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**FROM A SPONTANEOUS COMMUNITY OF PRACTICE  
TO A PILOTED COMMUNITY OF PRACTICE:  
A LONGITUDINAL STUDY OF RESILIENCE CONSTRUCTION**

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**Abstract:** The article focuses on piloted communities of practice (PCoPs), which have evolved significantly in recent years in the knowledge-based economy. These social structures represent real difficulties in terms of management, particularly with regard to the possibility of reconciling two apparently contradictory logics, self-organization and control. Although recent empirical work in the literature provides a general picture of these PCoPs, they do not provide details of how this piloting is implemented over the long term. This paper uses a flexible pattern matching approach on a longitudinal case study to analyze the shift from a spontaneous community to a piloted community. The community studied here is the sound engineers of Radio France. The results highlight that piloting can only be relevant if it is presented as a reification process that makes sense to those involved. The study also emphasizes that self-organization and control can be harmonized through the creation of an ad hoc structure and that some PCoPs can be ambidextrous. In this study, we underline in which conditions the piloted community allows to maintain the resilience of an organization.

**Keywords:** Community of practice, piloted community of practice, longitudinal study, flexible pattern matching, resilience.

## **Introduction**

Numerous publications describe the emergence of the new post-1990's economic context as an intensively innovative period (Eisenhardt and Brown, 1998; Hatchuel and al., 2001; Amin and Cohendet, 2004; Foray, 2004). This new context caused profound changes in the functioning of organisations by considering knowledge as a central and unavoidable element. The organisation's performance depends on its ability to generate, transmit and capitalise on knowledge to boost innovation (Nonaka and Takeuchi, 1995). The community of practice (CoP) is one of the tools provided by this new strategic approach (Lave and Wenger, 1991; Wenger, 1998; Wenger et al., 2002; Cohendet et al., 2010). A great number of businesses began creating this type of community, including Siemens (Borzillo and al., 2008), British Petroleum (Frank et al., 2017), Schneider Electric (Haas et al., 2021), GDF-Suez (Dupouet and Barlatier, 2011; Gosselin et al., 2010) or Hewlett-Packard (Kohlbacher & Mukai, 2007).

The management of these communities proved to be problematic, partly because businesses do not always have a clear notion of a community's fundamental nature (i.e., its « informal » character, the different commitments of members, the links between the different actors, the question of individual and collective identities, etc.), and particularly due to insufficient knowledge of how it should be piloted. Piloting by the management can only be achieved if these structures can be clearly differentiated from spontaneous CoPs, which result from the self-organisation of their members. Piloted communities of practice (hereafter referred to as PCoPs) are hybrid structures which have partly retained their self-organised aspect but are still structured around formal organisation (Dupouet and Barlatier, 2011). This implies a necessity to reconcile two apparently contradictory logics: self-organisation and control (Josserand and St Leger, 2004). Although a number of empirical studies in the literature provide PCoP typologies and highlight the important role played by managers and sponsors (Probst and Borzillo, 2008; Borzillo *et al.*, 2008; Dupouet and Barlatier, 2011, Bootz, 2015),

they do not provide details of how this piloting is implemented over the long term. This paper uses a « flexible pattern matching approach » (Sinkovics, 2018) on a case study (Yin, 1994) to analyze the development of a piloted community from the viewpoint of the actors involved. The community concerned was created in 2002 for Radio France sound engineers. We seek to learn from this case study and observe the delicate and paradoxical piloting of a community over a period of approximately ten years. Particular interest is paid to the way in which the piloting is implemented at the outset and how it is subsequently accepted despite the existence of an informal CoP for sound engineers prior to this new project. Through the comparison between theoretically expected and empirically observed patterns (Sinkovics et al., 2019), we try to gain a clear picture of how the CoP changes from a spontaneous to a piloted nature. We are also attentive to the way in which piloting evolved over time and became capable of harmonizing self-organisation and control. Finally, we seek to position this PCoP in relation to the typologies proposed in the literature, which distinguishes between exploration and exploitation PCoPs. Thus, by outlining the subtle mechanisms of the transition from a spontaneous to a piloted community, we document the conditions under which an organisation is able to maintain its resilience as “the maintenance of positive adjustment under challenging conditions such that the organization emerges from those conditions strengthened and more resourceful” (Vogus and Sutcliffe, 2007, p.3418). Resilience is both a capacity to cope with a situation which is at odds with a previous situation and which places a strain on the organisation, but also as a capacity to learn from this adaptation and therefore to cope in a more efficient way than the previous time. Thus, we are truly in the presence of a fundamental learning mechanism. We assume that Wenger's (1998) social theory of learning is a good candidate for anchoring resilience in a learning process that allows for the linking of individual and collective resilience mechanisms.

This article is structured as follows: The first section presents the conceptual background of the study by defining the main characteristics of spontaneous and piloted CoPs and the key issues in shifting from one to the other. In Section 2, we describe the case study and methodology used. In Sections 3 and 4, we report the results and provide a discussion, respectively. Our analysis underlines that the evolution from spontaneous to piloted CoP is not a sudden change, as described in previous publications, but is rather based on a reification process which makes sense to the members of the group. The longitudinal study also reveals that the self-organisation/control balance is not necessarily dependent on a sponsor and a manager, but can be managed through the creation of an ad hoc organisation for the community. Finally, the sound engineer community is shown to have an ambidextrous nature, thus casting doubt on previous works that underline the necessity of separate PCoPs for exploration and operating activities.

## **1. Conceptual background : From spontaneous communities of practice to piloted communities of practice**

### ***1.1. The origins of spontaneous communities of practice***

There is now a consensus (Cohendet et al., 2003; Josserand, 2004; Dameron and Josserand, 2007; Berry, 2008) about defining the authors who gradually constructed the idea of communities of practice (Lave, 1991; Lave and Wenger, 1991; Orr, 1990; Brown and Duguid, 1991; Wenger, 1998; Wenger, et al., 2002). As Vincent Berry (2008) wrote, this literature contains works that express a theoretic position on the question of learning, such as Lave and Wenger (1991), and more pragmatic works by authors like Wenger (1998), who discuss the functioning of communities of practice. These works all start with the consideration of *situated learning* theories, which argue that social context cannot be dissociated from the individual learning process. Berry (2008) claims that there is a common

thread in north-American works which start off with *situated action* and move through a consideration of *situated* and/or *distributed* cognition before finishing with the notion of *situated learning*. Lucy Suchman's work (1987) is an important reference in this set of studies, as is Garfinkel's concept of ethnomethodology or Vygotsky's socio-historical approach (Soulie, 2004).

