Creating communities of practice: scoping purposeful design

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Abstract

Purpose – This paper seeks to scope the nature and form of practices, understandings and institutional arrangements that might contribute to the successful “design” and continuity of Communities of Practice (CoP) in a state government department in Australia. The study aims to provide research evidence to support the design and establishment of a CoP based on systems thinking within this department.

Design/methodology/approach – A total of 13 semi-structured interviews were undertaken involving 14 informants. The interviewer also attended one CoP meeting. An emergent approach to research design was adopted with data analysis guided by previous studies on CoPs.

Findings – The research revealed the existence of six CoPs that were purposefully created internally by the department. Six “design” and practice considerations were suggested for practitioners aiming to create and sustain successful CoPs.

Research limitations/implications – Interview material was the only source of primary data and it was gathered from one organisation only – a state government department in Australia. Findings indicate that the role of the CoP coordinator is still not fully understood.

Practical implications – The results from this study can be used in re-designing a systems thinking CoP to support systems thinking within the department. The study also revealed that purposefully designing CoPs is possible and useful for practitioners aiming to collaborate and share expertise across disciplinary and divisional boundaries.

Originality/value – This study provides some guidance for the purposeful design of CoPs, which has been under-examined in the literature.

Keywords Knowledge management, Information exchange, Learning

Paper type Research paper

1. Introduction

Communities of practice (CoP) have been described by du Plessis (2008) as one of the most significant means of fostering knowledge management in the twenty-first century. Moreover, Fontaine and Millen (2004) found that CoPs can considerably enhance the exchange of expertise, information, collaboration and resources within organisations. Wenger and Snyder (2000) listed six ways CoPs can improve organisations – through rapid problem solving, professional skill development, best practice promotion, retaining talent and by guiding strategy. Since the nineties awareness in both academia and the corporate sector of the value of communities of practice has increased. During the past decade in particular, there has been a substantial increase in the number of publications on communities of practice (Amin and Roberts, 2008). The appeal of CoPs is such that they have been assessed for their utility in a diverse range of contexts, for instance, in nursing (Andrew et al., 2008), at Rolls-Royce (Meeuwesen and Berends, 2007), for school leaders in Singapore (Hung et al., 2005), in the Norwegian electronics industry (Gausdal, 2008), in the Dutch police force (De Laat and Boer, 2004), among many others.

Defining a community of practice is a precarious exercise as the ambiguity of the term has meant that various definitions of CoPs can be found throughout the literature. Furthermore,
the definition has changed over time (Duguid, 2008a). According to Andrew et al. (2009), it was Lave and Wenger (1991) who provided the original explanation of a CoP. They described it as a style of learning that incorporates components of active participation, identity and situation. Wenger’s (1998a) commonly cited definition describes three characteristics central to the existence of CoPs – mutual engagement in a shared practice, the creation of a common repertoire, and the negotiation of a joint enterprise.

Despite a growing interest in CoPs, it is still not apparent to what extent a CoP can be created purposefully through “design” whether from scratch or through harnessing nascent CoPs. Meeuwesen and Berends (2007) described four CoPs that were intentionally created in the manufacturing division of Rolls Royce, yet they contend it was unknown if they were going to progress beyond the establishment phase. McDermott (2003) provided eight suggestions for sustaining management-created CoPs, but it remains unclear how these suggestions could be used to establish new CoPs or invigorate latent ones. Hart and Wolff’s (2006) study on community-university partnerships reported that a CoP had started to form between academics and community members after the two groups had collaborated on a book-writing project. But it was unclear if formation of the CoP was deliberate. Smith and McKeen (2003), building on the work of Wenger and Snyder (2000), claimed there were three general areas in which organisations can provide support to CoPs – technical infrastructure, management, and culture. But it is uncertain how these areas, particularly the latter two, could be reconfigured to be more supportive of CoPs. As Coakes and Clarke (2006) assert, there is little agreement on how organisations can purposefully design CoPs. This paper goes some way towards addressing the question of purposeful design as it aimed to understand the factors constraining and enabling the implementation of a specific type of CoP – one based on systems science – within an Australian state government department (called here the Department of Land Resources, or DLR, a pseudonym). The purpose of this study was to understand the nature and use of named, and thus purposefully generated, CoPs within the DLR and the public sector more generally. This research expands knowledge in two areas, namely – how to purposefully create CoPs and how the CoP concept has been taken up in the public sector.

This scoping research also contributes to a broader research agenda concerned with the conduct of climate change adaptation research and the contribution that systems thinking and practice might make to climate change research praxis. As climate change has been considered a “wicked problem” (Battle, 2008), which is a problem that is “multifactorial, dynamic in nature, and resistant to resolution” (Caron and Serrell, 2009, p. 195), it can be argued that climate change adaptation necessitates at minimum, a transdisciplinary research approach. A community of practice, with its emphasis on collaboration and knowledge exchange, could thus provide a forum for DLR employees to foster the transdisciplinary approaches of systems science to overcome the compartmentalisation of expertise within disciplinary and divisional boundaries (the so-called silo effect), and help the DLR in its aim of effecting future climate change adaptation.

This study begins with some theoretical considerations particularly CoPs theory in relation to systems theory that in part shapes the research. The authors then describe the research setting and explain the impetus for this research. The methods employed in gathering data are then discussed, followed by a review of six CoPs found to be in existence within the DLR. Factors explaining the success of particular CoPs are then highlighted and implications for the purposeful design of CoPs, particularly one based on systems science, are discussed. Finally, this study suggests areas for future CoP research.

