# Inter-Organizational Communities of Practice:
# Specificities and Stakes

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**ABSTRACT**

Inter-organizational communities of practice (IOCoPs) are today an emergent research topic and studies in this area are still in an exploratory phase. Theoretical mechanisms are vaguely specified and empirical studies are incipient. For this reason, this paper firstly aims at presenting the specificities and stakes of such organizational forms, establishing reference points for further research in this field. We will introduce the main features of IOCoPs and explain why they do not represent a mere subcategory of CoPs, but a unit of analysis *per se*. In this paper, we will follow a thematic approach to indicate IOCoPs' specificities and stakes. We will thus look at the IOCoPs' actors (in part I), IOCoPs as original organizational forms (part II), then IOCoPs' life cycle (part III). Finally, we will synthesize IOCoPs' distinctive features and conclude with a discussion on key interests of IOCoPs for both practitioners and academics.

**Keywords :**

Community of practice, inter-organizational relationships, professional practice, expertise, knowledge management, learning, organizational boundaries, life-cycle.

The concept of "communities of practice" proposed by Lave and Wenger (1991) has gained recognition from both practitioners (McDermott, 2000; Lesser and Storck, 2001; Saint-Onge and Wallace, 2003) and academics (Thompson, 2005; Roberts, 2006). A community of practice (CoP) is a group of people having a common area of expertise or professional practice and interacting in order to exchange, share, and learn from each other (Wenger, McDermott, and Snyder, 2002).

CoPs have traditionally been grasped as the gathering of colleagues from the same firm, as with studies at Siemens (Jubert, 1999), Chrysler, Shell, McKinsey, or Procter & Gamble (Wenger *et al.*, 2002). This type of community relies on the intrinsic motivation of voluntary people eager to think and share around a common practice. However, CoPs can also bring together professionals belonging to different organizations. Indeed, a community of practice does not necessarily group together peers affiliated to the same organization; communities may also span firms' boundaries, creating inter-organizational communities of practice (IOCoPs).

If the inter-organizational dimension of communities of practice is sometimes mentioned in the literature (Brown and Duguid, 1991: 49; Wenger *et al.*, 2002: 36), it is seldom developed (for exception, see Huang, Newell, and Galliers, 2002; Van Winkelen, 2003; Soekijad, Huis in't Veld, and Enserink, 2004). Even these studies are generally confined to stating that CoPs are not restricted to being affiliated with only one firm, but can also cross organizational boundaries (e.g., Internet-type).

We argue that this change from the intra-organizational to the inter-organizational dimension deeply modifies the order. In the last three decades, organizational forms have known tremendous changes. The locus of activity is no longer only within the boundaries of a single firm, but can occur instead at the nexus of relationships between a variety of parties (Schilling and Steensma, 2001). Moreover, if the variety of inter-organizational configurations has received significant scholarly attention, they are generally analyzed either by individuals or by firms. Very few studies try to look at organizational forms linking the two levels of analysis. That is why we argue that the study of inter-organizational communities of practice represents a thrilling challenge. As we will see, IOCoP is an original unit of analysis linking the micro and the macro levels. If it relies on an inter-individual initiative, stakes are professional and directly involve organizations.

IOCoPs are today an emergent research topic and studies in this area are still in an exploratory phase. Theoretical mechanisms are vaguely specified and empirical studies are incipient. Thus, it seems necessary to clarify what is – and what is not – an IOCoP. For this reason, this paper firstly aims at presenting the specificities and stakes of such organizational forms, establishing reference points for further research in this field. We will introduce the main features of inter-organizational communities of practice and explain why IOCoPs do not represent a mere subcategory of CoPs, but a unit of analysis *per se*.

In this paper, we will follow a thematic approach to indicate IOCoPs' specificities and stakes. We will thus look at the IOCoPs' actors (in part I), IOCoPs as original organizational forms (part II), then IOCoPs' life cycle (part III). Finally, we will synthesize IOCoPs' distinctive features and conclude with a discussion on key interests of inter-organizational communities of practice for both practitioners and academics.

## I - THE ACTORS

Firstly, we are going to focus on the members of the IOCoPs, their diversity, and their motivations. We will also address the identification process as well as the learning mechanisms within IOCoPs.

