

Building Communities of Practice that work: a case study based research

Mariano Corso^a,
Andrea Giacobbe^a

^a Department of Management, Economics and Industrial Engineering
Polytechnic of Milan
Piazza Leonardo da Vinci 32, 20133, Milan Italy
{mariano.corso, andrea.giacobbe}@polimi.it

Abstract

This paper aims to provide a model that describes the evolution of a community in terms of its effectiveness in supporting learning and knowledge management processes. It is based on an empirical research that has involved seven case studies and the analyses of three best practices from secondary sources. From this empirical research it was, moreover, identified, a set of levers that allows the community to evolve in this model increasing its effectiveness.

Keywords: community of practice; evolutionary model; community animation; community promotion.

Suggested track: Communities of practice, knowledge networks and networking

1. Introduction

Knowledge has been, always, in the center of attention of companies. Economic and managerial theory, indeed, has always seen in the intellectual capital and in the different distribution of information assets one of the main factors that determines company's competitiveness. Nowadays, however, a deep change is happening: knowledge management is becoming from being an implicit condition for success in the long run to a central factor in everyday managers' work. For most companies an effective management of knowledge is not just a possible competitive advantage but it is a matter of survival.

Differently from other competitive resources, nevertheless, knowledge belongs almost to individuals rather than organization. Knowledge management means, actually, create the "organizational conditions" in which individuals are stimulated to assimilate, create, transfer, share, capitalize and apply knowledge, coherently with organization's aims.

In particular, theory and evidence suggest that knowledge creation and sharing are processes that involve often spontaneously formed groups of individuals. In fact individuals choose, often, other individuals to cooperate with beyond structures and formal ties (i.e. departments, divisions, etc.), creating informal networks that overlap formal, top-down designed structures within the organization.

Among the different types of informal networks, communities of practice seem to be the most interesting ones from a knowledge management point of view.

Through communities individuals find the answers to those needs of sociality, belonging and experiences' sharing that organizations succeed to satisfy with growing difficult. Moreover, through communities, firms see the possibility to find new ways to connect people overcoming geographical and organizational bond of the traditional firm structure.

From the technological point of view, the great opportunity is the web as the place in which design and manage communities. The challenge is, however, at the organizational and managerial level: communities of practice are emerging and auto-organizing entities that management can encourage and support, gaining great advantages, but without owning or controlling them totally. Community management means design the right set of communication tools, incentives, motivation, organizational and managerial mechanisms that, without being intrusive, follow and guide community's life and evolution.

2. Theoretical background

The term "community of practice" has been introduced by Wenger and Leave in the first '90s. The concept was born (Knowledge Board, 2003) within a research project run at the Institute for Research on Learning (IRL), a spin-off of Xerox Corp.'s Palo Alto Research Center (PARC). At that time Wenger and Leave were studying apprenticeship as a way to share knowledge. They noticed that learning is not just a one-to-one relationship with a master, but a relationship with a whole community of people, with apprentices at different levels. The intuition came across their minds observing a group of Xerox's copy machines technicians gathering around vendor machines and spontaneously sharing their "tricks" and telling each other stories regarding repairing experiences. Technicians, before checking on handbooks or

“official” learning material, used to contact colleagues in order to find information and suggestions for their jobs. The group was in some way the primary context where any new technician could form his own expertise. One of the main conclusions drawn by IRL was that *learning is a social fact, pushed by involvement and participation in a practice.*

Scientific literature provides several definitions of communities of practice (Brown and Duguid (1998), Marathe (1999), Wenger and Snyder (2000), Magnusson and Davidsson (2001), Andriessen et al. (2002)), but all of them, starting from different points of view, stress the role the community has in enabling and facilitating knowledge creation and sharing that allows its members to learn and develop their competencies. Wenger, in particular, defines the community of practice as a group of individuals who share a common interest, a set of problems or a passion and who increase their knowledge and the understanding of these aspects through interpersonal relationships (Wenger et al., 2002).

Wenger, McDermott and Snyder (2002) identify three common characteristics of communities of practice, even though they recognize that communities assume different shapes according to the context they are in. These three characteristics are:

- *Domain*, the area of interest, which creates a common base among members and allows them for the development of a group identity;
- *Community*, the learning social factory (Wenger, 1998a), a group of people who interact, learn together, build relationships and through this develop a sense of membership and reciprocal commitment;
- *Practice*, the shared repertory of competencies and common resources (i.e. routines, documents, tools, styles, legends, symbols and language) that members have developed; this repertory includes the knowledge created and shared in the past and allows for future learning, for trusted relationships and for circulation of explicit and tacit knowledge.

Each community of practice is a different combination of these fundamental aspects, which evolve according to the context the community is in, through a process of continuous redefinition led by its members.