The first reference article about the foundations of communities of practice is by Jean Lave (1991). This author defends the idea that learning should globally be *seen as a result of a person's legitimate peripheral participation in the activity of a group sharing similar practices*

(Lave, 1991). It is impossible to separate the learning process from the learner's involvement in a community that applies the same practice. The learner's involvement will enable him or her to develop an identity as a member of the community. The learning process and the identity-building process within a community is inextricably linked. Thus, the knowledge acquisition process of any individual in society results from a process of joining a permanent group which shares common practices (Lave, 1991).

In line with situationist perspectives, ethnographic studies were used to identify the first communities in order to focus on the effective functioning of work groups. For a period of one year, J. Orr (1990) monitored a team of technicians responsible for the repair of photocopiers within Xerox. His observational work reveals the ambivalent nature of this profession: Although workers have a high degree of autonomy insofar that they are alone to repair the customer's machine with the sole support of a user guide that lists the troubleshooting procedures, these individual workers make up a community that is based on mutual assistance and the collective resolving of unusual technical problems. This community is often created through informal meetings during which repairers exchange their "war

stories" and explain how they managed to solve complex situations that were not included in the repair manual. This transmission of experiential knowledge (Rix-Lievre and Lievre, 2012) that had been accumulated by the different workers leads to the constitution of a stock of knowledge that compensates for the "clinical" instructions of the photocopier repair manuals. These workers identify the gap between the prescribed task process and organizational practices, and seek to develop an understanding and a method that answer their professional needs (Brown and Duguid, 1991).

In parallel to Orr, Wenger was conducting similar observation work in a health insurance company. He then used the notion of "community" to explain this mutual help and define the basic criteria that was necessary to identify the community aspect of work collectives. Wenger showed that this daily mutual assistance is dependent on mutual commitment (the ability and willingness of individuals to efficiently combine their skills with those of others and agree on a solution as a group) and on a desire to work towards a common goal (mutual help motivates everyone and gives each person a responsibility within the community). Wenger (1998) shows that this mutual help results in the recording of solutions in a shared bank of knowledge composed of operational practices and common vocabulary (i.e., common references). This knowledge is also recorded in documents or operational tools produced by the community, providing concrete supports that embody the collective experience through a reification process. Members of a group negotiate the meaning of their action within the community through participation and the collective construction of supports. This negotiation of meaning process also leads to the construction of identity within the group and permits the community to develop (Dameron and Josserand, 2007).

A community of practice brings together comparable members " *who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis* " Wenger et al. (2002, p. 4). CoPs are fundamentally

characterized by their self-organized nature (Brown and Duguid, 1991). Indeed, individuals do not participate in these communities because the hierarchy pushes them to do so, but because it allows them to develop their competence in their field of activity.

The autonomy and the identity of CoPs therefore lead to the collective acquisition and use of environmental stimuli (Wenger, 1998). Identity is built through a process of mutual engagement. It is built around activities that are understood and continuously negotiated by the members of the group. Membership of a community requires strong commitment to a dynamic system that is continually redefined by the actions of its members (Lemke, 1997). Mutual engagement therefore ensures the cohesion of the community and the recruitment of new members. Individuals are evaluated by the community of practice, with equal importance attributed to the values adopted by the individual and the progress made in his or her tasks.

Like any living organism, communities go through different life cycle models (Gongla and Rizzuto 2001; Wenger et al., 2002), and are essentially composed of the same 5 steps. For Wenger et al. (2002), the community only exists in an embryonic state in the first stage (*potential*) as an informal social network that has been created around a theme or an idea. When a common identity develops, the need for more systematic interactions emerges and generates interest in several members. We then reach the next stage (*unification*) which results in the adhesion of a critical mass of people who are attracted by the idea. The community then enters a stage of *maturity* that allows it to specify its field of intervention, its role and its limits. *Momentum* is the stage at which the group masters its field of competences, resulting in fruitful exchanges and the production of ideas and documents. Finally, *transformation* represents an inflection point in the growth curve. At this stage the community can be institutionalized as a service, department or other hierarchical structure, can merge with another community or simply disappear.

## ***1.2. Piloted communities of practice : self-organisation/control tension and typology***

Given the role of CoPs in supporting knowledge management, organizations increasingly seek to pilot them toward following a strategic logic (e.g., Borzillo et al., 2008; Dupouët & Barlatier, 2011; Kohlbacher & Mukai, 2007). These piloted CoPs induce a tension between self-organization and control that clearly makes them different from traditional hierarchical structures, such as projects and working groups (Cohendet et al., 2004; Kirkman et al., 2011) in terms of tasks, missions, membership, leadership, or structure (Wenger & Snyder, 2000). This tension also implies the difficulty of building PCoPs from scratch (Zárraga - Oberty, 2012).

In this regard, interesting empirical studies (Zárraga and García-Falcón, 2003; Zárraga - Oberty, and De Saá - Pérez, 2006) suggest that organizations can develop CoPs from their work teams if they possess certain characteristics that enhance the creation, transfer, and integration of organizational knowledge: self-management, leadership, individual autonomy, common language, complementary skills, and a climate of trust that relies on high care (Von Krogh, 1998).

While these proposals are interesting, they do not settle the question of how to practically manage the balance between self-organization and control and how to foster such an internal climate in the structure (whether it is a PCoP or a self-managed working team).

Organizations that seek to actively nurture and develop CoPs encounter difficulties in piloting these structures, which are expected to produce results in line with the concerns of the firm without suppressing the self-organized character that makes up their innovative interest (Josserand and Villeseche, 2014). The literature proposes two mechanisms that make this

delicate equation possible: the setting of goals and deliverables, and manager- and sponsor-based governing (Probst and Borzillo, 2008; Borzillo et al., 2008; Bootz, 2015).