1.1 Theoretical considerations

CoPs theory can be considered as an emerging theoretical tradition within its own right. A key distinction is that CoPs theory is built on a social theory of learning rather than theories of individual or social learning (see Blackmore, 2010). CoPs researchers have made links to other theoretical traditions, as for example to actor-network theory (Fox, 2000), exemplifying the synergies that may arise from exploring theoretical intersections. An in-depth review of CoPs theory is not provided as others have done that (Blackmore, 2010). But because this
study contributes to developing design and practice considerations for establishing a CoP within the DLR based on systems science it is appropriate to explore what links exist between CoPs theory and systems theory. The authors regard systems as a transdisciplinary field of inquiry dealing with practical holism through concepts such as boundaries, wholes and emergent properties, instead of the isolation of separate parts typical of reductionism and linear cause and effect thinking (Schlindwein and Ison, 2004; Ison, 2010).

Wenger (2010a) argues there are significant parallels between the discipline of systems and the concept of CoPs, and points out that CoPs are the most basic social units that have the qualities of social learning systems. Moreover, like systems, CoPs are self-organising, they have emergent structures, they are characterised by multiple and diverse relationships and have fluid boundaries (Wenger, 2010a). The connections between CoPs and the discipline of systems have also been drawn on by Snyder and Wenger (2010). They used learning concepts within the systems discipline, such as action learning, cross boundary representation and cross level connections in their advocacy of a “world learning system” (Snyder and Wenger, 2010, p. 125) designed to manage complex, interconnected global problems such as hunger, poverty and overpopulation. Creating such a learning system would require supporting self-organising groups of practitioners from many disciplines located in various locations around the world – a community of practice (Snyder and Wenger, 2010). Therefore, following Ison (2010), the conceptual tools provided by systems thinking have the potential to help the DLR build the systemic and adaptive learning culture required for addressing climate change adaptation as well as other innovation strategies.

As systems is still a niche area within the DLR, a systems thinking CoP could help raise the profile of systems within the department and give systems practitioners a space to develop their repertoire of systems techniques. Systems could also add to the knowledge and expertise available to the DLR as the discipline brings forth particular traditions of understanding not used by people with other methodological backgrounds. For instance, the suite of systems diagramming techniques, including multiple cause diagrams, influence diagrams, systems maps and rich pictures, are used by systems practitioners to engage with and understand complex situations (Ison, 2008). Systems techniques can help in the DLR’s goal of climate change adaptation research as such techniques can reveal previously obscured relationships between elements, positive and negative feedback mechanisms, systemic complexity and the mental models and metaphors used by people in understanding and communicating the situations they are investigating (Ison, 2008).

The main purpose of the systems CoP is to develop the systemic competencies of its members. This is not easy, because such a development would require a shift in the worldviews of community members to view situations systemically and to start acting in systemic ways (Bawden, 2010). Challenging also are attempts to make systemic changes to situations, as Bawden (2010) would argue that the people attempting such changes would themselves require a change in their worldviews.

2. Research setting

The DLR is a large organisation that encompasses several different divisions, and its employees are from a wide variety of disciplines. The organisation’s structure, as conveyed in its organisational diagram (see Figures 1 and 2), replicates many hierarchical organisational models. The DLR employs approximately 2,500 people in 76 locations across the state, including 30 major offices. It is led by a Secretary supported by an Executive Committee who answer to two Ministers within the State Government. The Executive Committee consists of an Associate Deputy Secretary and four Deputy Secretaries. Each deputy is responsible for one of the five Groups that make up the DLR. All levels below the deputies in Figure 1 are equal. An executive director in Figure 1 is in bold font to highlight the link between the two figures. This executive director leads the division represented in Figure 2. An individual at a level equivalent to research manager (see Figure 2) was where the initiatives for CoPs and systems thinking arose within the DLR.
Figure 1  “DLR” departmental structure as revealed through current organisational diagram, the executive director in bold font indicates the division shown in the proceeding figure.

Note: The executive director in bold font indicates the division shown in the proceeding figure.

Figure 2  The structure of one division in which this research was located.
Fairtlough (2007) argues that a hierarchical structure can slow the learning process, as learning in hierarchies typically takes place only at the top, while the mid to lower level constituents are forced to follow orders. But no organisation can survive without learning except during highly stable organisational conditions (Fairtlough, 2007). As the DLR is one of the major state government organisations in Australia responsible for helping farmers, landholders and agriculturalists across its state adapt to climate change, it is itself undergoing a period of change as it must acquire and share new skills to manage the numerous environmental, social, economic and political (among other) consequences of such climatic alterations. Since the hierarchical configuration of the DLR will remain in place, the organisation must find ways to further learning processes within the current organisational structure. Moreover, when those at the top of an organisational hierarchy are made aware of newly created knowledge, the speed with which it is distributed throughout an organisation is increased (Nonaka, 1994). As communities of practice are known to promote intra-organisational proficiency and enable knowledge and expertise to be shared across large organisations (Wenger et al., 2002; Probst and Borzillo, 2008), they offer a way to enhance learning within the DLR.

DLR has had a history of creating, and to some extent supporting, CoPs. However CoPs have not received organisation-wide support. The impetus for this study came when those responsible for the systems initiative wanted to use DLR’s history of “creating” CoPs as a means to aid embedding systems science capability. Consistent with other initiatives within DLR in the period 2006 to 2010, those championing the ST capability-building programme set out to launch a “Systems CoP”.

As there was little extant understanding within DLR of how CoPs can be designed and managed to help the organisation develop and promote climate change adaptation strategies, and because what might constitute a “Systems CoP” was unclear, this scoping research was initiated. The research sought to understand how communities of practice, as a purposeful approach to capability building and practice change, are understood, managed and developed within the DLR. It was conducted specifically so as to inform and design better strategies for supporting capability building in systems thinking and practice, including strengthening the strategic capability of DLR to deal with climate change adaptation. While systems approaches can take many forms, CoPs were chosen because it is claimed they help overcome barriers to learning created by hierarchies and organisational silos. It is also argued that they do this by fostering collaboration and a multidisciplinary approach, both of which are necessary for the DLR in helping its constituency adapt to the imperatives of climate change.