Social interaction (Vygotsky, 1978) plays a very important role for learning and in the development of cognitive capability. *Situated learning* (Lave e Wenger, 1991) is a way to understand learning as a social event more than a psychological dynamic. Learning

usually depends on the activities, on the context and on the culture in which it occurs: in the case of situated learning, it is the authenticity of the context in which the learning occurs that helps knowledge creation and allows each individual for applying it in new ways and situations.

With the concept of situated learning, Leave and Wenger (1991) define also the concept of *Legitimate Peripheral Participation*, which describes how new entrants become integrated in a community of practice: apprenticeship is a metaphor that explains how an individual, through experience, interaction and ultimately participation in the activities set in the community's agenda, starting from a peripheral position, but legitimated from the other members, develops knowledge and at the same time modifies the community he is in.

Community of practice (Wenger 1998a, 2000) is not a new type of organizational form; it is a different point of view in the organization, which stresses how people are involved in learning dynamics more than which units they belong to or the projects they work on. When members work in multidisciplinary teams they can, from one hand, apply their knowledge, the community's one, to the real problems and, after that, from the other side, bring back to the community new experience learned staying together with expert of different subject.

Like other living things, communities are not born in their final state, but go through a natural cycle of birth, growth and death. Many go through such radical transformations so the reason they stay together have little relation to the reason they started in the first place (Wenger et al., 2002). Although communities of practice continually evolve, it is possible to observe five stages of community development: potential, coalescing, maturing, stewardship and transformation. They typically start as loose networks that hold the potential of becoming more connected and thus a more important part of the organization. As members build connections, they coalesce into a community. Once formed, the community often grows in both membership and the depth of knowledge members share. When mature, communities go through cycle of high and low activity, just like other living things. During this stage, communities often take active stewardship of the knowledge and practices they share and consciously develop them.

All the studies about communities of practice are, anyway, in a pre-paradigmatic phase, so limitations of existing theories regard the fact that models developed are mostly interpretative and derived from anecdotic evidences. In particular, there is poor

knowledge about the levers to adopt in order to manage effectively communities of practice in all their life-cycle stages, creating value for the organization.

3. Research Questions

Starting from these literary results, in this study, the researchers have hypothesized that the effectiveness of the community, in terms of knowledge assimilation, creation, transfer, sharing, capitalization and reuse, depends on:

- the commitment given by the organization to the community in terms of resources (time, spaces, ...) allocated and level of legitimization;
- the level of participation and involvement of the members in the community's activities.

Hence, since the main purpose of the research was to understand how to manage effectively communities of practice in order to create value for the organization and the individuals in each stage of its life. The research questions to be addressed in the paper are, therefore, the following:

RQ1: Which are the stages of evolution of a community in terms of effectiveness in the learning and knowledge management processes?

RQ2: Which are the levers that better allow the organizations to enhance members' involvement and participation in the community?

RQ3: Which are the levers that allow a single community to obtain resources and legitimization towards the organization?

4. Methodology

As it was already introduced, a community of practice is a complex entity that is the result of the sum of all its past experiences. Hence, it can be understood just if it is analyzed its history. This organic nature of communities leads to use qualitative methodologies to understand this phenomenon in all its aspects.

In this research, hence, it was chosen to use case study research. In particular, three best practices were chosen from secondary sources and seven longitudinal case studies (some of which are still ongoing) were realized in the empirical research. Cases

were chosen in order to cover different kinds of industries and, especially, to analyze communities in which members share different kind of knowledge: from single smart information shared by call center's operators to complex modules that designers share and reuse when develop new products and solutions in a telecom firm.

Data were collected in order to acquire the greater number of information about the single community and the external context. It were used multiple data collection methods, both qualitative and quantitative (Yin, 1984), in order to obtain the triangulation of the information acquired.

In particular, data was gathered from the following sources:

- Documentation about the company analyzed.
- Semi-structured interviews to key informant people (i.e. members of top management) of the firm to collect other data about company, its organization and strategy and the knowledge management strategies (when defined).
- Semi-structured interviews to community's coordinators, leaders or core group members to understand the story of the community, the domain, the kind of knowledge shared and the members' characteristics.
- Community's output documentation to better understand the kind of knowledge and the domain complexity;
- On line tracking of the community's activities.

The use of semi-structured interviews gives wide freedom to the interviewer and interviewed, but at the same time assured that all relevant subjects were discussed and all the required information collected. Hence, in order to conduct the interviews, it was defined two different check lists (one for key informant people and an other for community coordinators) with the subjects to cover, but the order of the questions, the topics to study in depth and the level of detail, the words to use and so on, were defined by the interviewer during the meeting. It was written a report for each case study.

5. Case studies

In this paragraph will be described briefly the communities analyzed.

Xerox – Eureka. Historic community of Xerox's technicians, Eureka (APQC, 2000) was born as a spontaneously aggregation of individuals that share information and tricks on how to solve copy machine's problems. In the years, the organization recognizes the

community as something that creates value and gives them resources. While at the beginning the community was mostly a set of local entities, with organization's resources, it is now possible to interact and share information all over the world. The participation is not compulsory but enhanced by personal involvement and by the identification with a professional group: to express all its potential it just needed the appropriate tools.