The sponsor usually has a high position in the hierarchy and ensures that the community under his responsibility has the resources and time necessary to operate whilst remaining in line with the organisation's activity (Wenger and Snyder 2000, Dupouet and Barlatier 2011). The manager makes certain that there will be efficient cooperation and strengthening of the bonds of trust between the members (Lesser and Everest, 2001), thus permitting them to exchange knowledge via workspace organisation and the provision of computing tools (Borzillo et al., 2011). In this context, the manager becomes a "*gardener of knowledge who must prepare fertile ground in order for communities to flourish*" (Cohendet et al., 2010). He is responsible for giving the community a "soul" by playing an active role in the construction of its identity (Gosselin et al., 2010).

Piloted communities are a concentration of multiple realities. These include key elements of diversification such as the degree of self-organisation (Josserand, 2004), the level of maturity (Gongla and Rizzuto, 2001, Dameron and Josserand, 2007), the degree of institutional formalism, and the size or structure of governance (Lee et al., 2015). A recent synthesis (Bootz, 2015) of the most significant empirical studies<sup>1</sup> proposing typologies, namely by Probst and Borzillo (2008), Borzillo et al. (2008) and Dupouet and Barlatier (2011), identifies two types of PCoPs (Strategic Exploration PCoPs / Operational PCoPs<sup>2</sup>) and proposes a profile for the manager piloting each of them.

### *1.2.1. Strategic exploration communities piloted by intrapreneurs*

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<sup>1</sup> The significance here is that these works focus specifically on proposed PCoP typologies and involve the analysis of a large number of PCoPs and / or organizations.

<sup>2</sup> The terms used to designate the two PCoPs are taken from the synthesis of the empirical works cited. Borzillo et al. (2008) and Probst and Borzillo (2008) speak of strategic communities or probing communities, while Dupouet et al. (2011) refer to exploration communities. We therefore merge these terms via the notion of "strategic exploration communities".

Strategic communities (Probst et Borzillo, 2008; Borzillo et al, 2008) are based on the continuous exchange of innovative ideas whilst encouraging the development and sharing of practices and knowledge across the different sectors of the organisation. In this respect, they correspond to Dupouet and Barlatier's (2011) exploration PCoP (as described by March, 1991) insofar that knowledge is specifically produced to improve the organisation's strategic capacities. This earns them the active support of the management, which appoints a sponsor who will supply resources enabling the group members to have the necessary time and infrastructures to participate in the community's activities. The manager is expected to ensure communication between the members but also report back to the sponsor about the activities of the community. This is achieved by the organisation of regular meetings between the members and the sponsors, during which the most innovative practices are discussed and evaluated in terms of their contribution to the organisation's performance.

The manager of this type of community is characterised by his or her ability to identify innovative subjects and then organise specialised internal groups to work on different domains around these topics. To achieve this, the manager must be able to view the different strata of the company and identify the different sources of knowledge that he or she considers will both fulfil the creative process and inform him about collective thinking. In this context, he is not necessarily an expert in the domain but rather bases his or her approach on a knowledge of intra-organizational networks and on the ability to combine them and make the creative tension that provides innovation. The manager plays a crucial role of controlling the strong tension between self-organizing and control within these communities. A lack of enthusiasm combined with the interventionism of management may lead this type of community to shift towards traditional hierarchical functioning (Gosselin et al., 2010). Consequently, the manager has to develop an operating mode based on a system of standards

that are created and shared by group members, thus encouraging a climate of confidence and freedom of speech (Dupouet et Barlatier, 2011; Bootz, 2015).

Bootz (2015) claims that the strategic community manager is an intrapreneur insofar that he or she seeks to explore innovative subjects that are often contrary to the organisation's main culture. The intrapreneur strives to develop organisational creativity that will favour innovation and help to develop new activities through the exploration of new opportunities outside the organisation's main activity (Woodman *et al.*, 1993). He or she is « a hybrid being » between the figure of manager and that of the entrepreneur (Antoncic and Hisrich, 2003).

#### *1.2.2. Communities of operational or exploitation excellence that are piloted by experts*

Operational communities (Probst and Borzillo, 2008; Borzillo et al, 2008) are composed of experts who exchange technical and operational practices to optimise their daily activities. They are clearly oriented towards exploitation (Dupouet and Barlatier, 2011) insofar that they concentrate on the improvement of existing methods. In operational exploitation communities, the control-self-organisation tension is lower than in exploration communities. As these communities aim to optimise daily activities, the management control via the sponsor is much more flexible. In this context, the manager is primarily concerned by his ability to support the community's operational excellence. He evaluates, controls and validates the practices and skills of group members and therefore should master the appropriate technical skills and have strong social legitimacy. This dual cognitive and social dimension is what defines the expert (Bootz et al., 2015). He can be described as an « expert manager » as the status of expert is a prerequisite to piloting this type of community (Bootz, 2015). Exploitation communities are generally based on the institutionalisation of spontaneous communities with leaders that were designated by the group. In cases where these communities are initiated by the hierarchy, it is preferable to avoid imposing a manager

and artificially creating these communities, and rather play the role of the facilitator by providing a favourable internal environment in which these communities can flourish (Wenger et al, 2002) then wait until the interactions between members produce a community and a leader (Bootz, 2015).

The expert manager’s cognitive and geographical proximity to members means that if he hopes to maintain the unity of the community, he must promote socialization opportunities and rely on physical encounters rather than the extensive use of IT tools. The latter will nevertheless be used to facilitate the formalization and dissemination of best practices, which are the main driving force of any management piloting this type of community (Cohendet and Diani, 2004).

Although this typology (Table 1) is based on significant empirical works, it does not explain how piloting occurs, detail the specific mechanisms that permit the construction of this type of community or highlight the difficulties involved.