So what is a successful or thriving CoP? In the business management literature, a successful CoP is generally one which helps businesses compete in the marketplace. The value of a CoP is then based on its ability to help the organisation it exists within achieve the organisation’s goals (Wenger and Snyder, 2000; Wenger et al., 2002; McDermott, 2003; McDermott, 2004). As many organisations view knowledge as their key to success, a successful CoP is one that enables knowledge to be developed, deployed and shared throughout an organisation (Wenger et al., 2002). Moreover, an innovative organisation is one that is able to distribute and embody the knowledge it creates (Nonaka and Takeuchi, 1995) and one of the ways organisations can foster innovation is via CoPs (Saint-Onge and Wallace, 2003; Brown and Duguid, 1991).

As the DLR has numerous goals, this definition is too broad for current purposes so specific aspects of each CoP will also be considered. The authors regard a successful CoP to be one whose members:

- demonstrated a sense of stakeholding or ownership of their CoP topic;
- demonstrated a willingness to participate in meetings and to collaborate and share expertise;
- communicate, collaborate and share expertise outside of meetings; and
identified gaps in their knowledge and attempted to fill those gaps by, for example, suggesting new topics for meetings.

Ison and Russell (2000) describe enthusiasm as a desire to engage with practices that draw on the energy, imagination and ideas of an individual or group. Enthusiasm is a useful concept for this study as it helps to explain the reasons behind the success or failure of CoPs in the DLR.

3. Methods

Four DLR research scientists held a workshop with the authors of this study where key people involved with CoPs within the organisation were identified. A total of 14 individuals were named as potential interviewees. Contact details of these individuals were provided by one of the research scientists, and a group e-mail was sent to them introducing the researchers, outlining the project, and inviting them each to participate in a 30 minute one-on-one interview. Those interviewed for this study were all DLR employees.

According to Dunn (2005) interviews are a valuable way of revealing information about experiences, events and opinions. Information of this type does not usually exist in written form. In the DLR, much of the knowledge of CoPs existed in tacit rather than in written form (for a notable exception, see Fenton, 2008), moreover communication of tacit knowledge is one of the strengths of CoPs (Zappavigna, 2006; Duguid, 2008b). Interviews were therefore an appropriate method of data collection.

Semi-structured interviews were undertaken to promote a conversational interview style as this gave the interviewees space to build their ideas and express them succinctly. It also allowed the interviewer to ask questions in a manner and in an order that was applicable to each participant. As Corbetta (2003) explains, semi-structured interviews allow the researcher flexibility to adapt the form of questioning to each interview situation while ensuring all of the themes are dealt with sufficiently. The freedom to alter the phrasing and order of the questions based on the circumstances of each interview was advantageous as interviews took several forms (face-to-face, face-to-face with two informants, telephone interviews), which necessitated variations in questioning style. The order of questions was also varied as appropriate to maintain conversational flow.

Interviews were conducted between September and October 2009. The interviewer encouraged interviewees to discuss their experiences of CoPs informed by questions formulated from a review of the academic literature and key informant advice, which assisted in question selection and phrasing. Questions were typically answered in approximately 30 minutes. The interview schedule, as Dunn (2005) explained, is used to improve consistency in questioning and enable comparisons of responses. All interviews began with the same question – “could you explain your role in the organisation?” General questions were then asked about the history of CoPs within the department in combination with more specific inquiries that aimed to build up an understanding of the nature of each CoP within the DLR. Participants were asked about the regularity of meetings, the purpose of their CoP and whether or not they believed it was successful (and why). They were also asked how high-level management, and the department in general, perceives CoPs. As this study aimed to provide guidelines for establishing a Systems CoP, questions were geared towards surfacing factors that constrain and enable the establishment of CoPs within the DLR.

Interviews were recorded with the permission of the interviewees. A total of 14 people were interviewed, 12 one-on-one interviews, six telephone interviews and six face-to-face (one of these interviews involved two informants). The sample size was considered appropriate for this scoping research, although results would not be representative for such a large organisation. But as Gobo (2004) would argue, while the findings were not statistically representative they were still socially meaningful, and thus useful. Following Ison and Watson (2007), data was analysed using an inductive approach that drew on the techniques associated with grounded theory as formulated by Glaser and Strauss (1967). Data was worked through systematically and coded for the purposes of organisation and analysis.
Key themes to emerge were noted and the data was categorised based on these themes. Codes assigned were both descriptive and analytic. Interviewees were also coded (I1 – I14), and will be cited as such. One CoP meeting was also attended, data from which is cited as DLCoP Meeting 8, 2009. Themes that emerged from the meeting were coded in the same way as interview material.

Consistent with its role as scoping research designed to elucidate design possibilities for a Systems CoP in the DLR, preliminary outcomes in the form of a draft paper were used to mediate understandings and practices among those interviewed (all interviewees availed themselves of the invitation to comment on the draft and their feedback has been incorporated in this paper in a second cycle of data gathering). In doing this the authors were conscious that the draft could mediate changes in understandings and practices of those involved (Steyaert and Jiggins, 2007) as well as model a second-order learning system. A second order learning system operates when there is conscious learning about learning (Isom, 2010). Consistent with the interpretive epistemology that underpins this research assertions of interviewees through triangulation with other data sources have not been sought. For this reason the paper does not claim to provide a definitive guide for the establishment of CoPs, rather it elucidates design considerations that may be pursued by others in context sensitive ways.