Xerox – SPI. The Software Process Improvement community (APQC, 2000) is an internal group of individuals involved in software development improvement process. It was born in 1995 as a team of experts in this topic belonging in different divisions, but it did not earn particularly success because the group did not accept that institutional role. Then, this team reorganized itself in a community with its own way of work and with the purpose of sharing knowledge and build relationships. It has just to report of its activities, every three month, to the management. The community has once a month virtual meeting thanks to a tool that supports remote collaboration and communication. SPI is now such a best practice to win Xerox best community award.

Daimler Chrysler – Tech Club. The community (APQC, 2000) was born when, after an internal reorganization in which inter-functional teams manage the entire production cycle of a vehicle, individuals need to reconnect with their peers in terms of competences. Hence, this Tech Clubs aim to link engineers who work in the same process but in different platform teams. They have frequent meetings, face to face or virtual, depending on the geographical distance. Participation is not mandatory, but the organization recognizes formal rewards and individuals are valued indirectly on the bases of their participation.

Telco Operator – Sales1. In a big Italian telecom operator, it is the community of SMEs' indirect sales. It was born in 2000 to improve learning process and reduce the turn over rate of this kind of sellers. It is based on a web portal in which members finds news about their work and information about products, learning courses, tools for everyday work, and, above all, a virtual space to interact, build relations and share experiences. The organization had promoted this platform from the start up phase, animates continually the participation and gives some awards (not monetary) for on line games. The participation level is very high and mostly accesses are concentrated in not working time, sign that members are involved because they perceive its as an investment for their professional development. The organization use now this channel to communicate directly with those sellers (that are not contractually linked to the

organization) and to acquire from them information about market, customers and competitors.

Telco Operator – CC1. In the same telecom operator, it is the community of the call center operators. It is a recent project that have given good results in one of the biggest call center of this operator and it is now in the roll out phase in all the other centers in Italy. The aim is improve the sense of belonging, the internal work atmosphere and the emerging of knowledge and best practices about VAS. During the design phase wide space was given to the understanding of the operators needs and now there are two community members (chosen periodically from the most active ones of the previous two weeks) in the editorial staff in order to improve the involvement and the sense of identification. Even if time is a resource particularly critical for an operator because he is valued also on specific time-based indicators, participation level is high (i.e. operators use, often, their coffee break free time to interact) and the community is starting to provide results.

Bank – GB. In a big Italian bank is the community of the accounts for those customers who have a personal estate between 100.000 and 500.000 euros. It was born with the aim of increase market and emergent trend knowledge, share competitor's information, foster interaction between individuals geographically far away and support social learning. In few months, the project provides good results in terms of number and, in particular, quality of the information shared. It was missing, anyway, tools as research engine or to classify knowledge and, when the animation activities and the stimuli providing was suspended, the community has gone in such stand by phase. It is still on line, but all the activities are strongly reduced.

Bank – CC2. In the same bank, it is the community of the call center operators. This community was born to coincide with the launching of a learning course when, with a limited budget, was developed a web platform with forums. Members are mostly university students, the average age is around 24 and the turn over rate is quite high. Participation, even it is supported by the call center manager, is not directly stimulated by the organization with formal recognitions and there are no animation actions. Members participate because they perceive this community as something useful and necessary for their work: they can find suggestions, news about bank products, solution to recurring problems, etc. It is now one of the best communities in terms of involvement and frequency of interaction of the bank.

ICT service provider – CoC Telco. It is the Center of Competence in telecommunication technologies of an ICT service provider, in its turn part of a world wide technology company. The CoC is based on the concept of reusability that means the possibility to reuse past experience or solutions already developed (called reusable) in new works. The CoC aims to promote the reusable sharing all over the company. The knowledge strategy of the company is well defined as well as the role, linked to the knowledge management process, outside and inside the community. Even if the organization has given to the community all the necessary resources and a web portal that support all the functionalities, the participation is very limited: on about 400 potential members, only 50 are enrolled and rarely participate in the activities. One of the problems seems to be the language: a great part of the members speak German and that is an insuperable barrier for most non German members. Moreover, there is not any kind of stimulus for the individuals; it is the organizational unit at whom he belongs to that can benefit from the reusable exchange. In last month, anyway, the visibility of the CoC in the organization is increasing and that seem to foster members' participation.

Advertising company – Sales2. Sellers, in this company, have ever had a strong collective identity, but geographical distance and the few meeting opportunities have limited this group to an informal network. Only after the introduction of a web portal to support interaction in 2001, this group has become a true community. Through the forum of this portal, they support each others in solving problem, exchanging tricks and experiences. An editorial board, capitalize the more interesting messages reorganizing them as FAQs in order to be easy to find. There is not any kind of formal incentives (monetary and not), but with the continuous animation, the periodically identification of new interesting topics and thanks to the native sense of belonging of the sellers, the level of participation is very high and the community gives a essential support to the knowledge management process.

