is positively related to the extent to which a specialized vocabulary is perceived.

DeSanctis and Poole [12] recognized in their Adaptive Structuration Theory (AST) that there is a recursive relationship between social and technology structures. They argued that the impact on technology of group outcomes is dependent on: the structural potential of the technology, how technology and other structures are appropriated by the group, and what new social structures are formed over time. AST provides a solid theoretical foundation supporting the notion that as a CoP socially adapts to new technology, there would be differential affects between the social structure of a CoP and the technology structure built to support the CoP. We argue that open communication and the ability of the CoP to support remembering previous lessons are more likely to be linked with technology capabilities than social structures.

Access to CoP-related systems, websites, etc. provides opportunities to practice open communication across a globally distributed CoP. In other words, the properly aligned electronic collaboration system should be conducive for open communication. If members of a CoP observe that they have access multiple ways of communicating with one another electronically and these communication modes are used, this should solidify their perception that the CoP supports open communication.

Hypothesis 3: Use of CoP related technical tools is positively related to the extent to which open communication is perceived.

A dual function of these electronic tools is to provide an effective way of building organizational memory and opportunities to develop strategies for remembering. For example, archiving electronic collaboration on billboards, email aliases, etc. provides a knowledge database that can be reviewed at a later time. From an AST perspective these technology tools would impact future CoP development by how the technology is appropriated by the CoP and how new social structures are adapted to incorporate the electronic interaction structure. We expect that:

Hypothesis 4: Use of CoP-related technical tools is positively related to the extent to which the community is perceived as helping to remember previous lessons.

To be complete, we will also highlight some ancillary direct effects on knowledge transfer. The first of these focuses on the relationship between face-to-face attendance and the development of tacit knowledge (others will be noted below). Attendance at face-to-face CoP meetings provides opportunity for socialization processes to transfer tacit knowledge [25]. During real-time meetings members can interact informally, have discussions around solving problems and generally experience others as they grapple with new knowledge. All of these engaging interactions bring greater levels of clarity and context to the knowledge being exchanged. The CoP meetings also allow members to experiment

with tools and ideas, advancing experimental learning. Experimentation within a CoP serves as a catalyst for innovation and the creation of new knowledge and practices. We feel the increased exposure to live engaging interactions provide a greater opportunity to transfer unwritten and more subtle knowledge associated with tacit knowledge. Therefore:

Hypothesis 5: Face-to-face CoP attendance is positively related to individual tacit knowledge.

3.1 Relationships between CoP and Knowledge Transfer

We next move to the down stream consequences of eCoP. We expect explicit and tacit knowledge development to be differentially affected by the subcomponents of experienced CoP. To a degree this is a model about filters. The subcomponents of a CoP that are activated and ultimately perceived as eCoP also may server to filter the kind of information that is transferred. We describe our initial conceptualizations of this process below.

We believe that perceptions of learning as the goal of the CoP are positively related to the development tacit knowledge given heightened expectations and focus on learning. The extent to which the CoP is seen as focused on learning should stimulate greater and richer exchange, pushing the learning into the realm of tacit knowledge. This transfer may be tacit to tacit transfer, or explicit knowledge that is transformed into tacit, or the creation of new tacit knowledge [e.g, 2].

Hypothesis 6: The extent to which the community is seen as having a goal of learning will be positively related to individual tacit knowledge.

Development of a shared vocabulary plays a prominent role in transferring less sophisticated knowledge like explicit knowledge. Belief that there is a specialized vocabulary is a step towards having explicit knowledge. The vocabulary may even be the explicit knowledge that is transferred – learning the declarative names for things [e.g., 13] or procedures is in fact a form of explicit knowledge transfer. Having a specialized vocabulary is helpful for the transfer of explicit knowledge more generally as the vocabulary provides entrée into information repositories organized in more structured (less tacit) ways. Thus:

Hypothesis 7: The extent to which the community is perceived as having a specialized vocabulary will be positively related to individual explicit knowledge.

A perception of open communication within a CoP implies that the community fosters and supports members to share information with one another. The more an individual perceives that open communication is supported within the community, the more individual will be inclined to access and share knowledge and this will have a positive impact on the individual's attainment of explicit knowledge – because this is the most likely type of information to be effectively transferred by broadly available (open) means. More sophisticated, i.e., tacit, knowledge is less likely to be impacted by the mechanisms that give rise to perceptions of open communication. Tacit knowledge is more likely to be transferred by methods (e.g., small group interaction) less likely to engender perceptions of open communication.

Hypothesis 8: The extent to which the community is perceived as having open communication will be positively related to individual explicit knowledge.

The available community support for remembering previous lessons is likely to be provided by electronic sources, and thus likely to be focused on explicit knowledge rather than tacit. Where the community is perceived as providing support there should be greater transfer of explicit knowledge than in settings where the community is not seen as a support.