4. Findings

There are currently six functioning entities described as CoPs within the DLR (see Table I for details) and they have experienced varying levels of success. These are the Market Mechanisms CoP (MMCoP), the Climate Community of Practice (CCoP), Evaluation CoP (ECoP), Social Context Network (SCN), the Development and Learning Community of Practice (DLCoP) and the Systems Community of Practice (SCoP). All of these CoPs were purposefully created by DLR employees. The idea was for higher management levels of the DLR to support the establishment of CoPs provided the goal of the CoP was aligned with the goals of the DLR (I9). A full-time CoP project coordinator was assigned responsibility for the establishment of CoPs. Section 4.1 reviews the processes of CoP establishment; in section 4.2 each CoP is catalogued and assigned a status (“successful” or “struggling”) based on the definition of success as explained in section 2.

The role of coordinator was found to be critical for the success of CoPs in the DLR because formal CoPs carry a significant organisational and administrative load. Coordinators are thus key players in the life of CoPs within DLR and must tread a fine line between fostering self-organisation and “taking control” (I1, I3, I6, I5, I7, I9). Their tasks include updating

<table>
<thead>
<tr>
<th>CoP</th>
<th>Age</th>
<th>Purpose</th>
<th>Numbers</th>
<th>Development stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Community of Practice (ECoP)</td>
<td>2 years (ECoI is ten years old)</td>
<td>Evaluation training, networking, support Space for DLR staff to discuss CC issues</td>
<td>24 (ECoI has 200) 330</td>
<td>Established</td>
</tr>
<tr>
<td>Climate Community of Practice (CCoP)</td>
<td>2 years</td>
<td>Space for DLR staff to discuss CC issues</td>
<td></td>
<td>Established</td>
</tr>
<tr>
<td>Development and Learning Community of Practice (DLCoP)</td>
<td>3 years</td>
<td>Collaborate with different divisions of DLR on L&amp;D</td>
<td>50</td>
<td>Established</td>
</tr>
<tr>
<td>Systems Community of Practice (SCoP)</td>
<td>3 years</td>
<td>Advance systems thinking within department</td>
<td>20</td>
<td>Struggling</td>
</tr>
<tr>
<td>Market Mechanisms Community of Practice (MMCoP)</td>
<td>2 years</td>
<td>Inform people about market-based mechanisms, evaluate their effectiveness compared with other policy mechanisms Increase awareness of social research</td>
<td>80-100</td>
<td>Struggling</td>
</tr>
<tr>
<td>Social Context Network (SCN)</td>
<td>5 years</td>
<td>Increase awareness of social research</td>
<td>67</td>
<td>Struggling</td>
</tr>
</tbody>
</table>
mailing lists, organising meetings and training days, acting as the contact for members suggesting discussion topics, communicating relevant issues to the group and encouraging participation in meetings (I1, I3, I5, I6, I7).

4.1 Overview of CoPs in DLR

CoPs are ongoing within the DLR. The first community to form was the Evaluation Community of Interest (ECoI) (I10). While a CoI rather than a CoP, it provided the initial impetus for the establishment of CoPs in the DLR (I7, I9). The ECoI was formed in 1999 by DLR employees who had contact with evaluators from other state departments (I5). The ECoI was created from this network after the DLR employees were given formal work time to pursue inter-departmental information sharing and networking (I5, I7). The main difference between a CoI and a CoP was that the former is constituted by people with an interest in the topic while the latter is comprised of practitioners of the topic (I1, I5, I6). Similarly, Wenger et al. (2002) believed a shared interest alone is not enough to constitute a community of practice, that there needs to be, at a bare minimum, some degree of shared practice between members before it can be said that a CoP has been enacted.

Aside from the six CoPs that were identified there are also informal CoPs and CoIs in existence within the DLR but they were not the subject of analysis. These communities emerged spontaneously without an official establishment process and without nominated coordinators.

The ECoI remains in existence and currently meets four times a year (I5). Membership to the ECoI is open to all employees working at state government departments, while membership to the ECoP is limited to DLR employees (I5, I7). With 200 members, the ECoI is much larger than the ECoP, and with more members there are more topics to be discussed during meetings, however this limits the extent to which these topics can be explored (I5, I7). The ECoP, with only 24 members, discusses fewer topics in much greater detail (I5, I7).

The Social Context Network (SCN) was the first CoP to be established beginning about five years ago when an individual at a level equivalent to research manager (Figure 2) wanted to learn more about the “people side of the project” (I6, I8). Some meetings were held and from them the SCN was created (I6, I8). Further CoPs developed because one of the divisions of the DLR was interested in fostering organisational learning (I9). Various forms were considered but those responsible decided on CoPs based on the successes of the SCN and the ECoI (I9), and these were used to guide the processes of establishment.

The role of CoPs in DLR has grown organically. An individual who was a social researcher with an interest in CoPs (I7) having done in-depth work on CoPs was sponsored by the DLR to formalise the concept within the department (I7, I9). Each CoP began with an establishment workshop organised by this person, who also acted as the CoP project coordinator during this early stage (I1, I6, I7, I9). The establishment workshops provided a forum to explain the concept of CoPs (I6, I8), and to decide on the regularity of meetings, the name for each CoP and who would coordinate, sponsor and chair these CoPs (I1). The project coordinator gave speeches to potential CoP members, sent invitations to attend establishment workshops, informed people about the nature of CoPs and conducted other administrative tasks (I1, I9). She helped establish five CoPs with the DLR – the SCoP, ECoP, MMCoP, DLCoP and the CCoP (I1, I2, I9). Almost all interviewees considered this person to have provided the original impetus for the establishment of CoPs in the DLR (I1, I2, I3, I4, I5, I6, I7, I8, I9, I11, I12, I14). While she no longer works for the DLR (I1) her role is now partly covered by another person who does CoP project coordination in addition to other duties (I9).