## 1.1 The professional practice brings together individuals belonging to different organizations

Becoming a member of an IOCoP is a voluntary decision. This is not necessary the case for inter-organizational alliances and partnerships. One of the specificities of IOCoPs is that members can cross organizational, hierarchical, and spatial boundaries.

In addition, individuals do not receive financial compensation for their participation. If members of the community find a value to their interactions, it is because their participation is not only instrumental for their work performance, but they also gain personal satisfaction from sharing with individuals understanding their concerns. Relationships are not based on an administrative hierarchy, but by an informal expertise-based recognition. These are individuals belonging to different and legally autonomous organizations, who decide to collaborate. IOCoPs' members can thus share an occupation or a discipline. They can have the same job or hold the same position, or be confronted with similar professional issues.

## 1.2 A diversity of statuses and profiles

However, IOCoPs are not necessarily made up of same-status economic actors. On the contrary, they generally involve actors with different profiles. This system of knowledge can include suppliers, distributors, buyers, and researchers from public entities, as well as diverse other protagonists. IOCoPs can gather people from competing firms, from the same value chain, or from the same labour market area. But, sometimes, the only common denominator of community members is a specific practice and a desire to interact around this practice. In many cases, these people would not have been led to collaborate otherwise. The professional practice serves as a motive, a convergence point and focus point helping to define inside from outside, what is relevant from what is not. Beyond the plurality of individual and organizational origins, the community culture builds itself around this shared field of professional activity.

Thus, IOCoPs differentiate themselves, in particular, from associations, clubs, or networks focused on extra-professional practices.

## 1.3 Members' motivation

Initially, people are motivated to adhere in a voluntary manner to a community of practice because they are looking to develop their individual expertise. Using the notion of capital such as the one defined by the sociologist Pierre Bourdieu (1984), we can consider that this expertise which is tied to a practice, constitutes a specific cultural capital.

Membership to a community and the learning mechanisms which are tied to it allow members to acquire this particular form of capital. Those that are endowed with a high volume of capital (the "experts") are valued by the community and occupy a dominant position. These experts, although not reinforcing their cultural capital through their implication in the community, can acquire symbolic capital.

Another form of capital which also plays an important role in the IOCoPs is social capital, defined as a network of relationships. Nahapiet and Ghoshal (1998) have shown how social networks can be crucial in innovation processes. Inspired by this work, Lesser and Storck (2001) underline the existence of causal links between social capital and firm performance. The inter-organizational dimension of IOCoPs make these places particularly conducive to the reinforcement of the social capital of their members. Based on the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and inter-recognitions (the fact of being recognized as a full member), social capital plays a catalytic role in the acquisition of specific cultural capital. In contrast to what happens in other

structures such as alumni associations of business schools, the management of social capital is not an end in itself but is rather used to acquire specific cultural capital.

Whereas it is not inherent to IOCoPs, the increasing of the economic capital of members can however be an induced effect. In the case of the AUGI[2], several members of the IOCoP work as consultants. The notoriety which they have acquired through their volunteer function within AUGI constitutes a vector of development in their own consulting activity. In certain cases, this objective can even be explicitly made. It is the case for example for Change Leaders. This community has been founded by former participants of "Consulting and Coaching for Change". This program, offered jointly by HEC Paris and Oxford University, welcomes top managers interested by the management of change in corporations. A document written by the founders of this IOCoPs makes explicit the objectives to be achieved: a) continue to reinforce their competency and to share their experiences, but also b) develop opportunities to work together (especially for those who do consulting work).

If members' participation is always on a voluntary basis, the rules of membership vary depending on the community. Membership can be voluntary and free or a selection process can exist (such as cooptation in the Change Leaders community); a financial participation may be requested as well. The distribution of roles varies depending on the degree of institutionalization of the community. One can find, for instance, moderators in charge of regulating exchanges in a discussion forum setting.

## 1.4 Identification

Becoming a member of an IOCoP involves a psychological identification process (Wenger, 1998). This socialization process explains the strong identification which particular actors feel towards their community of practice. IOCoPs are original objects of study as most of the work to date focuses on the analysis of identification within the same firm (Dutton, Dukerich, and Harquail, 1994; Moingeon and Soenen, 2002).