Hypothesis 9: The extent to which the community is perceived as support for remembering previous lessons will be positively related to individual explicit knowledge.

We complete the model as presented in Figure 1 by offering the following hypotheses with limited support (given our page limitations):

To the extent that face-to-face CoP presentations provide documentation, rules, etc., we expect that explicit knowledge will be supported by CoP attendance. Therefore:

Hypothesis 10: Face-to-face CoP attendance is positively related to individual explicit knowledge.

Majchrzak, Malhotra, and John [20] suggest that some communication tools can aide in the development of collaborative know-how. This is one example where tacit knowledge can be a downstream outcome of technical tool use. Other examples might be using a variety of tools at once, and learning to discern subtle, tacit, patterns. Thus:

Hypothesis 11: Use of CoP related technical tools is positively related to individual tacit knowledge.

Alavi and Leidner [1] and Cross and Baird [10] provide interesting discussions outlining how the use of technical tools can enhance the development of explicit knowledge. Thus:

Hypothesis 12: Use of CoP related technical tools is positively related to individual explicit knowledge.

Polanyi [21] notes that all knowledge has aspects of tacit knowledge. Similarly, Sternberg [26] argues that tacit knowledge is necessary to use explicit knowledge. Thus:

H13: Individual tacit knowledge is positively related to individual explicit knowledge.

4. Methods

4.1 Respondents

The study focused on the transfer of product and sales knowledge from the business units to the Technical Account Representatives (TARs) within TechCo, a Fortune 500 firm. Over 3000 TARs were sent web-based surveys which included our CoP measure as a part of a larger study at TechCo. This sample was created from 1162 TARs who also had involved Account Managers and Team Managers. We received 526 responses which equated to a 45% response rate. The respondents were predominantly male with an average tenure at TechCo was 4.62 years (sd = 1.79). The majority of respondents were from the US (N=282), about 54%. Most, but not all, were formal members of at least one technical CoP within the firm. They were asked to respond to the CoP items relative to their "technical specialty."

4.2 Measures

4.2.1. eCop. The data collected for this research leveraged off of the scales created by Cadiz, Griffith Sawyer [7]. The scale items for each dimension of CoP used a 7-point Likert scale. The scale ratings were anchored from 1= "strongly disagree" to 7 ="strongly agree." High CoP scores indicate greater experienced open communication, perceived shared vocabulary, perception of the CoP as support for remembering previous lessons, and learning. Designed to be self-report, these items tap the level of existence of CoP in the respondent's experience. The Appendix presents the items for CoP.

4.2.2. Tacit Knowledge. Developing the systems engineering tacit knowledge scale was a major task. Sternberg [27] has suggested that tacit knowledge at the individual level may be examined as situational judgment [9]. To empirically study this issue, they have used very task specific measures [see 27]. We believe it is possible to capture the learning dynamics at a more general (and generalizable) level. Berry [2] has focused on how knowledge is learned and Schulz [23] has considered how knowledge is transferred. Various approaches to the conceptualization of tacit and explicit knowledge [8; 24] indicate that while tacit knowledge is domain specific, there may be some general measures of tacit knowledge that can be developed for relatively broad domains. For example, Sternberg and Hedlund [27] reported that Situational Judgment Tests of management tasks correlate with various measures of management performance in the range of .38 to .46.

We developed a custom Situational Judgment Test (SJT) to assess tacit knowledge specific to systems engineers in this context. We followed the procedures for developing SJT inventories outlined by Sternberg et al. [26]. First, we conducted interviews to identify the performance and situational domain. The interview responses were then used to formulate multiple performance scenarios. Then a panel of experts and job incumbents provided possible action responses. Experts then rated the action responses to the desirability of each response. The resulting SJT for systems engineers is composed of five scenarios with a total of 38 behavioral options scaled by expert judgments to reflect the degree of tacit knowledge represented in the response. Respondents were asked to rate each of the behavioral options on how desirable they are. Ratings were analyzed for their match with the experts' ratings of tacitness and using discriminant function and hierarchical regression techniques. Sawyer and Griffith [22] provide an extensive discussion of this approach to tacit knowledge measurement.

4.2.2. Technology Tool Use. This measure is a combination of self-reported video on demand use and web portal use – specifically related to the technical community.

4.2.3. Archival measures. From the organization, we obtained two additional measures. CoPAttend is the number of CoP meetings attended in the last two years. These are technical skill focused communities of practice and membership in the various CoPs is gained through passing base-level entrance exams. The participants can belong to multiple CoPs. In the case of multiple CoP memberships, the measure used is for the community they attended the most. TechAttain (explicit knowledge) is a self-evaluation of technical attainment assessed as a self-

report; with verification by the participant's manager (assessments are part of the TechCo human resource practices, which are separate from this study).