It was believed that CoPs would be self-sustaining after establishment, as the members would be engaged and consistently participating (I9). This has occurred to some extent, but results are mixed. The departure from the DLR and the absence of a full-time replacement of the “in-house champion” seemingly represents a loss of a significant source of knowledge and enthusiasm for CoPs.
4.2 Status of current CoPs in DLR

**MMCoP.** This CoP arose in 2007 out of a need to educate practitioners about market-based mechanisms (I14). The status of the MMCoP is described as struggling because it lacks every parameter of success (as defined). Moreover, according to the sponsor it has “almost folded” (I14). Members lack a sense of ownership and only about 15-20 people show up to meetings despite the mailing list having 80-100 people on it (I14). As there seemed to be a lack of communication between members in general (I14), there is unlikely to be collaboration or sharing of expertise outside of meetings, nor identification of knowledge gaps. Status: struggling.

**SCN.** It was the first CoP in the DLR and it was established in 2004, before the department formally tried to foster CoPs (I6, I9). It is unclear if the DLR referred to the SCN as a community of practice during this period. Its aim was to raise awareness of social research issues (I6, I8). This CoP struggled for several reasons. First, it lacked a clear purpose (I8) which is suggestive of a general lack of ownership, communication and the sharing of expertise. Second, it had two or three different coordinators throughout its life (I8). This lack of leadership appeared to have stalled participation in meetings and the sharing of expertise in general. Third, it formerly had a longwinded title which could have alienated people, making it difficult for them to identify with the CoP. This could have contributed to a lack of participation. Fourth, its membership was inconsistent, as each meeting involved different people in attendance (I8). This was another issue of participation. Fifth, members had a variety of responsibilities. When they carried out their roles external to social research, their interest in the SCN waned (I8). Collaboration therefore becomes difficult when members must regularly attend to matters unrelated to social research. Status: struggling.

**ECoP.** ECoP members were highly enthusiastic, with their meetings incorporating time for conversations in which “free flowing debate, discussions, disagreements are welcomed and encouraged” (I7). This indicates a high level of participation in meetings, collaboration and sharing of expertise. There is also a lot of communication between community members outside of meetings due to the nature of evaluation (I7, I5). As there are typically only one or two evaluators per team, evaluators frequently rely on one another for advice, necessitating communication outside of meetings (I7, I5). A listserver was also used to communicate outside of meeting times (I5, I13). Furthermore, the small number of evaluators per team creates a need for a CoP (I7, I5) as members appreciate the value of participation, collaboration and sharing of expertise – activities they cannot do effectively within their own teams due to the lack of fellow evaluators. Evaluators can also experience pressure when conducting sensitive evaluations, creating further need to share expertise. Status: established.

**CCoP.** As climate change issues are the responsibility of many employees across different areas of the DLR, the CCoP began as a way to foster collaboration across divisional boundaries (I1). As a result the CCoP currently incorporates people from a variety of disciplines. Five events are held each year involving presentations by guest speakers and the showcasing of current projects (I1, I11). According to both the CCoP coordinator and chair, there is generally a high rate of attendance at meetings (I1, I11). This suggests a desire among members to collaborate and share expertise, indicative of a successful CoP. Status: established.

**DLCoP.** Development and learning is practised by many divisions across the state so the DLCoP was established in 2006 to provide a forum for these divisions to collaborate (I3, I4). The DLCoP has a meeting every four months and it has approximately 50 members (I3, I4). Members were aware they needed to communicate outside of meetings if their CoP was to be successful (DLCoP Meeting 8, 2009) which demonstrates the importance of the DLCoP to its members. Status: established.

**SCoP.** In 2006 those responsible for championing ST within the DLR followed the emerging practice for establishing CoPs within DLR. However it soon became clear that “established practice” combined with the departure and the lack of a full-time replacement of the overall coordinator, meant that the new CoP was unlikely to succeed. This situation created an
impetus for this research which revealed that the SCoP had not yet progressed past the establishment workshop (I2, I12). Some seminars were held (I10, I12) but it would seem they failed to foster enthusiasm. An online forum was created but it remained highly under-utilised (I12). A systems training course was also organised and a systems expert visited in early 2009 (I10, I12) but in the absence of an active CoP this failed to foster enthusiasm that was apparent in an organised way. The incipient SCoP struggled from a lack of coordination, as the coordinator had too many other responsibilities to deal with (I2). This CoP used the same establishment techniques as other successful CoPs within the DLR and its members were, at least initially, enthusiastic about systems (I2, I10, I12). However, it has struggled due to unclear objectives (I12), lack of collaboration created by unresolved disagreements over the type of systems expertise to be shared (I10), and a lack of communication and stakeholding during the establishment phase (I10). Status: struggling.

In summary, the DLR has been successful in purposefully designing some CoPs. This was achieved without external assistance. The most successful CoPs in the DLR are the CCoP, ECoP and the DLCoP. The ones which are struggling are the SCN, the MMCOP and the SCoP.

5. Discussion and implications

The DLR is in many ways at the forefront of public sector innovation in pursuing the purposeful creation of CoPs. Despite being a highly structured and hierarchical organisation, the DLR still has space for some self-organizing, responsible autonomy (Fairtlough, 2007), evidenced by the successful functioning of several CoPs. Yet the organisational and institutional context of the DLR is such that CoPs (with some exceptions) appear largely unknown to management at the higher levels. The organisation therefore lacks the ability to formally assess the value of its CoPs, which has implications for on-going purposeful design. Without higher management recognition, CoPs are vulnerable to structural, institutional or other changes coming from the upper levels of an organisation’s hierarchy. It also makes the allocation of work time towards CoPs difficult to justify.