**Table 1:** Typology of communities of practice.

CoP types	Spontaneous CoPs	Piloted CoPs	
		<i>Strategic exploration PCoP</i>	<i>Operational exploitation PCoP</i>
<b>Objective</b>	To develop skills in a given practice	Develop strategic knowledge to produce innovative performance	Improvement of existing processes via best practice exchange.
<b>Governing / Piloting</b>	Objectives are defined by the group members rather than by members of the hierarchy, and mainly concern a continuous improvement of activity.	Strategic objectives are set by the sponsor and the manager. The sponsor systematically monitors the coherence of aims set by the management and the practices developed by the PCoP.	The manager sets the operational objectives and controls the quality of the practices and skills of community members. Limited sponsorship (not initiated by the management and/or considered of low priority).
<b>Manager profile</b>	Internal expert designated by the members of the community.	Intrapreneur - « positive deviant ».	Expert - social and cognitive legitimacy.

## 2. Case Study: the community of Radio France sound engineers.

## ***2.1. Methodology***

This study reports the history of the Radio France community of practice from the viewpoint of the actors involved. The research conducted falls within the framework of epistemologies of practice, in which the practical register is considered to be indissociable from theoretical logic (Schön, Bourdieu, and other authors). We refer here to the case study method developed by Yin (2009). This is a research strategy in its own right, which aims to obtain a detailed understanding of complex phenomena in which multiple factors occur throughout a process, and concentrates on the internal dynamics of these phenomena. The case study is based on an empirical investigation that studies a contemporary phenomenon in its ordinary life context, in which multiple information is used and where there is no clear boundary between the phenomenon and its context. We work on a single case for both intrinsic and instrumental reasons (Stake, 1995). In this work, we seek to learn from the case study through a “flexible pattern matching approach” (Sinkovics, 2018; Bouncken et al., 2021). This method, developed in psychology and identified by Donald T. Campbell (1966) is particularly well suited to analyzing social or technological changes based on a longitudinal case study (Sinkovics, 2018). The flexible pattern-matching approach is built on a deductive theory-driven research paradigm while allowing for new patterns and theories to emerge from the empirical data (Sinkovics et al., 2019). The main goal is to detect potential “breakdowns” in our understanding based on current frameworks through pattern matches or mismatches (Alvesson and Kärreman, 2007). In the analysis process, we compared the expected patterns (conceptual background) with the actually observed empirical patterns (case study). Our research focuses on the transition from a spontaneous to a piloted community. We have shown that the literature interprets this issue as a breakthrough. The community is no longer strictly self-organized because it is aligned with the company’s management and is no longer strictly informal because it plays a role in the formal organization. By contrast, our results

highlight a continuity as long as all structural changes in the community take the form of a reification process that feeds the negotiation of meaning and mutual commitment dynamics.

The literature also points out that the self-organization/control tension within PCoPs can be resolved through the presence of a sponsor and a manager, whereas our results show that this is achieved through the ad hoc construction of a collective organization.

Finally, the literature opposes two types of piloted communities : the community of exploration and the community of exploitation. However, our case study shows that the piloted community studied is ambidextrous (both exploration- and exploitation-oriented).

Table 2 provides an overview of the main dimensions derived from the literature and the differences between the expected and observed patterns.

**Table 2** : Pattern matching from a spontaneous to a piloted community

Main dimensions	Theoretically expected patterns	Observed empirical patterns
<b>Transition from a spontaneous to a piloted community</b>	Breakthrough on two criteria: self-organization and informality	Continuity through the reification process
<b>Solving the self-organization/control tension</b>	Through the sponsor and the manager	Through the ad hoc construction of a collective organization
<b>Types of PCoP</b>	The piloted community is either exploration- or exploitation-oriented.	The piloted community is ambidextrous: it is both exploration- and exploitation-oriented

Different sources were used for this study, namely all the documents produced by the community concerned, the writings of Martine Chicault (MC), who piloted this community, interviews with MC about the history of this community, and finally our participation in community of practice meetings. We have triangulated all of these data and sought to remain as close as possible to the experience of the actors involved. All the interviews and meetings in which we participated were recorded and transcribed in detail in order to produce a faithful copy of the discussions. The whole corpus was the subject of a thematic analysis. The

different sources (interviews, secondary sources) used in this study are described in two tables in the Appendix.

## ***2.2. Presentation of Radio France***

Radio France is the leading radio company in France. It is composed of five national channels, a France Bleu network, several FIP (France Inter Paris) channels, a multimedia Internet site and exceptional musical entities such as the National Orchestra of France and the Radio France philharmonic orchestra). The organization has 3,500 employees and mainly produces radio programmes. The Department of Broadcasting and Production (DBP) is at the heart of the production process because it is responsible for technical project management. It provides technical resources (more than 80 studios and editing and post-production rooms, mobile broadcast units, etc.) and human resources (400 audio engineers, maintenance technicians and operators) to manufacture and record programmes, make them available and broadcast them. Among the sound engineers, there are those who work in reporting, those who work in a technico-artistic field and those who are broadcasting professionals. Martine Chicault created a community of practice for takers of his technico-artistic sound engineers in 2000, and it continues to function today. Our case study explores the history of this piloted community.

## ***2.3. The creation of the Radio France community of practice.***

In 2000, Martine Chicault, who had been working in the prospectives department of Radio France for the past ten years, was asked to think about ways to apply transversal management within the DBP. This brought her to approach the different professionals, i.e. the sound engineers, maintenance technicians and program directors. This investigation led her to pinpoint the nomadic behaviour of the technico-artistic sound engineers, who are always on the move and did not have specific locations for the transfer of knowledge. With help from

the HRM department, MC suggested the creation of a Knowledge Management (KM) system. Initially, the sound engineers did not see the interest of this project and were even hostile to the use of vocabulary that they do not recognise as part of their professional language. Some workers were concerned that the HR manager could seek to take control of their activity. Faced with this resistance, MC abandoned the project but continued her work, carrying out a number of interviews with sound engineers and producing a website that details the different sound recording techniques.