Identification occurs through the support of the community's objectives. The new entrant must recognize the stakes (management of specific cultural capital linked to the practice) if s/he wants to become a member. S/he must also accept the rules of the game and cannot be a free rider. S/he must aspire to becoming her/himself a contributor and not a simple observer/consumer of the knowledge produced by the community. According to Lave and

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2 Autodesk first revolutionized the software industry with the AutoCAD® product, which introduced drafting on a PC. Today, Autodesk is a fully diversified software company that provides targeted solutions for creating, managing, and sharing digital assets to more than six million users. AUGI is the Autodesk User Group International, officially recognized by Autodesk as representing the Autodesk user community.

Wenger (1991), socialization in a community of practice occurs through "legitimate peripheral participation". Novices will acquire cultural capital which is specific to the community by first participating in periphery activities and then by being more closely linked to central activities which require a strong expertise. From this point of view, learning and socialization are tied. IOCoPs rest on a virtuous circle between participation/ learning/ identification/ implication and motivation (Thompson, 2005). Their strength is therefore self-perpetuating.

## 1.5 Learning

Furthermore these organizational shapes constitute learning structures (Métais and Moingeon, 2001; Moingeon and Perrin, 2006). Since the members of IOCoPs are from different organizations, the variety of experiences is even greater, thereby increasing learning potential. IOCoPs actually enable the specialist who lacks a sounding board to test the relevance of his/her ideas and to break his/her isolation. They are what Oldenburg (1989) calls "neutral places", safe from political games, formal hierarchical relationships and time constraints imposed by the labor contract-based firm. IOCoPs build upon a "partially open" organization (Sawhney and Prandelli, 2000), reconciling coordination mechanisms and freedom of action, thanks to a compromise between a too rigid structure and a complete lack of point of reference. Members can explore new ideas for the development of their practice by functioning on a discovery mode and by daring to be more audacious than in the traditional organizational context. This way, IOCoPs function like laboratories, places of exploration and testing. They can be a place of creative freedom where taking some distance is encouraged.

In terms of learning, the main originality of IOCoPs concerns their capacity to manage tacit knowledge, and this independently from organizational borders. While we encounter the four classical forms of knowledge conversion identified by Nonaka and Takeuchi (1995), it is undeniably the importance of the socialization process which characterizes these communities. Under this perspective, even if some IOCoPs have been able to adopt a codification of knowledge, the very specificity of these communities resides in the central place given to personalization strategies – the distinction between these two strategies is presented in Hansen *et al.*, 1999 – based on the establishment of personalized relationships between members of different organizations.

After having presented the role of the protagonists in the IOCoPs, let us now see the originality of this form of organization.

**II - IOCoPs: Original Organizational Forms**

At the theoretical level, IOCoPs move away from polar organizational forms such as the market and the firm (Williamson, 1975). Within the extraordinary variety of organizational forms, IOCoPs belong to the large category known as "hybrid" (Ménard, 2004).

**2.1 Some principles of IOCoP organization**

In spirit of social interaction, IOCoPs can induce new types of regulation both in markets, hierarchies, and at the level of individuals. This emphasizes the "structural holes" as described by Burt (2000).

One can identify precise socio-economic reasons behind the set up of IOCoPs such as the reduction of transaction costs, a better coordination of practices or, collective learning.

By gathering individuals of various hierarchical levels and various organizations, the IOCoPs link a vertical division with a horizontal division of work (Sinha and Van de Ven, 2005).

Two main permanent features characterize these forms of organization.

The first is the coordination of experience, knowledge and resources. Within IOCoPs, the members do not perceive the market to be suited, adequate or sufficiently powerful to fully ensure the coordination or pooling of these specific competencies. A company does not represent an adequate organizational solution adapted to these objectives of collective training. It does not offer the flexibility of the hybrid form nor the mode to ensure the optimal effectiveness of incentives (Williamson, 1991).

In the approach based on resources (Nonaka and Takeuchi, 1995; Kogut and Zander, 1996), IOCoPs are an organizational form that rectifies a market or a hierarchy failure, by correcting their respective deficiencies and limitations in a knowledge-based economy. IOCoPs would then be explained by their capacity to coordinate knowledge and experience because of their high degree of specificity or their "hidden" nature.

The second characteristic is the recourse to relational, implicit devices and creation of reciprocity which define the bonds between IOCoP partners. One thinks then of the spontaneous behaviors inspired by equity ("reciprocal fairness"), analyzed for example by Fehr *et al.* (1997), and with the modeling of the emergence of co-operation based on the internalization of standards (Gintis, 2003). These devices leave an important place to mechanisms of adjustment and negotiating procedures. They then define a framework for the partners' activities, and also propose appropriate methods.