Given the cross-sectional nature of this research, we make an assumption that our measures of tacit and explicit knowledge attainment are indeed indicative of knowledge transfer from the Business Units to the TARs. We discuss this limitation under "Future Research."

4.3 Procedure

With the agreement and support of the executive global leadership team of the TARs, we used TechCo's corporate on-line survey tool to present the survey (in English, TechCo's official language). The relevant executive vice president sent a personalized email requesting participation, providing the survey URL asking for completion within 28 days. This email noted that all teams with a response rate of 80% or higher would enter raffle to win highly valued TechCo prizes. The email also explained the voluntary nature of the survey and how the data were to be used. Reminders were sent after 14 and 28 days. All respondents were treated in accordance with approved human subjects guidelines.

5. Results

Means and standard deviations are provided in Table 1, as well as the Cronbach's Alpha measures for each of the eCoP dimensions.

Table 1. Means, standard deviations, and alphas for eCoP

	Mean	Std	Alpha
CoPAttend	0.74	1.01	
TechTool	0.00	1.64	
LearnGoal	6.14	0.84	0.87
SpVocab	5.12	1.02	0.77
OpenCom	5.44	0.92	0.73
CSupMem	5.14	1.08	0.81
Tacit	666.38	57.86	
TechAttain	2.65	0.54	

Table 2. eCoP variable correlation table

	CoPAttend	TechTool	LearnGoal	SpVocab	OpenCom	CSupMem	Tacit	TechAttain
CoPAttend	1.00							
TechTool	0.10*	1.00						
LearnGoal	0.09	0.09	1.00					
SpVocab	0.05	0.15*	0.33*	1.00				
OpenCom	-0.01	0.12*	0.37*	0.62*	1.00			
CSupMem	0.00	0.16*	0.33*	0.63*	0.48*	1.00		
Tacit	0.08	-0.05	0.23*	-0.05	-0.03	-0.05	1.00	
TechAttain	0.15*	0.16*	0.12*	0.00	0.03	0.09	0.13*	1.00

* p<.05

The experienced CoP dimensions were found to be skewed and so we transformed them with a Box-Cox transformation. All data were standardized in preparation for analysis by structural equation modeling.

We ran the model as hypothesized using the SEM library in R (http://cran.r-project.org/). The first row of Table 3 provides the results. The RMSEA of .05 suggests that the model is a good fit to the data. The negative BIC suggests that the model has greater support from the data than the just identified model.

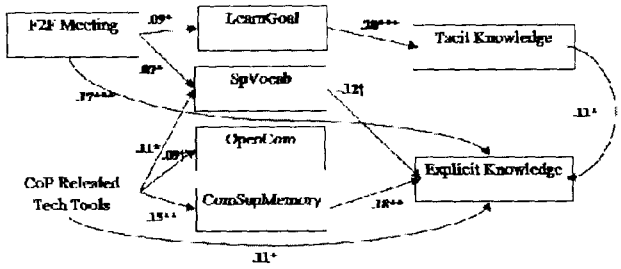
However, the modification indices suggested that the path from TechTool use to Specialized Vocabulary should be freed. We felt there was sufficient theoretical reasoning for how TechTool use could support perceptions of a specialized vocabulary to free this path and compare it to the hypothesized model. The results of this re-specification are presented in the second row of Table 3. The significant change in $\chi 2$ provides support for the path being free.

Our final assessment was to test an unconstrained model of eCoP causes. The model was a worse fit to the data than our second model.

Table 3. Structural equations results

	$\chi 2$	df	p<	$RMSEA_1$	BIC_2	$\Delta\chi 2$	df
Initial Model	15.88	8	0.04	0.05	-48.78		
Model with freed path:Tech Tool Use -> SpVocab	11.13	7	0.13	0.04	-45.45	4.75*	1
Unconstr'd Model	8.67	4	0.07	0.05	-23.66	2.46	3

The significant path coefficients for the hypothesized model and the freed path are presented in Figure 2.



†p<.08, *p<.05, **p<.01, ***p<.001

Figure 2. Significant hypothesized path coefficients

6. Discussion and Future Research

Our findings provide support for *experienced* CoP -- the idea that a structurally defined Community of Practice can be assessed in terms of the dimensions and amount of community perceived by those involved (whether official members or not). Reliability was confirmed for each of the four sub-factors of experienced CoP.

Our hypotheses regarding differential impact on the different factors from organizational practices (attending face-to-face CoP meetings) and technology tool use (video on demand and web portal use related to the CoPs) were partially supported. Attendance was positively related to perceiving learning as a CoP goal and perception of a specialized vocabulary. Using CoP related technology tools was positively related to perception of a specialized vocabulary (which we had not predicted, though in hindsight it does make sense) and to seeing the community as support for memory of lessons learned.