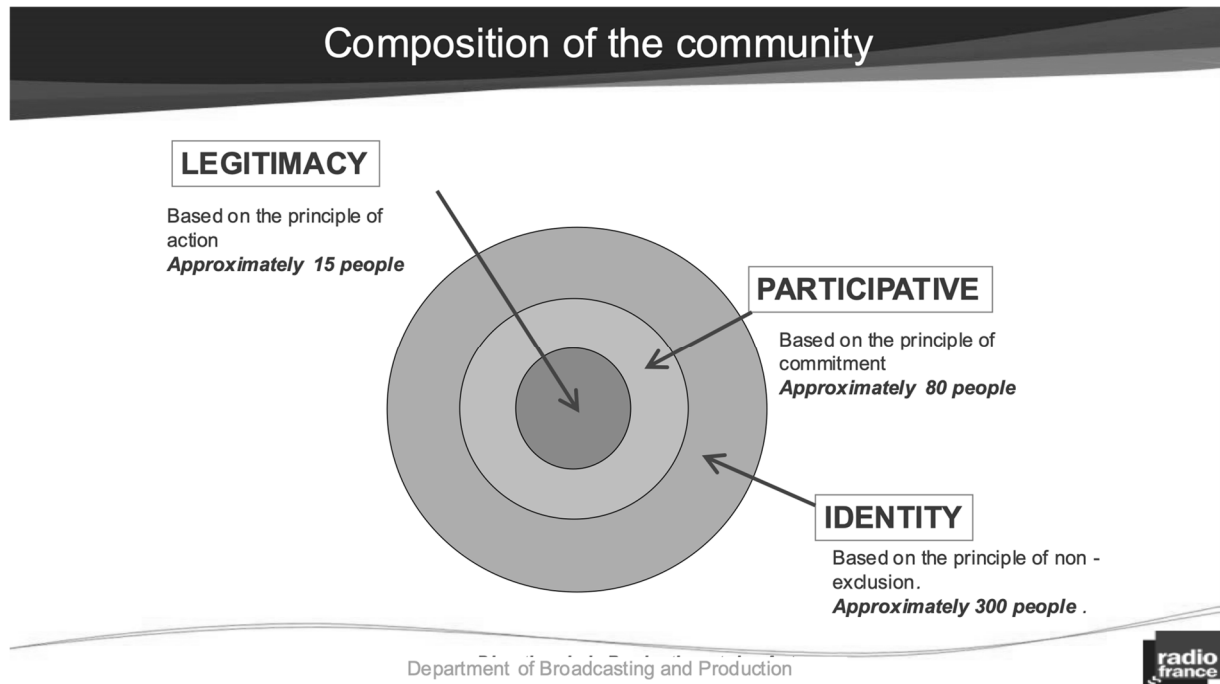
In 2002, a team of « expert » sound engineers contacted the management to highlight how the lack of time and constant movement made it difficult to transfer knowledge to new members of their team. They considered that a novice would need 15 – 20 years to become an expert. Although new arrivals have excellent basic training composed of three or four years of technical studies in higher education and completed by substantial artistic knowledge, this training cannot replace the essential learning experience acquired in the professional field. MC therefore proposed the creation of a community of practice with a dual purpose, namely to ensure the transmission of professional knowledge and to consider the evolution of this profession in technical and organisational terms. This PCoP is given the group name « *compagnonnage* », or « mentoring », a name that had meaning for the sound engineers and reflected the reasoning behind communities of practice. MC rapidly became aware of the necessity to protect this community from the hierarchy and particularly from any attempt by the HR department to control or manage it, outside of the basic need for the community to steer its works towards the broad aims set out by the management. She sought to strike a balance between these two markers, whilst avoiding corporatist pitfalls. The mentoring group was ready in eighteen months.

#### ***2.4. Building the mentoring group.***

In 2002, MC organizes a plenary meeting to set up this mentoring project with two very clear aims. The community was created to ensure the transmission of knowledge between experts and newcomers. The evolution of the profession was equally important and demanded the adoption of a group strategy and the development of a reliable relationship between the mentoring group and the management. The approach used to achieve the transmission of knowledge had to be positioned in relation to that of the HRM department; it was decided that the mentoring group would work on the transmission of tacit knowledge, whilst the HRM department would concentrate on the transmission of explicit knowledge via training modules.

The mentoring group was made up of voluntary sound engineers from different departments. MC proposed the creation of three mentoring levels, as defined by Wenger (see Figure 1). The first level concerned persons who belong to the community through their identity. Following the principle of non-exclusion, this group included all the sound engineers (300 people). The second level concerned those who played an active role in the community through voluntary commitment (80 people). The final level concerned people who played an active role in the community and who appeared to be the experts of this community of sound engineers (15 people). A management team was created, composed of MC and a sound engineer elected by the community members. The community is a space in which sound engineers can feel confident and express themselves freely. It has natural leaders and recognition among fellow members. Mentoring occurs every 5 months, but production work and program production have priority.

**Figure 1:** The ranges of the community



The mentoring group then takes part in the production of a book using the MASK method. One of the Radio France sound engineer experts is approaching retirement and is internationally recognized for his professionalism. The group decides to seize the opportunity to record his exceptional experience, and seven people work for several months to produce a CD-ROM, which is edited in 2009.

Overall, more than half of the 119 sound engineers of Radio France participated in the community 10 years after its creation. 42 members received tutoring from an expert to improve their professional skills and 18 experts played the role of tutor. 17 members played a very active role in leading an important mission within the structure such as production of a knowledge book, thinking ahead about the future evolution of the profession or implementation of an innovation project.

However, MC rapidly understands that this type of mentoring cannot work if it is not carried out in synchrony with the management. She builds further tools that enable the transfer of information and competences between the group and the management.

### ***2.5. How is the community piloted?***

Two further groups emerge: a monitoring group that will associate the mentoring with programme production, and an arbitration body that will ensure communication between the mentoring group and the management (see Figure 2). The monitoring group is composed of planners and their superiors (i.e., operations managers<sup>3</sup>). At all times, planners must be able to provide their managers with a complete list of the sound engineers who are unavailable due to work projects or mentoring companionship. The monitoring body receives the mentoring proposals, processes them and submits them to the operations managers for validation. The monitoring authority is thus in a better position to plan the distribution of sound engineers according to the technical characteristics of the sound recording to be made and the activity schedules of the various departments.