## 2.2 The emergence of governance

While membership to an IOCoP is individual and voluntary, it can be determined with or without selection criteria. The initial members of IOCoPs seek to define, then to codify the rights, duties and obligations of its members.

Gradually setting up like hybrid organizational forms, the IOCoP provides itself with membership, governance and co-operation mechanisms, mixing the conditions of membership, the rules of work distribution, the problems of monitoring, and the valorization of specific immaterial investments collectively carried out. These IOCoPs frequently choose to adopt an associative statute, requiring them to formalize their governance by electing an authoritative body with president, treasurer and secretary positions.

IOCoPs are very flexible organizations, generally able to adapt easily and quickly, by integrating for example new members or by modifying their modes of collaboration. The governance structure that IOCoPs develop gradually defines formal rules of the game. Their purpose is to dissuade members from adopting opportunistic behavior. Successful governance allots supervision mechanisms and a right of audit making it possible to verify that the members conform to the principles of membership.

## III - THE IOCoP LIFE CYCLE

Utilizing the traditional three-stage model of organizational forms proposed in the past (Quinn and Cameron, 1983; Jawahar and McLaughlin, 2001) - launch/formation, development/institutionalization and decline/transition - we will investigate the specific issues raised by IOCoPs and suggest some key theoretical stakes.

## 3.1 Formation phase

The conditions under which IOCoPs emerge are even more challenging to understand than in the case of their intra-organizational counterpart (CoPs). If at the firm level, researchers tend to agree that starting a CoP cannot be simply "decided", at the managerial level, firms can create the conditions under which CoPs can emerge (Wenger and Snyder 2000; Brown and Duguid 2001; Wenger *et al.*, 2002). As an illustration, the most recent work by Dubé *et al.* (2005) proposes that three conditions should be met for a CoP to develop: a culture of collaboration within which discussions are genuinely welcome, a fit between the objectives of the community and those of the organization, and institutional support of the CoP ("embeddedness").

Academic research on IOCoPs' emerging conditions is practically nonexistent, so we can only formulate exploratory hypotheses. First, it seems logical to assume that the same three initial conditions should apply for *each* participating organization. We find here what Brown and Duguid (2001) call the necessity for both "structure and spontaneity". An IOCoP could thus start from the personal initiative of any professional who has personal contacts with people belonging to other organizations.

Another path seems plausible as well. Because it is not always easy for one organization to have direct access to employees belonging to another organization, it seems unlikely that the start of an IOCoP can be easily decided at the organizational level. However, an indirect route can be pursued, whereby the focal organization creates the conditions under which inter-organizational links can progressively develop. This first stage can manifest itself through the development of an alliance or an inter-organizational working group in which members take part as representatives of their respective organizations. Thus, an IOCoP is not directly created, a more traditional, transitional organizational form (which we call an "IOCoP generator") that encourages the emergence of inter-organizational links is formed. In turn, these individual links can lead to the development of an IOCoP. A good example of this indirect emergence path is the case of the Interfaculty Groups within the CEMS (Community of European Management Schools) network. Indeed an intriguing question would be to understand the conditions under which such an "IOCoP generator" is needed.

In any case, IOCoPs are self-organizing groups, they have an emergent structure and are not created to carry out a particular task. They do not work from a predefined work plan (McDermott, 1999a) and are not necessarily created with a specific duration in mind. IOCoPs thus differentiate from team projects in many respects. IOCoPs differ from traditional teams in that they are accountable to nobody. Moreover, whereas work groups are temporary and break up when the project is finished, communities of practice endure and continuously create knowledge (Bourhis and Tremblay, 2004).