ICT consulting firm – FP. It is the community of the experts in Function Point, a metrics to evaluate software. It was born in late 1996 when this metrics was introduced in the organization as the standard to evaluate all software contracts with providers and customers. The community's members are about 50 belonging to different divisions. They have all an international certification from IFPUG (a world wide community on FP) and that differentiates them from each other employee of the company and creates a strong sense of belonging. The community has, however, few moments to interact (two/three meeting a year) and the only ways to communicate are mailing list and

telephone. Those conditions have limited the growth in terms of effectiveness of the community in the knowledge management process.

6. An Evolutionary Model

In this paragraph will be described, first of all, the model designed by the authors and then will be mapped into the evolution of each community analyzed.

6.1. Preface

A community is a social entity existing within an organization that can be seen like a machine that produces intellectual capital. Like each machine how a community works can be studied through the existing relations between input and output. The best comparison is, however, with a living system: it produces some outputs from some inputs, but the transformation process is not deterministically predictable, neither explicable according to univocal cause-effect relations.

How a community works depends on its social structure; such social structure is determined by each individual's behavior, by the cultural characteristics of the group, and by previous experiences. A community is, therefore, a self-controlled structure which is hardly possible to manage in a classic way, but has to be given substantial autonomy. Any action taken towards the community can hardly modify the inner patterns of working (existing and potential) since nobody has the power and the skills to make it. Some levers can, however, be set in order to recreate the most suitable conditions (to supply input) so that the organism "community" can pursue with effectiveness its own goals (to obtain output).

6.2. Aim

It is possible to study the evolution of a community in terms of the effectiveness with which it creates, transfers, shares and applies knowledge in the organization it belongs to. This performance is related to its vitality. The authors have hypothesized that a community is "alive" and can give all its contribution to the knowledge management process when its members are completely involved in the community's issues and actively participate in the community's activities, from one hand, and when the organization supports it with resources in terms of time, space and money, from the other hand.

The aim of this model is, hence, to define series of evolutionary steps in a community's life (representing the community's vitality) depending on members' involvement and organization's support with the purpose to use it to understand which kind of levers can be utilized to increase these two requirements.

6.3. Dimensions

Hence, the proposed model (figure 1) is characterized by these two fundamental dimensions: *Organization's Commitment* and *Members' Involvement and Participation*.

Organization's commitment is the level of involvement of the organization in which the community lives in supporting its activities. There were defined three level of commitment:

- *Hostility – Indifference* (level = -1). The organization doesn't know the existence of the community or, if it knows, it doesn't recognize any usefulness neither approves its existence. The organization doesn't give to the community any resource in terms of time, space or money. The value is negative to underline that this hostile attitude damages the community.
- *Partial support* (level = 1). The organization recognizes to the community some usefulness in the knowledge management or learning processes. Few economical resources are allocated to the community generally through the budget of the "closest" organizational unit (division or function).
- *Active support* (level = 2). The organization recognizes the community as an important and fundamental instrument to supporting learning and managing knowledge. The organization actively support the community giving an its own budget.

In the same way, there were defined three levels of involvement and participation of the members in the community's activities:

- *Hostility* (level = - 1). Members perceive the community irrelevant regards their own professional interests, so the community is seen as a loss of time. The participation in the activities is limited, there are no interpersonal relations between members, knowledge is not shared and community's activities are obstructed or boycotted.
- *Limited participation* (level = 1). Members acknowledge the community as something useful to increase their knowledge. Participation occurs at two

different level: most members participate passively in the community's activities, observing and listening to what is happening but without participate directly; a limited number of individuals are particularly active and conscious of belonging to a community showing reciprocal respect and mutual engagement.

- *Active involvement* (level = 2). Members recognize the opportunity of participating as one of the main way to increase their knowledge. Most members are particularly involved in the community's activities and between them there are strong interpersonal relations with reciprocal trust and mutual engagement. Belonging to the community is for members one of the most relevant aspects for their professional identity.