The findings of this study have implications more generally for the purposeful creation of CoPs. The articulation of purpose and agreement among key stakeholders, followed by the conceptual modelling of activities required to achieve a transformation, or transformations (what a system does), is central to most lineages of systems thinking and practice. This process entails making boundary judgements about a system of interest (Ison, 2010). From this perspective the failing CoPs suffer from a crisis of purpose, inappropriate boundary judgements and thus inappropriate activities needed to effect transformations in relation to purpose. Ironically this seems to have been the case for the incipient Systems CoP. Confusion about purpose seemingly led to SCN’s system of interest being too broad, as its boundary was cast too wide.

Reaching agreement about purpose can be a process for significant learning. Wenger (2010b) argued that disputes over boundaries can result in mutual learning. For example, evaluation practitioners saw disagreements as a way to enhance learning, thus the ECoP was functioning efficiently as a learning system. Wenger (2010b) argued that for learning to take place at boundaries within learning systems, there needs to be a balance between competence and experience among members. This balance was evidenced among the successful CoPs. The CCoP, for example, had variable topic areas that encouraged the exchange of different repertoires, allowing members with different competencies and experiences to interact (Wenger, 2010b). Disagreements were welcomed, even encouraged within the ECoP (I7), permitting an “open engagement with real differences as well as common ground” (Wenger, 2010b, p. 146) that helped encourage learning. The active members within the DLCoP were open about the shortcomings of their CoP, such as the lack of participation in meetings and a lack of communication between meetings (DLCoP Meeting 8, 2009). Following Wenger (2010b), this is suggestive of an ability among DLCoP practitioners to honestly assess the competence of their community.
Within the SCoP, the debate among two subgroups within the SCoP over whether the focus of the community should be on systems theory or systems practice was born out of the diverging worldviews between these two community subgroups. One of the ways systems thinkers develop systemic competencies is through developing learning systems designed to challenge their own epistememes, or worldviews (Bawden, 2010). Unfortunately, what was an opportunity for mutual epistemic development ended in a stalemate, with the SCoP struggling as a result. The authors are of the view that both systems theory and practice are important for developing systemic competencies and thus would urge SCoP members to gain an appreciation for both theory and practice within systems in order to advance the SCoP from struggling to successful.

By understanding the CoPs within the DLR practitioners can acquire suggestions for the successful creation of their own CoPs and of potential hazards to avoid. The rigour of these suggestions is enhanced by the fact they were drawn from real-life examples of CoPs within a public-sector organisation in Australia. More generally, this study showed that the role of coordinator is not well understood and needs further investigation. There are however theoretical caveats that need to be raised. These relate to the conceptual and praxis boundaries between a CoP and CoL and the relevance of these distinctions in public sector organisations.

As this was scoping research a limitation is that participant observation and longer-term ethnographic research have yet to be conducted to elucidate the veracity of claims and the nature of the interactions within the different CoPs. Moreover, the DLR appears to lack feedback mechanisms required to assess the organisational learning occurring due to CoPs. This could potentially be a responsibility of the Human Resources (HR) division. However, due to the exploratory nature of this study, it is unknown whether the HR division has the capacity to take such responsibility or if there is support for CoPs within HR. These are areas worthy of future research. Despite these limitations useful insights have been gained.

Issues regarding the coordination process are now considered. The characteristics of a successful CoP will then be explored using the three established CoPs – the CCoP, DLCoP and ECOP, as examples. Finally, how the SCoP performed in each of the characteristics identified will be discussed.

5.1 Understanding the coordination process

While Wenger (1998b) believes there are at least seven different forms of CoP leadership, the most important form of CoP leadership for practitioners in the DLR comes from the coordinator, who is the person that manages the day-to-day activities and tasks. The interviews revealed the role of the coordinator to be in dispute. Some participants advocated external coordination (I6) while others preferred the coordinator to be a member of the CoP being coordinated (I5, I6, I3). There was a concern expressed by one informant that people in the DLR were becoming “slaves to theory” (I6). He thought the literature regarding coordination did not always reflect what worked best in practice. Internal leadership is advocated in the literature (McDermott, 2000; Wenger, 1998b; Wenger, 2000), yet this interviewee’s argument was that people who are members of a CoP are generally very busy and do not have time to do the required administration work or “logistical grind” (I6), as he put it. This line of argument sees CoPs better served by external coordination, as it involves the simple yet time-consuming tasks of organising meetings, locating venues, sourcing catering, and finding out people’s needs (I6). Therefore, being outside the CoP being coordinated would not be a hindrance, rather it would lead to more efficient coordination.

Wenger et al. (2002) say that coordination is usually funded by the organisation. But one of the weaknesses of the coordination process within the DLR was the lack of funding it received. Not all coordinators had a dedicated budget. One interviewee suggested incorporating CoP coordination into the performance management system – which is linked to yearly progression payments – to ensure each coordinator is allocated sufficient time to dedicate to CoP coordination (I5). But this could transform CoP work from a learning experience into an administrative governance experience, which is against the CoP concept
Another possibility could be to establish some form of accountability system that would make every CoP coordinator answerable to a supervisor, but this could make the CoP take on the characteristics of project work, which is anathema to the purpose of CoPs (I5).