## 3.2 Development and Institutionalization Phase

Participants do not only seek to counter or limit the obsolescence of know-how, but also to improve their practices. Beyond their monitoring and providing the vehicle for best practice functions, such communities enable the collective building of a skill. Members of the community take part in a "collectivization" of their individual knowledge to contribute to the

creation of a collective learning or output, with a value superior to that which could have been created by the sum of individual outputs. They develop a shared book of resources, such as tools, documents, routines, specific vocabulary, stories, symbols, and artifacts. The latter embody the accumulated knowledge of the community (Boland and Tenkasi, 1995; Soekijad *et al.*, 2004). Through their interactions, members maintain the ongoing development and validation of exchanged ideas which enables a better learning process. This incremental knowledge building is based on the sharing of expertise. Knowledge is perceived as a public good. The expertise is no longer restricted to the individual, but becomes progressively collective. Thus, generated knowledge becomes more and more embedded within the community (Brown and Duguid, 1991; Lave and Wenger, 1991). This non-competitive approach to knowledge exchange strengthens the community, thanks to a cycle of mutual gains (Wenger and Snyder, 2000).

Gongla and Rizzuto (2001) provide an interesting list of the conditions under which CoPs can progressively prosper and become institutionalized; these conditions seem to be equally valid for their inter-organizational counterparts. Once institutionalized, an IOCoP generates learning for its members, as well as, indirectly, for their respective organizations. This institutionalization process seems nevertheless to be particularly difficult. Research carried out by Lawrence, Winn, and Jennings (2001) on institutionalization dynamics helps us understand why. They underline the fundamental importance of the power exerted on the promoters of the new organizational form. Two dimensions are key: the power's mode (Is power episodic or systemic?) and the relationship of power to its targets (Are the promoters likely to remain passive "objects" or not?). The mode explains the stability of the institutionalization process (an episodic mode requires continuous action over time), and the relationship of power to the target is related to speed (negotiation in the case of "subjects" requires more time). The institutionalization of IOCoPs requires both repetitive, non-routine action over time (episodic mode), and negotiations with the members' organizations: this process is thus likely to be both unstable and slow.

The IOCoP's instability is further exacerbated by the simultaneous presence of several organizational stakeholders; even if the principles of "open innovation" (Chesbrough, 2003) are becoming more widespread, the learning involved through the participation to the IOCoP makes the question of equity among participating organizations a crucial topic. This problem

of equity is likely to increase tensions among individual members and among participating organizations.

In his study of the evolution of organizational forms, Mintzberg (1984) analyzes configurations of organizational power between the internal and the external coalitions (respectively: members who control the organization, and other stakeholders). In the case of IOCoPs, the external coalition is clearly "divided", because of the presence of multiple organizations. The internal coalition is likely to be "politicized" (political or conflictive forces dominate) because its promoters gain both personally and professionally and will be tempted to use this organizational form to their own personal interest (Gray and Ariss, 1985). According to Mintzberg (1984), these are precisely the conditions under which this organizational form becomes a "political arena", which is "characterized by conflict that is both pervasive and intense, and hence typically brief" (p.211). This analysis directly raises the question of the IOCoP's sustainability.


## 3.3 Decline / transition

The recent work by Thompson (2005) provides an excellent illustration of the difficulties faced by firms which attempt to leverage the existing CoPs; the firm's rather brutal attempt to leverage a successful CoP directly caused its decline and death. This risk is even higher for IOCoPs, because anyone of the participating organizations wanting to excessively leverage the community for its own benefit could seriously damage it. Going further, the simple *perception* that one participating organization may have such an intention could suffice to hurt the functioning of the IOCoP.

This extreme sensitivity underlines the transitory nature of IOCoPs. We hypothesize that three outcomes are likely to result. First, the IOCoP can cease to exist altogether, if one or several organizations decide that its members should refrain from participating anymore. Second, the IOCoP could become "dormant": it continues to function nominally, but does not produce significant new learning. The third possibility is more positive; given the results, one or several organizations could decide to go one step further and develop a more traditional and more structured organizational form (research consortium, alliance…).

In all cases, the IOCoP will only have been a transitory organizational form – which does not say that it was a useless one. Here again, we call for more empirical work to confirm these theoretical insights.

