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Review of Knowledge Creation and Management processes through communities of practice in Public Administration

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Abstract

In today's society, knowledge is becoming a valuable asset and, for that reason, ways of creating, managing and possessing this knowledge are being sought. In this sense, this research is focused on actors and processes linked to knowledge creation and management (Del Moral et al., 2007; Drucker, 2003; Holsapple & Wu, 2008) and to knowledge management itself (Basu & Sengupta, 2007; dePaula & Fischer, 2005; Milton, 2005; Stankosky, 2005; Weber, 2007; Lambe, 2011). The aim of this research is to examine knowledge creation and management processes through communities of practice in the public administration with an intensive use of ICT; the goal is to outline the key factors for success in the communities analysed. The research method employed was the case study, multiple case studies to be precise, with attention on the organizational innovation (knowledge creation and management processes) carried out by some organisations or communities (single cases), but with interest in a global view of the matter. As Yin (2009) proposes, multiple case studies are more solid and sound than a single case study. The main contribution of this paper is the identification of standards and good practices for improving the existing communities of practice in the Catalan Department of Justice and the Catalan Health Protection Agency and for communities of practice created in the field of Public Administration.

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1. Problem Statement

In today's knowledge and learning society, knowledge is becoming an asset with enormous strategic value, and for that reason, organisations find themselves immersed in the quest for new strategies which will allow their members to create and share experiences, impressions and knowledge. From this perspective, organisations are aware that what makes them competitive is their ability to develop the human capital they have at their disposal. Isolated professionals no longer make sense; rather what is truly significant is the formation of human groups that interact constantly, both in person and through networks or communities.

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The establishment of knowledge creation and management (henceforth KCM) networks fosters the processes of personal, professional and organisational change. This is noted by numerous studies and publications when they confirm the hypothesis that the creation of communities of practice (henceforth CoP) fosters the creation of knowledge, learning processes and professional development (Aubusson, Steele, Dinham and Brady, 2007; Kimmble and Hildreth, 2005; Klein, Connell and Meyer, 2005; Loyarte and Rivera, 2007; Schenkel and Teigland, 2008; Usoro, Sharratt, Tsui and Shekhar, 2007; Wenger, 1998; Zang and Watts, 2008; Marcelo and Vaillant, 2010).

Work shared among individuals and groups is nothing new, but the new tools based on ICTs have encouraged more fruitful collaboration, fostering the appearance of new kinds of collaborative work. Collaboration is the underlying idea. On the one hand, objectives are shared, while on the other, the goal is not only to work collaboratively but also to perform a cognitive exchange in order to attain goals that would not have been attained individually. Other goals include harnessing suitable processes to sow collective proposals of interest in an attempt to go beyond the individual perspective of the initiatives.

The collaboration sought through CoP entails professional self-reflection and a dialogue among colleagues with the goal of improving professional practice and organisational development. The objective is an exchange of experiences by sharing proposals and projects and creating new knowledge. Somehow, the different professional contexts pose the need to develop a professional culture based on collaboration and on the institutionalisation of changes, that is, a culture in which the core elements taken into account include communication, shared work, the exchange of professional practices, collective reflection and the quest for solutions to common problems.

The network thus becomes an effective venue for performing experiments in collaborative work, in which technology becomes a means for designing the teamwork and supporting the processes of organisational management, allowing (1) documents to be shared, (2) meetings and conferences to be held, (3) work time to be used more effectively, (4) documents that respond to the organisation's new problems to be created, and (5) personal experience to become part of the organisation's experience.

2. Purpose of Study

The purpose of this study was to analyse the procedures of KCM in CoP in the field of the Public Administration, with an intensive use of technology. The goal is to outline the factors for success of the communities analysed in order to create a map of good practices by developing intervention protocols and standards of quality. More specifically:

- To outline and analyse the factors for success of the communities of practice that already existed in some departments of the Catalan Parliament which would enable us to create a map of good practices;
- To outline action protocols in order to generate a model of intervention; and finally,
- To outline quality standards that can guide the proposal of self-evaluation processes for improvement.