For McDermott (2000), the most important characteristic of a CoP coordinator was the ability to relate to people, as the role is mainly about getting people to connect. This does not necessitate membership with the CoP being coordinated. Nevertheless, whether or not a CoP is served better by internal or external coordination has not been fully explored in the literature and needs further investigation. A way to expand an understanding of the coordination process could be to establish a CoP of CoP coordinators. By providing coordinators with a forum to share their strategies of coordination, it could improve the coordination process for all CoPs throughout an organisation.

5.2 Creating successful communities of practice

This section discusses attributes of successful communities of practice using the established CoPs as examples. A total of six factors, in no priority order, were identified that contributed to the success of the three established CoPs:

1. **Dispersal (DLCoP).** The dispersal of development and learning practitioners across the state and throughout different organisational divisions creates an obvious need for a CoP (I3, DLCoP Meeting, 2009). It acts as a way to collaborate over distance and share expertise across divisional boundaries (I3, DLCoP Meeting, 2009).

2. **Awareness of limitations (DLCoP).** DLCoP members pointed out the weaknesses of their CoP during their meeting (DLCoP Meeting, 2009). They expressed concerns about the limitations of their online “teamroom” (there was nowhere to leave comments), the difficulties in keeping in touch between meetings, and lack of attendance at some meetings (DLCoP Meeting, 2009). The identification of such limitations indicates members are enthusiastic about improving the DLCoP and are committed to its success.

3. **One coordinator (CCoP).** The CCoP has had the same coordinator throughout its life (I1). This coordinator has thus been able to establish recognition and to become highly networked throughout the DLR (I1).

4. **High level sponsor (CCoP and ECoP).** Hemmasi and Csanda (2009) believe the acquisition of high-level management support is important to ensure the long term viability of CoPs, and at the DLR, the two most successful CoPs – ECOP and CCoP – both had high ranking officers to act as sponsors (I1, I5, I7).

5. **Pre-existing social capital (ECoP).** The use of pre-existing social networks for the purposeful design of CoPs has been advocated by Wenger et al. (2002). This study demonstrated that such a strategy can be successful. The success of the ECoP is largely due to the social networks already present among evaluators, as the nature of evaluation within the DLR fosters social capital among its practitioners. Two main factors contribute to this. First, isolation is common (I7). The DLR has offices in many small country towns across the state. In many instances, each office within the DLR only has one or two evaluators (I5, I7). So there is a need for them to communicate across teams (I5, I7). Second, all new evaluators are invited to join the ECoP, so this provides them with an immediate support group (I7). This enabled newcomers to quickly advance to expert status, one of the defining features of CoPs (DePalma, 2009). The speedy transition of novices to experts is also facilitated by the opportunities for community members to learn through experience, a central feature of learning systems (Bawden, 2010).

6. **Core business (ECoP).** Evaluation is part of the DLR’s core business. For example, DLR projects, policies, events, strategies, workshops and initiatives are implemented using public money, so they must be evaluated to assess if they were worth the expense (I7). Accountability is maintained by evaluators, which ensures evaluation is well supported throughout the organisation (I7).
5.3 Implications for re-designing the SCoP

Dispersal? One respondent believed the SCoP was created in an organisational silo (I10), so efforts should be made to locate systems thinkers across the DLR. The transdisciplinary nature of Systems presents the opportunity for a SCoP to work across divisional and disciplinary boundaries.

Awareness of limitations? While members of the SCoP were aware of the limitations of their CoP (under-utilised online forum, lack of coordination and lack of meetings) they were not making a comparable level of effort to address these limitations. This suggests the SCoP does not meet the needs of its members in its present form.

One coordinator? The coordinator role has been held by one person from the establishment of the SCoP. Yet he has struggled to find time to devote to coordination (I2). It is unrealistic to expect a CoP to have one coordinator for its entire existence as many CoPs have life spans lasting years while people within the DLR regularly change roles. Thus community members should have in place a successful method of transferring coordination, but the best way to manage this transition is not well understood and worthy of future attention. Informants suggested a speedy transition is unwise (I2). Instead, an extended period of change involving the new coordinator acting in an apprenticeship role would be more likely to retain tacit knowledge and other forms of expertise within the CoP.

High level sponsor? The SCoP lacked the same level of high ranking organisational support enjoyed by the CCoP and the ECoP in that the sponsor was not embedded in the day-to-day politics of the organisation. As systems thinking is not part of DLR’s core business, it is more difficult for systems thinkers to secure the support of a high-ranking staff member to act as sponsor (I2). But CoPs can still function without a high level sponsor, as one interviewee described the sponsor of her CoP as a “symbolic figurehead” (I7). The role of the sponsor is thus to help foster enthusiasm among practitioners and provide a measure of legitimacy to those within the organisation yet outside the CoP. Provided members feel enthusiastic and CoPs are permitted to function within the organisation, it is possible for a CoP to function effectively without a high level sponsor.

Pre-existing social capital? The SCoP was lacking in social capital as interviewees spoke of the absence of meetings and the inability of members to create a forum for open debate (I2, I10, I12). This has plagued the SCoP from the beginning (I10, I12). Nonetheless, the potential for establishing social capital among systems thinkers remains. Like evaluators, systems thinkers are often in the minority within teams, so a need exists for them to communicate outside their own offices. Rather than waiting for social capital to establish between potential SCoP members, it could be fostered in the process of trying to establish a SCoP.

Core business? Unlike evaluation, systems thinking is not part of the DLR’s core business. Moreover, systems thinkers generally do not have systems thinking incorporated into their official position descriptions (I2), making it harder for systems thinking to gain broad support.

It would seem unlikely that systems thinking will ever be part of the DLR’s core business in the way evaluation currently is. This is despite research evidence that outstanding leaders “think systemically and act long term . . . . They recognise the interconnected nature of the organization . . . .” (Tamkin et al., 2010, p. 7). However, by emphasising the utility of systems for climate change adaptation – which is a core DLR responsibility – it might be possible to raise the profile of systems thinking within the organisation to a level that generates enough enthusiasm for a successful SCoP.