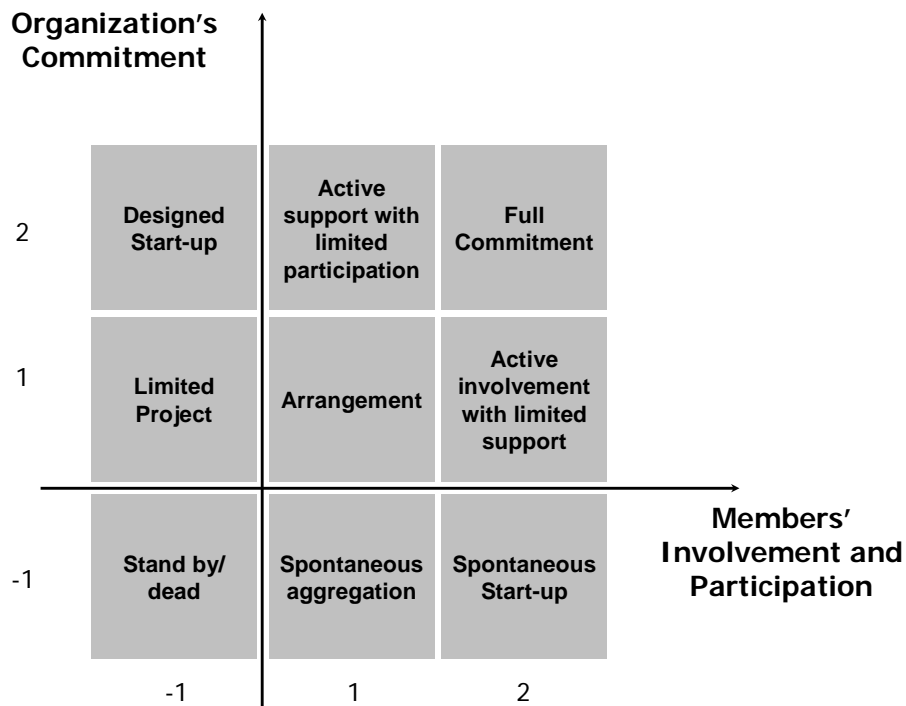


Fig. 1. Evolutionary model

6.4. Evolutionary stages

Nine different quadrants are obtained combining the level of organization's commitment and members' involvement.

Spontaneous aggregation or Limited project. The community has a slight commitment form one of the parts while the other remains uninterested or hostile. A community

could stay in this quadrant in the early stages of its life when it is born as an organization's pilot project with limited budget or if it is a marginal initiative in the working activities of the members.

Spontaneous/Designed Start-up. The community, depending on who wants its existence, has a strong commitment from the organization or from the members. This is the typical early stage of communities' life: one side is completely involved and gives completely support while the other perceives the community as something secondary, useless or even damaging for its own interests. When this part begins to perceive some utility, the community can move to the stage "active involvement with limited support" or "active support with limited participation".

Arrangement. The community is recognized but not particularly supported by the organization and accepted mostly passively from the members. None of the parts is particularly involved, but the community exists and produces some results in terms of support to learning and knowledge management. A community could stay in this quadrant if the original domain has been redefined involve and win the other part. When one of the two parts becomes more interested, the community moves to the stage "active involvement with limited support" or "active support with limited participation".

Active involvement with limited support or Active support with limited participation. The community is recognized from both the parts, with one more interested. This more involved part plays a role more active defining targets, managing the community and trying to win the other part's full collaboration to move to the quadrant of full commitment.

Full Commitment. The community has a strong commitment from both organization and members. These are the more suitable conditions in order that the community is an effective instrument to support learning and knowledge management processes.

Stand-by or Dead. The community has no commitment neither from organization neither from members. It has seen as something useless and self-defeating. A community could be in this quadrant just in the last stage of its life, before dying or change completely is shape.

6.5. Case studies mapping

The analysis of retrospective cases has allowed understanding the evolution of each community in order to map this evolution into the model just described (Figure 2).