The study attempts to cover the gap in significant experiences and to remedy the virtual nonexistence of studies that address the development and especially the impact of KCM in the Public Administration. This fact reveals the need to further examine the models and strategies that enable professionals to work collaboratively and to ensure that their collaboration generates positive results and effects on the individuals, the organisation itself and consequently, the citizenry.

3. Methodology

The methodology that best fit the characteristics, requirements and limitations of this project was case studies, since this is a research strategy that addresses contemporary phenomena in their real context, especially when the boundaries between the phenomenon and the context are somewhat blurred (Bassey, 1999; Stake, 2005; Yin, 2009).

Specifically, the case study design proposed was a classic example of a multi-case study, in which organisational innovation was generated (KCM processes) which have been adopted by some organisations or communities (individual cases). However, in reality the focus was the overall study of all of them. As Yin (2009) notes, this kind of multi-case study is more robust and consistent than the study of individual cases.

The basic criteria for choosing the cases were the following (Rodríguez, Gil and García, 1999; Yin, 2009): (1) the case (information, people, documents, etc.) had to be easily accessible; (2) there had to be a high probability that the processes, programmes, individuals, interactions and/or structures related to the research question were mixed; (3) it had to be possible to establish a good relationship with the informants; (4) the researcher had to be able to carry out the study as long as necessary; and finally (5) the quality and credibility of the study had to be ensured.

The characteristics of the study and the kind of information we wanted to gather determined that the instruments used to collect the data were questionnaires to moderators and participants, semi-structured interviews with moderators and participants, document analysis and discussion groups. The study included a total of eight cases, four CoP for each of the participating institutions, including 40 interviews (32 with participants and 8 with moderators), the documentary analysis of internal documents, institutional documents and statistical data extracted from e-Catalunya platform, and 2 discussion groups. The study was conducted between November 2010 and September 2011.

4. Findings and Results

The documentation gathered, which resulted from the field study and the document analysis, was examined in accordance with the objectives of the study, seeking to compare information sources, moments in time and kinds of CoP considered. This section presents a synthesis of the most significant findings by presenting the information gathered from the questionnaires along with comments excerpted from the interviews.

Most of the participants in the CoP are over the **age** of 45. Still, while in the Department of Justice (henceforth DJ) the three age brackets considered are somewhat balanced, in the Health Protection Agency (henceforth HPA) the younger age bracket (between 25 and 34 years of age) was clearly barely present in the CoP that have been launched. This demographic difference can be explained by the different means of access and professionalization used in each organisation.

The marked difference between the tasks and workplaces in the HPA and the DJ help us to understand the **frequency with which PCs are used in the workplace** and consequently the place from which they usually participate in the CoP. In this sense, the differences in the **place where the participants connect** (84.5% connect from work in the DJ compared to 33.3% from work in the HPA) can be explained.

Here people have a lot of work outside the office; they are more often away than in the office, so they do it from home.

P27: S_P1_BP_1.rtf - 27:5[†]

Regarding **recognition of participation in CoP** by the institution, 68.6% of the participants admit that there is a certain transfer of the hours spent on the CoP to hours recognised as training. In any event, some people believed that the time spent on the CoP is not sufficiently recognised as training. In the majority of cases, the recognition in the HPA consists of a letter of appreciation from the heads of the institution. At the DJ, perhaps because of its higher degree of institutionalisation, this recognition can come as small pecuniary rewards for the people who serve

[†] The reference that appears after each quotation identifies: the organisation (S = Health Protection Agency and J = Department of Justice), kind of member (M = moderator and P = participant), the number after the letter "P" identifies the participant's number within the community, the kind of participation (AP = high participation and BP = low participation). Finally, the 2 numbers at the end (27:5) identify the line number from which the quotation was excerpted.

as the moderators. In both cases, publications of the products generated are also used as another kind of recognition, with greater or lesser efficacy. Beyond this professional recognition, participation in the CoP is also prompted by intrinsic **motivation** (57.5%) and a quest for personal satisfaction (22.3%), more than for professional or social satisfaction.

I think it is recognised as 40 hours of training. So what about someone who has spent more time on it? Those who spend more time could be rewarded.

P22: S_MO_2.rtf - 22:6

I spend a lot of time on it outside my work schedule, but I think it is something that has given me huge rewards both professional and personally.