6. Conclusion

This research sought to scope the issues constraining or enhancing the purposeful creation of CoPs within a public sector organisation. A more specific aim was to illuminate those factors that might be utilised or avoided in creating the circumstances for the emergence of a community of practice based on systems thinking within the DLR. The authors’ theoretical
framing, supported by the literature, is that CoPs cannot be engineered, but the circumstances for their emergence and continuance can be understood and managed (Blackmore, 2010). Interviews were undertaken with DLR employees who see themselves as members of CoPs. The research shows that within the DLR there are currently six named CoPs in one of two stages of development, including a systems thinking CoP. There were three established CoPs, three struggling and no CoPs existing between the two extremes of “struggling” and “established”. It was beyond the scope of this research to explore CoPs that have emerged spontaneously within the DLR and continue to operate “below the radar”.

It is argued that a successful CoP is one whose members:

- demonstrated a sense of stakeholding or ownership of their CoP topic;
- demonstrated a willingness to participate in meetings and in the sharing of expertise;
- communicated with members in meetings and between meetings; and
- identified gaps in their knowledge and attempted to fill those gaps by, for example, suggesting new topics for meetings.

The concept of enthusiasm was found to be useful as its presence or absence among community members largely determines the success of a CoP.

The SCoP did not compare with DLR’s established CoPs as it lacked a “politically embedded” high level sponsor and pre-existing social capital. As systems thinking is not yet part of DLR’s core business it was difficult to foster broad support for a CoP based on systems science. Moreover, by situating the SCoP within an organisational silo the potential for interdivisional and interdisciplinary collaboration was reduced. While SCoP members were aware of limitations of their community they have not demonstrated the level of collaboration required to address such limitations. Similarly, the same person has been acting in the coordinator role since inception but has not dedicated sufficient time to coordination due to other responsibilities.

Practitioners aiming to create a successful community of practice ideally would:

- avoid creating a CoP within an organisational silo;
- build on pre-existing social capital among potential members;
- use one coordinator throughout the life of the CoP (or have in place a successful method of transferring coordination);
- gain the support of a high ranking officer embedded in the political life of the organisation to act as sponsor;
- engage in reflective practice that attempts to overcome the constraints to effective functioning of the CoP; and
- ensure the focus of the CoP reflected the organisation’s core business.

However, it may be appropriate to step back and consider the strategic organisational context before proceeding. This may reveal a need to:

- build or reveal a discourse of organisational imperative/need;
- gain organisational commitment and support structures for the CoP concept, including sponsors, funding, allocation of time, etc;
- foster or facilitate individual motivations to participate in a CoP (enthusiasm, ownership, etc); and
- develop the means to value and communicate individual and organisational benefit from CoP participation (learning, improved delivery on core business, communication, etc).

A possible area for future research attention is the role of the community coordinator. In particular, it was not clear how to deal with a change of coordinator to ensure knowledge and expertise was retained by the CoP. Another area of concern regarding coordination was whether or not the coordinator should be a member of the CoP he or she is responsible for.
While the literature advocates internal coordination (McDermott, 2000; Wenger, 2000; Wenger, 1998b), sometimes this is not possible in practice due to heavy workloads. While CoPs undoubtedly require a coordinator, the most practical and effective mode of coordination remains uncertain.

As this study revealed, creating successful CoPs is more than a business or managerial concern. Social capital plays an important role, and while it has already been acknowledged there are social aspects to learning within organisations (Gherardi et al., 1998), the contribution of social capital to successful CoPs is still not well understood. In line with previous studies cautioning against top-down approaches to CoP design, future studies could explore strategies for fostering social capital among employees, as it could provide the conditions required for CoPs to emerge. Moreover, it has been argued that CoPs, with their social aspects, can help overcome organisational silos (Rashman et al., 2009). Yet this study revealed an organisational silo to be a hindrance to purposeful CoP creation. Therefore, future studies could also examine how to initiate incipient CoPs in contexts where silos exist.

Our research was not designed to understand how the organisational and institutional contexts shaped participation in CoPs, nor how they could be leveraged to enhance organisational learning. This is clearly an area of need and opportunity for public sector organisations like DLR. As Snyder and Wenger (2010, p. 127) note:

...distinctive competencies in today's markets depend on knowledge-based structures that are not restricted by formal affiliation and accountability structures. The most distinctive, valuable knowledge in organizations is difficult or impossible to codify and is tightly associated with a professional's personal identity. Developing and disseminating such knowledge depends on informal learning much more than formal — on conversation, storytelling, mentorships, and lessons learned through experience.

The further exploitation of CoPs ideas in conjunction with generic systems thinking and practice capability building is worthy of greater consideration if public sector organisations are to be more adept at managing complex, or “wicked” situations such as climate change adaptation (APSC, 2007).

What is known about the purposeful creation of CoPs is based largely on studies within private sector organisations. This study goes some way towards redressing this imbalance, but more studies are needed on CoPs within public sector organisations. Such studies could contribute to the development of more appropriate knowledge management practices, as public sector CoPs may differ substantially from those in the private sector. Other areas for future study could assess the capacity of an organisation's HR division to purposefully design CoPs. The establishment of a CoP of community coordinators as a way to promote organisational learning of CoPs is suggested. Future studies could incorporate participant observation and long-term ethnographic research to assess the veracity of claims made by interviewees and the feasibility of the above suggestions. More in-depth analyses would also be able to elucidate the conceptual and praxis boundaries between CoPs and CoIs, which currently remain unclear.

References


Further reading


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