However, we found no clear relationship between either CoP attendance or technology tool use and the individual member's perception of open communication. Nor did we find a significant relationship between perceptions of open communication and either explicit or tacit knowledge.

We feel that this may be inherent to the environment within which the TARs work. First, we feel that since TARs are isolated and globally dispersed they may perceive open communication as a necessity of their job rather than as a requirement within their technical specialty. Second, our results could have been impacted by the company's culture and incentive structure. One of the company's determinants for an employee's annual bonuses hinges on a manager assessed teamwork and open communication factors. This could clearly influence an individual's motivation to be perceived as freely communicating and could disassociate it with knowledge transfer. Therefore, we do not feel that this result is indicative of what might be observed across other organizations. We do feel that it is a necessity to foster an environment of trusted and open communication within a CoP in order to have more effective knowledge transfer. That said, as Davenport and Prusak [11]note "When you need to transfer knowledge, the method must always suit the culture" (p. 93). Future research is needed in order to more clearly examine Open Communication as a factor of experienced CoP.

It is also interesting that the relationship (not significant) between perception of a specialized vocabulary and explicit knowledge was negative. If this relationship is borne out in future work, we would suggest that while specialized vocabularies may provide a shorthand for some, for others they may be a barrier to knowledge transfer.

Longitudinal research will be key to addressing the above issues. We are satisfied with our measures of tacit (we believe unique) and explicit knowledge. However, it is impossible to fully address the extent to which knowledge is transferred from the Business Units to the TARs without more dynamic measures. Here we assume that having more knowledge is indicative of knowledge transfer, but we do not have a direct measure given the cross-sectional nature of the research.

We also feel that it will be important to open the black box of organizational practices and technology tool use. Here we look at relatively macro measures in terms of attendance and self-reported tool use. We do not know explicitly how attendance is playing a role, and if the community could adaptively structure to support learning and vocabulary development without attendance. We would also like to know what facets of the video on demand and web portals are most effective and if they could be designed to better support perceptions of open communication.

Finally, future work can consider, in a more refined way, aspects of direct versus mediated effects of organizational practices and technology tool use and knowledge flows. Here we hypothesize both direct and mediated effects. For tacit knowledge, the effects seem to be fully mediated (no significant path from either attendance or technology tool use). However, for explicit knowledge we find both direct and mediated effects.

7. Conclusion

Our results support a differentiated model of experienced Community of Practice. Using self-report measures from over 500 TARs and archival data from the organization we are able to assess the roles CoP-related organizational practices and technology tools play in the development of experienced CoP. Our model is also supported in terms of experienced CoP's relationship with knowledge flows from the business unit to the individual Technical Account Representatives. There is a positive relationship between tacit knowledge and the extent to

which learning is seen as a goal of the community. Perceptions of a specialized vocabulary within the community and seeing the community as a way of remembering previous lessons, are both positively related to explicit knowledge. Different knowledge outcomes are supported by different components of experienced CoP, which are differentially supported by participation in organizational practices and technical tool use.

Organizations can plan their deployment of Community of Practice related practices and technological tools based on the facets of experienced CoP they are interested in developing. CoP can be broken into different components: Extent to which there is seen a specialized vocabulary, extent to which the community's goal is seen as learning, and remembering previous lessons, and perhaps, extent to which there is open communication. These different aspects can be managed to support both tacit and explicit knowledge flows.

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Appendix A. eCOP 12-item Scale

Open Communication.

ki.cop.1 I feel comfortable communicating freely with others in my technical specialty.
ki.cop.2 In my technical specialty there is an open environment for free communication.
ki.cop.3 It is easy to communicate with others in my technical specialty.

Shared Vocabulary.

ki.cop.4 My technical specialty has a unique vocabulary.
ki.cop.5 There is a common understanding within my technical specialty of the words and meanings that are used within the technical specialty.
ki.cop.6 People outside my technical specialty might have difficulty understanding the vocabulary members of my technical specialty use to talk about the technology.

Remembering Previous Lessons.

ki.cop.7 Collaborating with other members of my technical specialty helps me to remember things that we have learned.
ki.cop.8 Participating in meetings with members of my technical specialty helps me to remember things that we have learned.
ki.cop.9 Lessons learned from past experiences shared within my technical specialty are easily remembered.

Learning from Each Other.

ki.cop.10 I interact with others in my technical specialty with the intention of learning from them.
ki.cop.11 I learn new skills and knowledge from collaborating with others in my technical specialty.
ki.cop.12 Learning is shared among members of my technical specialty.