The arbitration body regulates the relationship between the mentoring group and the monitoring instance. It is composed of the production delegate for management and quality, and is responsible for qualifying technical services and setting the strategic axes of the management. The production delegate is the head of the arbitration body and is responsible for the general workload plan for production, which he submits to his superiors (the CEO) for possible arbitration. He anticipates the evolution of production methods during important events such as summer festivals.

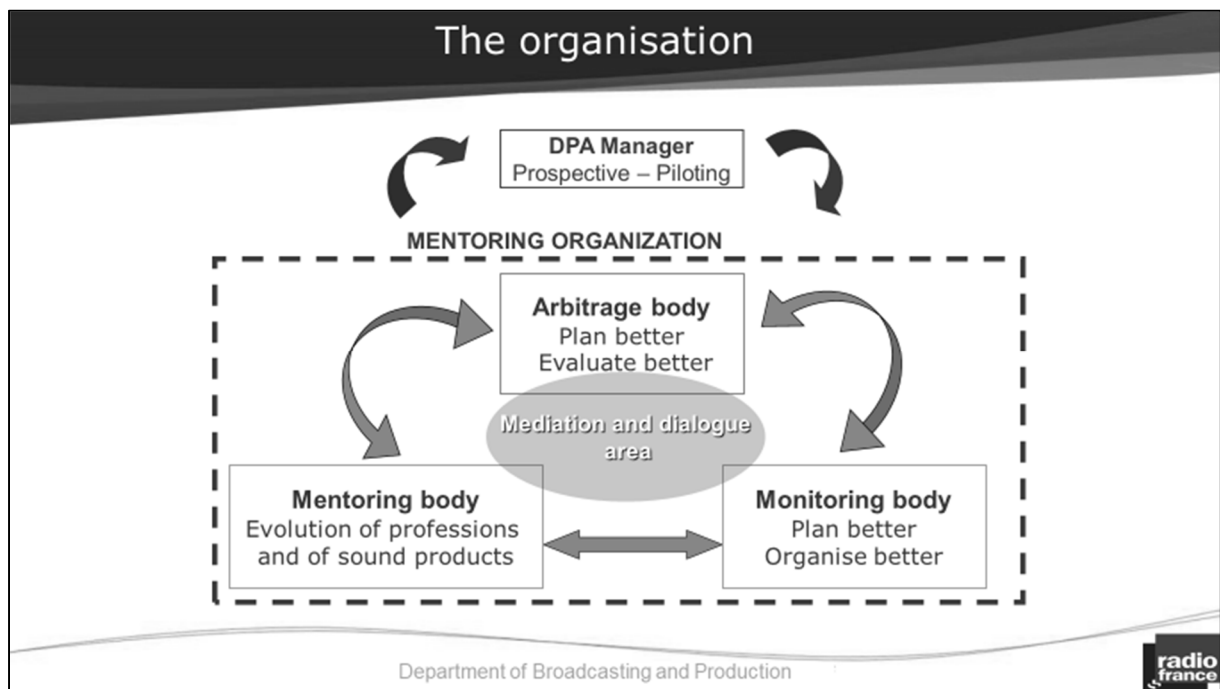
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<sup>3</sup> Amongst other duties, the operations manager is responsible for the sound takers and planners in his department. He is a full member of the production committee, which oversees production quality. He plays a role in identifying important productions and appointing business project managers. He is not part of the mentoring group but attends the interviewing of sound engineers with the training manager, thus remaining informed about the evolution of sound engineers.

MC then sought to create a mediation area in order to ensure consistency and dialogue between the three different groups. This space permits an optimal sharing of all relative professional information amongst all the sound engineers, particularly for cutting-edge changes in methods and quality.

This structure also facilitates the dialogue between the management, professionals and unions, and the flexibility obtained through the shared responsibility of all actors makes it possible to gradually reorganize the technical services. Finally, the balanced control of each group's tasks results in a participatory and proactive approach whereby the different parties negotiate to select the most appropriate person for each technical task.

**Figure 2:** The piloting schema for the mentoring group within the organisation.



MC is approaching retirement, leading to the question of who will be chosen to take up her role. Joël is chosen. He is one of the central group of sound engineers and his peers recognize his competence. However, he does not have a complete understanding of the structure designed by MC over ten years, or how it works, and more specifically, he does not have the same privileged relationship with the management. He develops his own approach to piloting

the community. The community has ceased its activities since MC's departure. A meeting is scheduled and will be entirely organised by Joël.

### **3. Results**

#### ***3.1. The construction and development of the PCoP: a contingent process through « meaningful » piloting.***

Analysis from a life cycle viewpoint shows that the community is now entering a period of transformation. The leadership transfer from MC to Joël is indeed an opportunity to review the objectives, the operating methods and even the very existence of the community. During a meeting that took place after the leadership change, Joël mentions the possibility of beginning an institutionalization process by revising the relationship with the Human Resources department: Martine kindly entrusted me with the management of the mentoring group. I have carried out a number of analyses that I would like to discuss with you (...)we have to communicate with Human Resources about mentoring; for them it is an unknown territory, they see it as a dancer, (...) I want to show them that academic training and companionship is entirely complementary (Verbatim, ITW 3, p. 1).

Otherwise, the development of the community went through the different stages described by Wenger et al. (2002) with varying ease. The main difficulty was experienced in the start-up phase, and was particularly evident in the transition between the *potential* and *unification* stages. To achieve this, the leader must define the purpose of the community and create a common ground that enables members to feel connected and appreciate the benefits of sharing their ideas, passions, stories or techniques. In this case, the aim of the community proposed by MC was initially rejected by the sound engineers. They considered the use of KM to be unsuitable for their concerns and their professional vocabulary. They also strongly rejected the idea of involving the HR department, fearing that the latter would exert power over their activity. The first study started in 2000 with very limited success. *The first study began in 2000, with limited success. The initial enthusiasm of the HR department was negatively perceived by the sound engineers, and the unions saw it as an attack on the profession due to their lack of understanding of knowledge management terminology (Doc 14, p. 8).*