P 2: J_MO_1.rtf - 2:25

Participation in CoP mainly takes place through the e-Catalunya platform (47.4%) because of institutional policy, although in-person meetings are another of the tools most often used in the key moments of CoP operation (launch, maintenance and closure).

We have tried to use the e-Catalunya tool a lot because of the distance that separates us from the majority of members.

P22: S_MO_2.rtf - 22:3

It has worked quite well, especially the in-person meetings. I think that they are the cornerstone of the CoP because they forge relationships and you can discuss all the points more extensively. There is a real, open and participative debate.

P23: S_MO_3.rtf - 23:39

The differences in the **attitudes towards the CoP** among the participants in DJ and HPA are minimal, but we can note that there is a significant trend in HPA to approach participation in CoP with a certain degree of passivity and pessimism regarding their functioning and institutional impact. The differences between the collectives analysed are linked to how the CoP have been organised and operate in their respective organisations. While there is a stable support structure in the DJ, with recognised moderators and resources, recognition and effects, the CoP in the HPA is more closely associated with voluntarism. These attitudinal differences are related to the degree of institutional support, the lack of preparation/training and the age of the participants (job stability, the leadership's lack of credibility; "burn out" in the members of the organisation, negative situations experienced by the participants, etc.).

To improve the attitudes of these superiors they should be very clearly informed as to the objective of these CoP and the fact that we all come out winning with them because it is a gain for the entire organisation and not just for a specific person. And they should really understand that anything that comes out of this, of these CoP, is later an asset for the entire organisation.

P26: S_P1_AP_3.rtf - 26:7

Generally speaking, **the assessments of the functioning of the CoP** among the participants are quite similar in both cases. Nevertheless, we can identify some significant differences related to three of the key factors in the functioning of any KCM strategy based on CoP: the technology used (the tools used have been valid for developing materials; the tools used have been valid for sharing), the people (I have the competences and skills needed to participate in the CoP) and the processes (the annual incentives spark my interest to keep participating in the CoP; the distribution of roles within the CoP was appropriate).

With the exception of the last item, which assesses the appropriate distribution of the roles in the planning and development of the CoP, the participants from the DJ tend to assess the functioning of their CoP more positively than their counterparts from the HPA.

Regarding the **selection of moderators**, in the HPA agreement is sought among the participants, and the role of the moderator does not match any particular institutional job, while in the latter (DJ), the moderator is chosen by the institutional leaders and it tends to dovetail with certain jobs. Likewise, there are more guarantees and training practices, resources and times for experience in DJ.

You went there to present a project and offered to be the moderator. People signed up and whoever wanted to come out and proposed another topic.

P22: S_MO_2.rtf - 22:26

It came to us like “these are the moderators” and that’s it. Now that’s neither good nor bad. It was accepted like that. Now, the problem is that I see that if we want to start more groups, all the work falls on these two people.

P10: J_P2_AP_2.rtf - 10:26

The participants in the DJ believe that they have more appropriate **competences and skills** to participate in the CoP ($x=4.22$) than the participants in the CoP in the HPA ($x=3.99$), which can be explained by the existence of a range of training activities in the DJ and the lack of specific training in the HPA. The figures show better training and competence in the DJ participants, while the HPA participants find more interest in participating in the collaborative working proposals of the CoP. In either case, we have discovered different effects according to the degree to which the CoP are formalised.

An examination of the **processes** enables us to identify higher scores in the HPA participants in aspects like the distribution of roles, the core role of the moderator, motivation and the methodological clarification of how the CoP is supposed to work.

Regarding the incentives, as explained above, the strong institutional backing and recognition of the CoP in the DJ, coupled with the existence of economic and workplace incentives (such as facilities to help participants attend meetings and training workshops), mean that they are rated more positively ($x=3.49$).