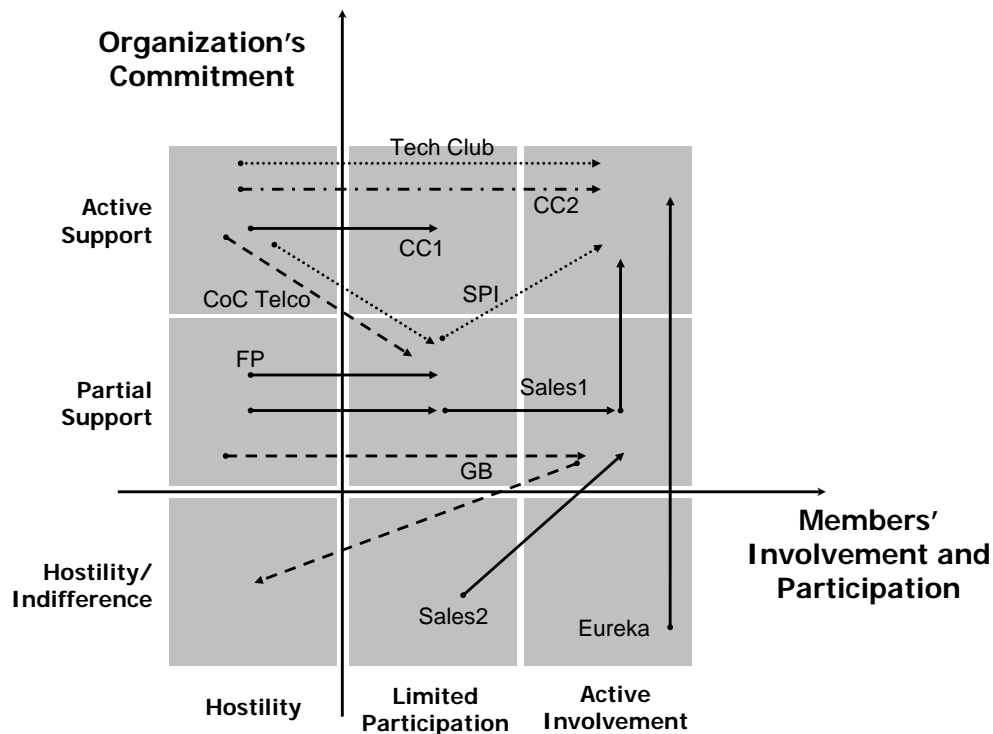


Fig. 2. Evolution of the analyzed communities

This mapping allows making some preliminary comments.

First of all, each community has its own evolutionary path with its own speed. For example, a community can move with short steps in long periods (i.e. SPI, Sales1) while another can evolve so fast that the evolutionary stages become not easy to be recognized (i.e. CC1, Tech Club).

Furthermore, a community can be originated just from the four quadrants Spontaneous Aggregation, Spontaneous Start-up, Designed Start-up or Limited project. This fact underlines that a community can be born only if the organization or a group of individuals are interested.

In the case of GB, it was noticed that when the organization stopped animating the community, the frequency and the quality of the members' contributes to the forum fall

down. The community has continued to stay on line, but members' interactions became rare and with limited interesting contents. It can be recorded the interest of some members to restore the conversations, sign of the usefulness perceived by the members.

The case studies brought from literature (Eureka, Tech Club and SPI) are examples cases of best practices. These communities have reached, with different paths, the stage of full commitment. It has been important in all these cases a continuous action to maintain a high commitment for both the organization and the members.

The analysis of the evolution path of each case has allowed identifying which levers were used by the organization or the members to win the other part's commitment in order to move from a quadrant to another one in the model. In the next paragraph those levers will be described.

7. Animation and Promotion Levers

In the model already proposed, the evolution of a community has been valued in terms of its vitality that, in its turn, was identified as depending on the combination of the organization's commitment and members' involvement. Hence, to support a community in its evolution means to foster the achievement and to maintain the commitment of these two parts.

In this paragraph a reconstruction will be given, made by the authors, of all the levers, found in literature and in the empirical research, ordered depending on the community's evolution stage. That will allow answering RQ2 and RQ3.

7.1. RQ2: animation levers

When an organization wants to foster the members' involvement and participation in the community's activities with the purpose of improving the effectiveness of the learning and knowledge management processes, it can concentrate its efforts on:

- *Improving the individual involvement* in terms of personal value and identification. The individual participates in the activities if he perceives such form as useful for himself and an overlapping between his own interests and the community's domain.
- *Enhancing social relations*. It is necessary that the individual involvement occurs through the participation in a social context.

- *Improving the connectivity* between members. It means to improve the opportunity for the members to come into contact with each other and build relations. This condition depends on the availability and the quality of interaction spaces either physical or virtual.
- *Improving the communality*. It is the existence of a common ground that enables information and knowledge sharing between the community's members.

Those conditions can be implemented at different level depending on the community evolution. In table 1 those actions are classified in three categories: to move from members' involvement and participation -1 to 1, to move from 1 to 2 and to remain in level 2.

The actors that can and have to use these levers are: the organization (i.e. its management) and the community coordinator that the organization defines as the individual who have the responsibility of the community development project.

Levers to create members' interest (to move from level -1 to level 1)	
Organization	<p>Provide resources to organize the community launch. Identify someone who coordinates the initiative. Point the domain to fundamental knowledge for business. Define boundaries from existing or latent networks. Provide a physical space and/or a technology tool that facilitates the connection, access and contribution to the <i>community</i>. Define clearly domain and boundaries with regards to members' competences. Define clearly the domain in order that it is specific but not too restrictive. Develop and support an organizational culture that foster knowledge sharing. Allow the access to the community during work hours.</p>
Coordinator	<p>Organize the community launch. Realize marketing actions towards potential members (community brand). Leverage on unexpressed members' needs and define domain. Underline the importance of the topics regards business. Identify potential members from existing networks. Contribute to the boundaries definition. Organize meetings and informal events (if possible face to face). Identify the most active and interested members in order to create a core group. Identify and involve opinion leader. Respect the organization's core values. Use newsletters, invitations, link to the community's intranet spaces in order to promote the community. Animate community's space stimulating participation. Develop contents that fit with members' professional characteristics and present them in a familiar way.</p>
Lever to win the members' full involvement and participation (to move from level 1 to level 2)	