This resistance was particularly strong as the sound engineers had already created a spontaneous and self-organised CoP. The criticism of these two elements, namely KM and the involvement of the HR department) indicates the existence of an informal group. The existence of a CoP is also indicated by the initiative taken by a group of experts to contact the management and report difficulties transferring knowledge between existing and new staff members, as described by Wenger. This shows that the community took the responsibility of transmitting this information and requested the necessary means to continue doing so. MC quickly noted the existence of this community and the necessity to provide it with structure: *I quickly put them in a working group, and then realised that it was a community, then all this work showed that it was indeed a community (...) I saw that this community had to be organised, insofar that it is very difficult to measure the transmission of professional know-how from an expert to a future alter ego (Verbatim, ITW 1, p. 3).*

It is precisely the danger of the community losing this knowledge transfer mechanism between novices and experts that can lead it to become a piloted community. The type of piloting, however, is not random and must occur outside of the influence of the HR department and have meaning for the community. When MC talks about creating a mentoring group without using the term KM, the concept is immediately accepted: it refers to precise elements that reflect the identity of the sound engineer community. *Yes, it failed because we called it Knowledge Management too quickly (...) these people work in the field, it didn't work, maybe because it was too theoretical (...). And when I talked about mentoring, it worked. So terminology was very, very important (Verbatim, ITW 8, p. 1).*

MC also quickly distances the group from the HR department to protect the autonomy that the group members demand. *So the HR took care of competences. I continued concentrating on knowledge. Of course, competences are a global mix of knowledge, but they are recorded, measured and explicit and finally become skills. The problem with mentoring at the outset is dealing with knowledge. It was not clear for the HR department, who thought that they mastered the whole process when in fact they lacked information about how this knowledge was transferred (Verbatim, ITW 1, p. 6).*

Finally, the need for a group identity was answered by the creation of a dual piloting team composed of MC and a sound engineer who was elected by group members.

### ***3.2. A hybrid form between exploration and exploitation PCoP and original piloting***

It is no easy to position this PCoP, which is somewhere between exploration and exploitation PCoP. In view of the two objectives set for the community by MC, i.e. the implementation of the knowledge transfer between experts and newcomers and a reflection on how the profession evolves, this PCoP appears as a hybrid dual structure rather than an exploration or exploitation PCoP.

The sound community is considered as an operational operating community insofar that it is composed of experts who exchange technical and operational practices to optimize their daily activities (Probst and Borzillo, 2008, Borzillo et al., 2008), thus attaining their goal of transmitting experiential knowledge.

In this respect, the community is clearly oriented towards a form of knowledge use (Dupouet and Barlatier, 2011) inasmuch as it focuses on improving existing methods. This includes best practice coding processes such as the « knowledge book » produced by the group or the website. However, beyond the improvement of knowledge transfer, considering the evolution of the sound-engineering profession demands the use of innovative approaches that are more commonly associated with strategic exploration PCoPs. The evolution of the sound engineering profession is a strategic question for Radio France, which must be able to demonstrate proactivity via innovation. In the case of this PCoP, new 3D sound technology was explored by a sound engineer who worked on this project in an experimental recording studio for a year. *The most important thing is to maintain this group, this community, because it alone will be able to innovate in the future, it alone can produce new sounds via a quality service, it alone can create new ideas to work with other professions, it alone can make the management take action about certain things*

*(Verbatim, ITW6, p. 14). Innovation can be obtained from people working together in a group with tacit knowledge (Verbatim, ITW6, p. 15).*

## **4. Discussion**

### ***4.1. Piloting as a reification process.***

As described by Gongla and Rizzuto (2001), the PCoP does not develop as the result of a continuous preprogrammed process but rather results from a complex sequence of acceleration and deceleration phases that are linked to internal and environmental factors. The start-up phase is the critical phase in this overall process, since it involves piloting a pre-existing spontaneous CoP. The difficulty does not lie in the extent to which the community is piloted, but in making the piloting meaningful for the members of the community. This is consistent with Wenger's (1998) thesis on the functioning of the community as a means to articulate a process of negotiation of meaning, participation and reification. The structuring of a spontaneous community must be viewed as part of the reification process. In this context, a spontaneous community can be piloted if the chosen structure makes sense to the community and is a reification stage in the development of the latter. This reification is as a support for the participation and mutual commitment of the members.

The piloting of a spontaneous CoP should not therefore be viewed as a change but rather as the continuation of an ongoing reification / participation process within the spontaneous CoP. This piloting closely reflects the organization's internal organizational characteristics (Dameron and Josserand, 2007) and is far from being a standard linear process, as it involves the use of experimentation and trial / error processes. This result is consistent with Dameron and Josserand's (2007) claim that CoP development is a more complex phenomenon than life cycle models suggest (Gongla and Rizzuto 2001, Wenger et al. 2002), insofar that it is dynamically generated by participation / reification tension according to a dialectical process.

#### ***4.2. Resolving piloting/self -organisation tension by implementing an ad-hoc structure and dual piloting***

In this study, we note that the balance between management and self-organization in sound engineer communities is not provided by the presence of a sponsor and a manager, as suggested by the literature (Borzillo et al., 2008; Bootz, 2015), but is actually achieved through the ad hoc construction of a collective organization. Indeed, in the case of Radio France, the link between the PCoP and the management is created through the three bodies (mentoring, monitoring and arbitration) and the mediation space through which they communicate. There is no clearly identifiable sponsor, i.e., a member of the executive committee who directly funds the activities of the community and ensures that group activity is in line with the management's expectations (Wenger and Snyder, 2000; Dupouet and Barlatier, 2011). In the same way, the community is not led by a single manager appointed by the hierarchy or by the members of the community. This community is piloted by a team of two people, i.e., MC and a sound engineer who was elected by the community. The latter undoubtedly corresponds to the profile of an expert manager (Bootz, 2015) as he was chosen by the members of the community on the basis of his cognitive and social legitimacy. But how should we interpret MC's role and function? She appears to be located somewhere between the sponsor and the manager. She plays a certain role as manager through her management of the mentoring body and indeed of all three bodies, which she constructed ad hoc. Alongside this role as a pilot, MC also plays a role that is close to that of a sponsor; she connects the hierarchy and the community of practice through the 3 authorities that she created. However, she differs from a sponsor in the respect that she does not play a direct role in the financing of the community in exchange for a certain control of the activity. In the case of Radio France, the management did not decide to establish a community of sound engineers and did not decide to appoint MC as the pilot. However, MC created the PCoP and stressed its usefulness to the hierarchy by organising the structural and organisational knowledge transfer

from the three bodies to the hierarchy. Once this use of a bottom-up rather than top-down PCoP process had been institutionalised throughout the three bodies, MC was considered to have played a proactive role that led to the partial reorganisation of the management.