Table 1. T-test on the functioning of the processes in the CoP

	DJ x (SD)	HPA x (SD)	t
The objectives of the CoP in which I participate have been clear/well explained.	4.24 (0.890)	4.30 (0.849)	-0.490
The results of the CoP have been integrated into the organisational context.	3.70 (1.095)	3.35 (1.158)	1.752
The current incentives keep up my interest in continuing to participate in the CoP.	3.49 (1.165)	2.89 (1.295)	3.081b
There was an appropriate distribution of roles in the CoP.	3.91 (0.941)	4.18 (0.747)	-1.978a
The role of the moderator in the CoP is essential to its development.	4.37 (0.922)	4.62 (0.641)	-2.011
There is a clear working methodology in the CoP.	3.94 (0.970)	3.99 (0.893)	-0.292
The process used in the CoP is motivating.	3.76 (1.077)	3.85 (0.940)	-0.560

a, $p < 0.05$; b, $p < 0.01$; c, $p < 0.001$.

Regarding the **results**, there are not many differences. All the participants believe that the CoP serves to promote innovations, generate ideas that benefit other units in the organisation and improve the working climate. In any event, the value of these structures for training is more highly appreciated by the interviewees from the HPA, most likely due to the shortcomings in that department.

In our opinion, the differences found in relation to the reference organisation are related to how the CoP have been organised and how they operate. More structured formats guarantee greater influence on the organisation, but they can also affect the personal factors (interest, motivation, etc.) at play. In any case, the possibilities of organising these collaborative structures one way or another can bear a relationship to be analysed with variables such as the degree of verticality in the reference organisation, its size, the participants’ experience and the possibilities with regard to its functioning (selection, training, incentives, etc.).

5. Conclusions and Recommendations

The analysis of the interviews conducted enabled us to inquire into the factors that make CoP in Public Administration successful. We have been able to group these factors according to different dimensions. Below is a brief summary of each of the dimensions identified, followed by guidelines and recommendations to ensure that the institutions achieve the best results when implementing CoP.

Regarding the **organisational setting**, we noted in the study that the factors that foster success are the availability of resources for virtual work, an organisational culture favourable to sharing knowledge, hierarchical superiors to facilitate the implementation of the products yielded, a professional team spearheading the KCM strategies and processes, and finally incentives that participants in the CoP can receive. In this section, the strategies for organisations to pursue include:

- Facilitating the technological and physical resources needed for collaborative work.
- Designing work schedules that include employees' time spent on the CoP.
- Getting hierarchical superiors involved in the results yielded by the CoP.
- Creating processes that recognise and validate the learning acquired by the participants of the CoP.

Regarding the **dynamic of the operation of the CoP**, first we have identified the importance played by the role of the moderator: he or she guides the participants towards the set objectives, creates a pleasant climate that contributes to the creation of new knowledge, reinforces the relationships and ties among the participants, and gives all the members the opportunity to participate and express their opinions. Likewise, a clear, concise definition of the objectives of the CoP is also necessary, and the content of the CoP has to be appealing for its members and the person-to-person interaction of its members. Some strategies to pursue in this specific dimension include:

- Carefully selecting the moderators, bearing in mind their personal and professional profile, and monitoring their activity within the CoP.
- Setting up informal areas where the participants can reflect on and exchange knowledge.
- Detecting the organisation's needs and defining the working objectives of the CoP with the participation of its members.

The **personal characteristics of the participants** are important in terms of the motivation for participation in the CoP, the perceived value of the work in the CoP to improve knowledge and facilitate daily work, basic competences for collaborative work and networking, and attitudes favourable to sharing knowledge and taking responsibility for the tasks entrusted to the CoP. Under this point, several recommendations include:

- Fostering a culture of knowledge by promoting both individual and collective learning.
- Creating incentives that encourage teamwork over individuality.
- Fostering mutual trust among the members of the organisation when sharing knowledge and experiences.

The last dimension analysed refers to the **results of the CoP**, and this encompasses factors linked to their usefulness for the organisation in that they enable the daily jobs performed by the participants and the climate in the organisation to improve by creating collective consciousness among the members of the community and fostering the establishment of professional relations that go beyond the work of the CoP itself. Regarding the work of the CoP, other contributing factors include the training of its members and the fact that the results are useful for both the participants in the CoP and their colleagues. Suggestions along these lines include:

- Generating channels to disseminate the results of the CoP within the organisation-
- Setting up mechanisms that enable the impact and ROI of the resources earmarked for the CoPs to be measured.
- Creating an organisational infrastructure that facilitates the processes of knowledge creation and management and their application to daily work

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