Organization	<p>Organize event or draft reports in order to show publicly the community value. Allow integration between everyday working and community's activities. Define incentives and rewards for the participation in the community's activities. Consider the participation in the community activities in individual performance indicator. Provide resources to fit technological tools and/or interaction spaces with new emergent community needs Allocate part of the working hours of the individuals to participate in the community activities. Accept slight domain variations. Allow community's resources self-governing. Provide tools and resources in order to capitalize the knowledge developed.</p>
Coordinator	<p>Collaborate with community's leaders or let recognize as a charismatic leader. Identify the most active members. Motivate them and let their contribute recognizable to the other members. Allow and support new social structure emerging inside the community. Pay attention to new needs in terms of technological tools, social relation or contents. Involve core group's members in community animating. Organize joined working sessions between members, foster communication on relevant topics. Maintain vivacity supporting the building of strong one to one personal relationships. Maintain informality in interactions between members. Enlarge community's boundaries selecting and inviting new participant. Adapt the domain respecting members' interest change. Involve leaders in topics definition. Involve members in discussion contents development. Assure vitality animating continuously the community and introducing new elements.</p>
Levers to maintain members' full involvement and participation (to remain in level 2)	
Organization	<p>Involve community in budgeting process. Give members time to participate in the community activities. Update technological tools in accordance with community evolution. Value the opportunity of a domain redefinition. Use explicit recognitions, rewards and value individual's performances also on the basis of his participation</p>
Coordinator	<p>Identify and adapt to community leadership change. Maintain personal relationships lively. Foster community evolution and members' personal initiative. Make core group members aware regards community management. Monitor members' needs and perceive domain change. Update core group composition regarding domain change. Update discussion topics in the bases of changes in community members needs. Make members aware about community activities planning. Organize meeting in order to develop an historical sense of the community.</p>

Table 1. Animation levers

7.2. RQ3: promotion levers

On the other side, when a community wants to acquire new resources in order to be more effective in pursuing its goals, has to point its efforts in:

- *Increasing its visibility.* It has to be evident the community as a concrete and well-organized entity.
- *Culture.* The community has to have a cultural foundation that allows pursuing the organization's core values.
- *Aim achievement.* The community has to be able to reach results consistent with the organization's goals and, in particular, be able to underlining the impacts of its activities on business performances.

These conditions have been classified in three categories as before and listed in table 2. In this case, the actors are the members themselves and the leader they have identified (more or less explicitly) as their influential delegate.

Levers to obtain legitimization from the organization (to move from level -1 to level 1)	
Leader	<p>Make himself responsible of community activities towards the organization. Register community vitality through monitoring participation and access indicators. Define role and responsibility. Underline and foster the participation in the community activities of authoritative people in the organization. Identify and involve an internal sponsor in the organization. Govern and monitor the community activities. Control the respect of the organization core values moderating discussion and activities. Look out personally and stimulate members to draft reports to testify the concreteness of the activities. Organize public events, inside the organization, to present community behavior and results. Understand which are the core competencies for the business and orient community's activities in that direction. Realize documents to report in a qualitative way potential benefit deriving from the community.</p>
Members	<p>Claim towards the organization the fact of being a group constituted by some number of people. Create interest promoting towards colleagues participation in the community. Respect fundamental organization's values. Draft documentation to testify community behavior and results.</p>
Levers to win the full organization commitment (to move from level 1 to level 2)	
Leader	<p>Collaborate with the coordinator or make himself recognize as the coordinator Make himself responsible of human resources organization and management. Define ad hoc KPI through which measure community results. Address community activities in order to obtain frequent results. Develop tools through which underline causal relations between community behavior and business performances. Collect, draft and spread success stories. Count number of patents, learning programs, documentation, etc. developed. Make results visible in all the organization. Show the cultural content of the community.</p>
Members	<p>Make learning and knowledge sharing impact visible in everyday work activities. Communicate to the leader benefits obtained thanks to the participation in the community.</p>
Levers to maintain organization full commitment (to remain in level 2)	
Leader	<p>Stimulate the group and not be content of the results gained. Promote towards the organization the community's flexibility. Animate continuously the community in order to avoid losing the spirit that has taken it to the success. Leverage on well established personal relations in order to align the community domain with the organization emergent requirements (both cultural and of aims). Create opportunity where senior and active members can discuss about change management.</p>
Members	<p>Show themselves available to adapt community domain regards organizations fundamental issues.</p>