In this context, MC's profile is closer to that of an intrapreneur than an expert. She is not a sound engineer, and her skills lie in the internal management of expertise across different domains for different subjects. She relies on her perfect knowledge of intra-organisational networks and her ability to coordinate them between the three different bodies. This construction is an organisational innovation that requires transversal piloting skills:

### **4.3. An ambidextrous community**

The ambidextrous nature of this sound engineer community contradicts the works of Dupouet and Barlatier (2011) and shows that the resolving of the exploration/exploitation tension is not necessarily individual, nor is it *ipso facto* achieved by the different PCoPs. This longitudinal analysis indicates that the Radio France PCoP developed the capacity to use both exploration activities over time. Contrary to the findings of Dupouet et Barlatier (2011), this result underlines that exploration/exploitation tension is not solely resolved by an individual who chooses to invest his resources in PCoPs that are dedicated to specific activities. This tension can however be resolved or at least managed by one individual PCoP. Our findings contradict the observations made by Dupouet and Barlatier (2011) at GDF Suez, which highlight the failure of the management's attempts to use exploitation-based CoPs for exploration. Our study shows that the piloting of these dual activity communities requires two piloting actors, namely an intrapreneur and an expert for exploitation.

## **Conclusion**

The interest of this contribution lies in the detailed picture it provides of how the actors pilot a CoP over a long period of time. In particular, this case study sheds light on how an informal

and self-organized spontaneous community transforms into a piloted community. The first requirement is specific work to bring this community to the attention of management. The sound recording community of Radio France becomes visible by chance. MC is interested in this profession as part of her foresight mission. After several meetings and discussions, the community develops into a mentoring group: this name “makes sense” to the community. Structuring will be achieved over several stages: the creation of a management team including an expert elected by his peers, the creation of a monitoring body, the creation of an arbitration body, and finally the creation of links between these three different bodies and the management. All of these stages have one thing in common: each time they make sense to the community. In this context, piloting, as a process of reification, is no longer approached as a change of direction but rather as the continuing development of a spontaneous and self-organized CoP.

This sound engineer PCoP case study also highlights that the conciliation of self-organisation and control does not necessarily require a sponsor but can be achieved through the simultaneous construction of an ad hoc structure that provides links with the hierarchy and the management.

This case study reveals the limitations of the typologies proposed to date, which are limited to Weber’s ‘typical ideals’(Lindbekk, 1992), i.e. pure forms of understanding which are never observed in real life situations but whose heuristic role make it easier to evaluate. Indeed, the sound engineer PCoP is a hybrid form of both exploration and exploitation. This dual form, as described by March (1991), occurs in a single PCoP and contradicts recent empirical research emphasizing that exploration and exploitation activities rely on differentiated PCoPs (Dupouet and Barlatier, 2011). We are aware that our analysis is based on a single case, and we cannot therefore generalize our results. It would be interesting to carry out further case studies in other companies to see if this type of ambidextrous community is an exception, if it

systematically involves two pilots (intrapreneur and expert) or if the management of self-organization / control tension can rely on an ad hoc device rather than the classic manager / sponsor couple.

We consider the spontaneous community of practice to be the archetypal social configuration for building resilience because it is based on a strong learning mechanism. The only organisation based on a social theory of learning (Wenger, 1998). We show from this case study under which conditions the piloted community maintains all the learning properties of a spontaneous community, i.e. all its resilience capacities.

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## Appendix

**Table 1:** Data sources (interviews)

<b>Domain</b>	<b>Person(s) interviewed</b>	<b>Date</b>	<b>Transcription</b>
Community history	Martine Chicault	30/01/2012	14 pages
Radio station functioning	Martine Chicault	16/03/2012	2 pages
Organisation of mentoring	Martine Chicault	05/06/2012	1 page
Radio station functioning	Martine Chicault	05/06/2012	1 page
Functioning of the three bodies	Martine Chicault Maurice Biard	11/06/2012	21 pages
Functioning structure of the three bodies	Martine Chicault	25/09/2012	1 page
Professional evolution of the sound engineers	M. B.	18/11/2012	6 pages
Community history	Martine Chicault	30/11/2012	13 pages

**Table 2 : Secondary data sources**

<b>Domain</b>	<b>Type of document</b>	<b>Date</b>	<b>Size</b>
Preparatory study of knowledge management	PowerPoint presentation	16/11/2000	24 slides
Mentoring trial	Meeting minutes	09/09/2003	1 page
Piloting of the mentoring trial at the DExT	Work document	2/10/2003	3 pages
Mentoring for technico-artistic professions at the DExT	Meeting minutes	13/10/2003	5 pages
Mentoring trail	Work document	03/11/2003	4 pages
Radio mentoring for technico-artistic professions at the DExT	Meeting minutes	03/11/2003	6 pages
Radio mentoring for technico-artistic professions at the DExT	PowerPoint presentation	07/11/2003	12 slides
Radio mentoring for technico-artistic professions at the DExT	Meeting minutes	13/11/2003	3 pages
Mentoring organisation	PowerPoint presentation	21/06/2007	33 slides
Jean-Pierre Luncker knowledge book	PowerPoint presentation	16/07/2007	32 slides
Staff knowledge document	Internal PDF file	05/06/2010	2 pages
DPA 2010 organigram	JPEG file	17/06/2010	1 page
Presentation of the mentoring project	Presentation document	23/11/2011	16 pages
Applications for mentoring by B.M et P.C.	Meeting minutes	05/03/2012	1 page
List of all technico-artistic staff	Excel file	22/03/2012	1 page
Maintenance of global sound engineering competence at the DExT.	Work document	22/01/2013	2 pages