**CONCLUSION**

**A preliminary IOCoP definition**

This first attempt to grasp IOCoPs' specificities and stakes leads us to review and expand the analysis framework proposed by Wenger, McDermott, and Snyder (2002: 42):

| | *Who belongs?* | *What is the purpose?* | *How clear are the boundaries?* |
|---|---|---|---|
| *IOCoP* | Individuals from different organizations | To create, expand, and exchange knowledge, and to develop individual skills for a professional practice | Fuzzy |
| *CoP* | Individuals from the same organization | To create, expand, and exchange knowledge, and to develop individual skills for a professional practice | Fuzzy |
| *Club / Association* | Individuals | To create, expand, and exchange knowledge, and to develop individual skills for a non-professional practice | Defined |
| *Firm* | Individuals from the same organization | Production of goods and/or services | Defined |
| *Alliance* | Firms | Production of goods and/or services | Defined |
| *Network* | Individuals (friends and business acquaintances) or firms | To receive and pass on information | Undefined |

In this paper, we have seen what is – and what is not – an inter-organizational community of practice, by using comparisons with other well-known organizational forms. We therefore propose to define an IOCoP as an organizational form having autonomous governance, gathering voluntary individuals from different organizations, with a common professional practice and aiming at developing their expertise on an individual basis.

All in all, if IOCoPs force economic actors to face new challenges, they also offer them numerous new opportunities. That is why, we will now highlight the relevance of such a field of research for managers and suggest some directions for future research.

**IOCoP management**

Many books and articles on the management of intra-organizational CoPs (Lesser and Everest, 2001; Swan *et al.*, 2002) exist; the way to handle and manage IOCoPs requires additional research.

In particular, their implementation is highly risky. In fact, an incorrect use of members' resources can be counter-productive. As pointed out by Wenger *et al.* (2002), communities of practice are not safe from narcissistic propensities and can even hinder learning. They can create blinders focusing on a given domain, leading to inertia and rigidity (Leonard-Barton, 1992). This is all the more crucial in IOCoPs, where the vitality of cross-boundary exchanges is a real keystone. Thus, IOCoPs have to be able to regularly add new members, in order to maintain enthusiasm. With poor IOCoP management, there is a serious risk of breeding an arrogant attitude, where the community then tries to act as "thought police".

**At the individual level**

For the individual, IOCoPs offer an excellent means to enrich his/her own professional practices. It is not surprising to note that the rise of IOCoPs is linked to the increasing individualization of professional evolution and performance evaluation. Such communities are the mainspring of socialization around a professional practice. They represent a source of knowledge to be developed elsewhere. They also enable the practitioner to distinguish him/herself from his/her direct colleagues and to mobilize such channels to assert expertise by peers from other organizations (Bouty, 2000). It can also be a good means to increase his/her marketability and employability.

As the practitioner is often situated at the junction of several communities, it can be useful to show him/her the opportunities offered by IOCoPs. It could allow him/her to better manage his/her belonging to different organizations, associations, and communities, by shedding a new light on his/her time and resource allocation.

**At the organizational level**

For the organization, IOCoPs indirectly represent a powerful monitoring and innovation force, making both knowledge production and distribution easier. Such informal communities can help to explain the "absorptive capacity" of firms (Cohen and Levinthal, 1990). They also incite organizations to seek development assets beyond their own boundaries. Innovation sources are not only within organizations. In fact, they are generally situated in interstices between firms, universities, research laboratories, suppliers and buyers (Powell, 1990). The

ability to seize those opportunities is determined by active participation in such activities (Levinthal and March, 1993). Organizations should therefore better take into account IOCoPs' contribution as a strategic leveraging tool in their knowledge management policy.

This fact begs the question of the role of knowledge management centralization. To what extent does a firm have to recognize, indeed even encourage, its employees' participation in IOCoPs? Does a firm have to allocate some time to the participant so that s/he can take part in those communities? As suggested by Thompson (2005), firms have to find a balance between organizational encouragement and control. How then to integrate the communities of practice's member's income in the organization without institutionalizing them and risking to stifle their self-organizing principle? Indeed, how can those firms leverage IOCoPs? Is it possible to implement a system to recover the knowledge generated there?

This drives us to rethink the role of the organization from a simple coordinator of internal activities to the supplier of adequate support for interaction between internal and external activities (Liebeskind *et al.*, 1996), or even as a community orchestrator. In other words, how can a firm involve the different actors of its environment in its own process of knowledge creation (Sawhney and Prandelli, 2000)?

IOCoPs drive the organization to reexamine its human resources management. As suggested by Drucker (1998), increasing employees' commitment is a key success factor for organizations. IOCoPs, by giving them the opportunity to develop their skills and share their interest on a voluntary basis will undoubtedly contribute to this commitment.

Whereas IOCoPs play a critical role in knowledge management, they expose the organizations to the risk of losing intellectual property if confidentiality rules have not been clearly defined (Bouty, 2000).

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