Table 2. Promotion levers

Reference

- American Productivity & Quality Center, (2000), *Building and Sustaining Communities of Practice: Continuing Success in Knowledge Management*, APQC International benchmarking Clearinghouse (on www.apqc.org).
- Andriessen E., Soekijad M., Keasberry H.J., 2002, *Support for Knowledge Sharing in Communities*, Delft University Press.
- Andriessen E., Huis M., Soekijad M., 2003, Communities Of Practice for Knowledge Sharing. In Andriessen E., Fahlbruch, B. *How to manage experience sharing: From organizational surprises to organizational knowledge*, Elsevier Science Ltd, Oxford, UK
- Andriessen E., Soekijad M., 2003, Conditions for Knowledge Sharing in Competitive Alliances, *European Management Journal*, 21(5), 578-587
- Botkin J., 1999, *Smart Business: How Knowledge Communities can revolutionize your company*, New York: The Free Press.
- Brown J.S., Collins A., Duguid S., 1998, Situated cognition and the culture of learning, *Educational Researcher*, 1, 32-42
- Brown J.S., Duguid, P., 1991, Organizational Learning and Communities of Practice: Toward a Unified View of Working, Learning and Innovation, *Organization Science*, 2, 40-57.
- Cohen D., Prusak L., 2001, *In Good Company. How Social Capital makes organization work*, Harvard Business School Press.
- Eisenhardt K. M., 1989, *Building theories from case study research*, *Accademy of Management Review*, 14: 532-550.
- Gongla P., Rizzuto R., 2001, Evolving Communities of Practice: IBM Global Service Experience, *IBM Systems Journal*, 40, 842-860.
- Hansen, M. T., Nohria, N., Tierney, T., 1999, *What's your strategy for managing knowledge?*, *Harvard Business Review*. Vol. 77(2), 106-116.
- Kimble C., Li F., Barlow A., 2000, *Effective Virtual Teams Through Communities of Practice*, Strathclyde Business School, Glasgow, Scotland.
- Knowledge Board, 2003, *Interview with Etienne Wenger on Communities of Practice*, from www.knowledgeboard.com.
- Leave, J., Wenger E., 1991, *Situated Learning. Legitimate Peripheral Participation*, Cambridge University Press.
- Lesser E. L., Fontaine M. A., Slusher J.A., 2000, *Knowledge and Communities*, Butterworth-Heineman, Boston.
- Lesser E., Storck J., 2001, Communities of Practice and Organizational Performance, *IBM Systems Journal*, 40, 1-13.
- Magnusson M., Davidsson N., 2001, Creating and Managing Communities of Knowing, *International Conference on Entrepreneurship and Learning*, 21-24 June 2001, Naples, Italy.
- McDermott R., 1999a, Learning Across Teams: The role of Communities of Practice in Team Organizations, *Knowledge Management Review*, May-June. (from www.co-il.com/coil/knowledge-garden/cop)

- McDermott R., 1999b, Nurturing Three Dimensional Communities of Practice: How to get the most out of human networks, *Knowledge Management Review*, Fall. (from www.co-i-l.com/coil/knowledge-garden/cop).
- McDermott R., 2000, Knowing Community: 10 Critical Success Factors in Building Communities of Practice, *IHRIM Journal*, march. (from www.co-i-l.com/coil/knowledge-garden/cop)
- Nahapiet J., Goshal S., 1998, Social Capital, Intellectual Capital and the Organizational Advantage, *Academy of Management Review*, 23, 119-157.
- Nonaka I., 1991, The knowledge creating company, *Harvard Business Review*, November-December, 96-104.
- Ruuska I., Vartiainen M., 2003, Communities and other Social Structures for knowledge Sharing – A Case study in an Internet Company. In Huysman M., Wenger E., Wulf V., *Communities and Technologies*, Kluwer Academic Publishers.
- Soekijad M., Huis M. Poot J., 2001, *Dynamics of Knowledge Sharing Communities*, Delft University of Technology.
- Storck J., Hill P., 2000, Knowledge Diffusion through “Strategic Communities”, *Sloan Management Review*, Winter, 63-74.
- Sveiby K.E., 1997, *The new organizational Wealth*, Berrett-Koehler Publishers, San Francisco.
- Vygotsky L.S., 1978, *Mind in society*, Harvard University Press, Cambridge.
- Wulf V., *Communities and Technologies*, Kluwer Academic Publishers.
- Wenger E, McDermott R., Snyder W., 2002, *Cultivating Communities of Practice: Guide to Managing Knowledge*, Harvard Business School Press.
- Wenger E., 1998.a, *Communities of practice. Learning, Meaning and Identity*. Cambridge, Cambridge University Press.
- Wenger E., 1998.b, Communities of Practice. Learning as a social system, *Systems Thinker*, <http://www.co-i-l.com/coil/knowledge-garden/cop/lss.shtml>.
- Wenger E., 2000, Communities of Practice: The Key to Knowledge Strategy. In Lesser E. L., Fontaine, M. A., Slusher, J.A., *Knowledge and Communities*, Butterworth-Heinemann, Boston.
- Wenger E., 2001, Supporting communities of practice. A survey of community oriented technologies, from www.ewenger.com/tech.
- Wenger E., Snyder W., 2000, Communities of Practice: The organizational frontier, *Harvard Business Review*, 1, 139-145.
- Yin R., 1984, *Case study research*, SAGE Publications, Beverly Hills, CA.